

1993 Index

IEEE Transactions on Microwave Theory and Techniques, Vol. 41, and IEEE MTT-S Sponsored Conferences

The indexed papers are identified by the acronyms:

MCS 93	IEEE 1993 Microwave and Millimeter-Wave Monolithic Circuits Symposium
MWSYM 93	1993 IEEE MTT-S International Microwave Symposium Digest
T-MTT	IEEE Transactions on Microwave Theory and Techniques

The *Author Index* contains the primary entry for each item, listed under the first author's name, and cross-references from all coauthors. The *Subject Index* contains several entries for each item under appropriate subject headings, and subject cross-references.

It is always necessary to refer to the primary entry in the *Author Index* for the exact title, coauthors, and comments/corrections.

AUTHOR INDEX

A

- Abdelmonem, Amr**, *see* Yao, Hui-Wen, *MWSYM 93 Vol. 2* 601-604
- Abdelmonem, Amr**, *see* Yao, Hui-Wen, *T-MTT Dec 93* 2166-2173
- Abdo-Tuko, M.**, M. Naghed, and I. Wolff. Novel 18/36 GHz (M)MIC GaAs FET frequency doublers in CPW-techniques under the consideration of the effects of coplanar discontinuities; *T-MTT Aug 93* 1307-1315
- Abdulnour, Jawad**, and Louis Marchildon. Scattering by a dielectric obstacle in a rectangular waveguide; *T-MTT Nov 93* 1988-1994
- Abe, Bunichiro**, *see* Yoshinaga, Hiroyuki, *MWSYM 93 Vol. 2* 779-782
- Abou-Elnour, Ali**, and Klaus Schuenemann. Accurate and efficient modeling of hetero-FETs; *MWSYM 93 Vol. 3* 1177-1180
- Abramowicz, Adam**. Comments, with reply, on 'Finite elements for microwave device simulation: Application to microwave dielectric resonator filter' by J. P. Cousty et al.; *T-MTT Apr 93* 737-738 (Original paper, May 92 925-932)
- Abramowicz, Adam**, *see* Bialas, Slawomir, *T-MTT Nov 93* 2044-2046
- Abrams, R. H., Jr.**, and R. K. Parker. Introduction to the MPM: What it is and where it might fit; *MWSYM 93 Vol. 1* 107-110
- Aburakawa, Yuji**, *see* Bae, Jongsuck, *T-MTT Oct 93* 1851-1855
- Acharya, Pranay R.**, Hans Ekstrom, Steven S. Gearhart, Stellan Jacobsson, Joakim F. Johansson, Erik L. Kollberg, and Gabriel M. Rebeiz. Tapered slotline antennas at 802 GHz; *T-MTT Oct 93* 1715-1719
- Ackerman, E.**, S. Wanuga, J. MacDonald, and J. Prince. Balanced receiver external modulation fiber-optic link architecture with reduced noise figure; *MWSYM 93 Vol. 2* 723-726
- Ackerman, Edward**, Stephen Wanuga, Dumrong Kasemset, Afshin S. Daryoush, and Naranjan R. Samant. Maximum dynamic range operation of a microwave external modulation fiber-optic link; *T-MTT Aug 93* 1299-1306
- Adair, J.**, *see* Ho, T., *MWSYM 93 Vol. 2* 531-534
- Adair, James**, *see* Chen, Seng-Woon, *MCS 93* 89-92
- Adam, J. D.**, and S. N. Stitzer. Frequency selective limiters for high dynamic range microwave receivers; *MWSYM 93 Vol. 1* 477-478
- Adam, J. Douglas**, and Steven N. Stitzer. Frequency selective limiters for high dynamic range microwave receivers; *T-MTT Dec 93* 2227-2231
- Adler, D.**, and M. Jacobs. Application of a narrow band FM-CW system in the measurement of ice thickness; *MWSYM 93 Vol. 2* 809-812
- Adler, Eric**, *see* Paoletta, Arthur, *MWSYM 93 Vol. 2* 1059-1062
- Agahi, Farid**, *see* Yang, Jian-Xun, *T-MTT Apr 93* 581-589
- Aghvami, Hamid**, *see* Lin, Quinan, *T-MTT May 93* 873-876
- Agi, Kamil**, *see* Carin, Lawrence, *T-MTT Feb 93* 250-254
- Ahmadouche, A.**, *see* Ndagijimana, F., *MCS 93* 109-112
- Ahmadouche, A.**, *see* Ndagijimana, F., *MWSYM 93 Vol. 1* 91-94
- Aikawa, Masayoshi**, *see* Tokumitsu, Tsuneo, *MCS 93* 27-30
- Aikawa, Masayoshi**, *see* Muraguchi, Masahiro, *MWSYM 93 Vol. 2* 793-796
- Akagi, M.**, *see* Hara, S., *MCS 93* 19-22
- Aksun, M. I.**, and Raj Mittra. Choices of expansion and testing functions for the method of moments applied to a class of electromagnetic problems; *T-MTT Mar 93* 503-509
- Alessandri, F.**, M. Mongiardo, R. Sorrentino, and J. Uher. Analysis of branch line coupler in suspended stripline with finite metallization thickness; *MWSYM 93 Vol. 2* 1089-1092
- Alessandri, F.**, M. Barba, M. Mongiardo, and R. Sorrentino. Rigorous and efficient analysis of hybrid T-junctions; *MWSYM 93 Vol. 3* 1447-1450
- Alessandri, Ferdinando**, Gianluca Baini, Mauro Mongiardo, and Roberto Sorrentino. A 3-D mode matching technique for the efficient analysis of coplanar MMIC discontinuities with finite metallization thickness; *T-MTT Sep 93* 1625-1629
- Alexander, Phillip H.**, and Jianfen Liu. Field analysis of dielectric-loaded lens applicator for microwave hyperthermia; *T-MTT May 93* 792-796
- Alexeyenko, A. M.**, *see* Pobedonostsev, A. S., *MWSYM 93 Vol. 2* 1131-1134
- Alexopoulos, Nicolaos G.**, *see* Horng, Tzyy-Sheng, *MWSYM 93 Vol. 1* 413-416
- Ali, S.**, *see* Kim, S., *MWSYM 93 Vol. 3* 1535-1538
- Ali, S. M.**, *see* Lee, L. H., *MWSYM 93 Vol. 1* 385-388
- Ali, Sami M.**, *see* Lee, Laurence H., *T-MTT Dec 93* 2359-2367
- Ali-Ahmad, Walid Y.**, *see* Gauthier, Gildas, *MWSYM 93 Vol. 1* 325-328
- Ali-Ahmad, Walid Y.**, William L. Bishop, Thomas W. Crowe, and Gabriel M. Rebeiz. A submillimeter-wave planar low noise Schottky receiver; *MWSYM 93 Vol. 2* 527-530
- Ali-Ahmad, Walid Y.**, William L. Bishop, Thomas W. Crowe, and Gabriel M. Rebeiz. An 86-106 GHz quasi-integrated low noise Schottky receiver; *T-MTT Apr 93* 558-564
- Allen, B.**, *see* Aust, M. V., *MCS 93* 45-48
- Allen, B.**, *see* Chang, K. W., *MCS 93* 41-44
- Allen, B.**, *see* Katz, R., *MCS 93* 131-134
- Allen, B.**, *see* Wang, H., *MCS 93* 167-170
- Allen, B.**, *see* Katz, R., *MWSYM 93 Vol. 1* 149-152
- Allen, B.**, *see* Dow, G. S., *MWSYM 93 Vol. 1* 163-166
- Allen, B.**, *see* Wang, H., *MWSYM 93 Vol. 1* 365-368
- Allen, B.**, *see* Sharma, A. K., *MWSYM 93 Vol. 3* 1343-1346
- Allen, Barry R.**, *see* Yang, Cheng Chih, *T-MTT Jun/Jul 93* 992-997
- Allen, Scott**, *see* Yu, Ruai, *MWSYM 93 Vol. 3* 1339-1342
- Alon, Y.**, *see* Bui, L. Q., *MWSYM 93 Vol. 2* 857-860
- Alvarez, A.**, *see* Guglielmi, M., *MWSYM 93 Vol. 1* 447-450
- Alvarez Melcón, Alejandro**, *see* Melcón, Alejandro Alvarez
- Amari, Smain**. Capacitance and inductance matrices of coupled lines from modal powers (Short p.); *T-MTT Jan 93* 146-150
- Amati, M.**, *see* Gulloch, W., *MWSYM 93 Vol. 2* 681-684
- Amine, H.**, *see* Llopis, O., *MWSYM 93 Vol. 2* 1033-1036
- Amine, Hicham**, *see* Llopis, Olivier, *T-MTT Mar 93* 369-374
- Amrani, C.**, M. Drissi, V. Fouad Hanna, and J. Citerne. Packaging and interconnection mutual coupling effects in planar structures and discontinuities; *MWSYM 93 Vol. 2* 843-846
- Anand, M. B.**, Prasanta K. Ghosh, Philipp G. Komreich, and D. J. Nicholson. A traveling-wave high electron mobility transistor; *T-MTT Apr 93* 624-631
- Anderson, D.**, *see* Semenov, V., *T-MTT May 93* 879-881
- Andoh, N.**, *see* Nakahara, K., *MWSYM 93 Vol. 1* 369-372
- Angelov, Iltcho**, *see* Zirath, Herbert, *MWSYM 93 Vol. 1* 341-344
- Angelov, Iltcho**, Herbert Zirath, Niklas Rorsman, Christer Karlsson, and Robert M. Weikle, II. An F-band resistive mixer based on heterostructure field effect transistor technology; *MWSYM 93 Vol. 2* 787-790
- Angéleux, Gilbert**, *see* Tao, Jun-Wu, *MWSYM 93 Vol. 2* 935-938
- Anklam, William J.**, *see* Root, David E., *T-MTT Dec 93* 2211-2217
- Anzill, W.**, *see* Güngerich, V., *MWSYM 93 Vol. 2* 561-564
- Anzill, Werner**, and Peter Russer. A general method based on harmonic balance techniques to simulate noise in free running oscillators; *MWSYM 93 Vol. 2* 655-658
- Anzill, Werner**, and Peter Russer. A general method to simulate noise in oscillators based on frequency domain techniques; *T-MTT Dec 93* 2256-2263
- Aoyagi, Paul H.**, Jin-Fa Lee, and Raj Mittra. A hybrid Yee algorithm/scalar-wave equation approach; *T-MTT Sep 93* 1593-1600
- Apostolakis, P. J.**, *see* Wang, J. S., *MWSYM 93 Vol. 2* 1047-1050
- Arabi, Tawfik Rahal**, and Ricardo Suarez-Gartner. Time domain analysis of lossy multi-conductor transmission lines using the Hilbert transform; *MWSYM 93 Vol. 2* 987-990

- Araki, Ken'ichi, *see* Matsui, Toshiaki, *T-MTT Oct 93* 1710-1714
- Archer, John W., *see* Batchelor, Robert A., *MWSYM 93 Vol. 2* 677-680
- Ardalan, S. H., *see* Ybarra, G. A., *MWSYM 93 Vol. 1* 249-252
- Arndt, F., *see* Sieverding, T., *MWSYM 93 Vol. 2* 761-764
- Arndt, F., *see* Ihmels, R., *MWSYM 93 Vol. 2* 765-768
- Arndt, F., *see* Brankovic, V. J., *MWSYM 93 Vol. 2* 897-900
- Arndt, F., *see* Ihmels, R., *MWSYM 93 Vol. 2* 909-912
- Arndt, F., *see* Krupezevic, D. V., *MWSYM 93 Vol. 2* 997-1000
- Arndt, Fritz, *see* Papziner, Uwe, *T-MTT Mar 93* 462-471
- Arndt, Fritz, *see* Krupezevic, Dragan V., *T-MTT Dec 93* 997-1000
- Arnold, R. G., and S. P. Marsh. A microwave active bandstop filter with tunable centre frequency; *MWSYM 93 Vol. 3* 1313-1316
- Aroa, R. K., *see* Mongia, R. K., *T-MTT Aug 93* 1245-1250
- Asao, Hideki, *see* Oh-hashii, Hideyuki, *MWSYM 93 Vol. 2* 873-876
- Ashida, H., *see* Kitayoshi, H., *MWSYM 93 Vol. 1* 241-244
- Ashizuka, Tetsuya, *see* Kimishima, Masayuki, *MWSYM 93 Vol. 2* 523-526
- Asmussen, J., Jr., *see* Manring, E. B., *T-MTT Aug 93* 1468-1471
- Astrahan, Melvin A., *see* Debicki, Piotr S., *T-MTT Feb 93* 357-360
- Atherton, John S., Christopher M. Snowden, and John R. Richardson. Characterization of thermal effects on microwave transistor performance using an efficient physical model; *MWSYM 93 Vol. 3* 1181-1184
- Aubert, Hervé, Bernard Souny, and Henri Baudrand. Origin and avoidance of spurious solutions in the transverse resonance method; *T-MTT Mar 93* 450-456
- Auda, Hesham A., and Atef Z. Elsherbeni. Multiple microstrip lines on a multilayered cylindrical dielectric substrate on perfectly conducting wedge; *T-MTT Jun/Jul 93* 1037-1043
- Aust, M., *see* Sharma, A. K., *MWSYM 93 Vol. 3* 1343-1346
- Aust, M. V., *see* Katz, R., *MCS 93* 131-134
- Aust, M. V., B. Allen, G. S. Dow, R. Kasody, G. Luong, M. Biedenbender, and K. Tan. A Ka-band HEMT MMIC 1 watt power amplifier; *MCS 93* 45-48
- Aust, M. V., *see* Katz, R., *MWSYM 93 Vol. 1* 149-152
- Ayasli, Y., *see* Katzin, P., *MCS 93* 141-144
- Ayasli, Y., *see* Katzin, P., *MWSYM 93 Vol. 1* 403-406
- B**
- Bader, B., *see* Weigel, R., *MWSYM 93 Vol. 3* 1505-1508
- Bae, Jongsuck, Yuji Aburakawa, Hirotaka Kondo, Toshihide Tanaka, and Koji Mizuno. Millimeter and submillimeter wave quasi-optical oscillator with Gunn diodes; *T-MTT Oct 93* 1851-1855
- Bagby, Jonathan S., Ching-Her Lee, Dennis P. Nyquist, and Yi Yuan. Identification of propagation regimes on integrated microstrip transmission lines; *T-MTT Nov 93* 1887-1894
- Baghai-Wadji, Ali R., *see* Molisch, Andreas F., *T-MTT Feb 93* 318-324
- Bahl, Inder, *see* Willems, David, *MWSYM 93 Vol. 2* 581-584
- Bahl, Inder, *see* Willems, David, *T-MTT Dec 93* 2303-2310
- Bahl, Inder, *Guest Ed.*, *see* Smith, Glenn S., *Guest Ed.*, *T-MTT Dec 93* 2051-2052
- Bahr, A., *see* Kunisch, J., *MWSYM 93 Vol. 2* 637-640
- Baini, Gianluca, *see* Alessandri, Ferdinando, *T-MTT Sep 93* 1625-1629
- Balanis, Constantine A., *see* Lyons, Michael R., *MWSYM 93 Vol. 2* 943-946
- Balanis, Constantine A., *see* Gilb, James P. K., *MWSYM 93 Vol. 2* 1005-1008
- Balanis, Constantine A., *see* Gilb, James P. K., *T-MTT Mar 93* 527-530
- Balanis, Constantine A., *see* Lyons, Michael R., *T-MTT Sep 93* 1564-1567
- Balanis, Constantine A., *see* Sun, Weimin, *T-MTT Nov 93* 1965-1971
- Balasubramanian, Arul, John Heinbockel, and Amir Mortazawi. An eight MESFET periodic spatial power combiner; *MWSYM 93 Vol. 2* 611-614
- Balekdjian, A., *see* Kim, A., *MWSYM 93 Vol. 3* 1221-1224
- Bambill, Diana V., *see* Laura, Patricio A. A., *T-MTT May 93* 900-901
- Banba, Seiichi, *see* Ogawa, Hiroyo, *MWSYM 93 Vol. 1* 225-228
- Bandler, J. W., S. Ye, R. M. Biernacki, S. H. Chen, and D. G. Swanson, Jr. Minimax microstrip filter design using direct EM field simulation; *MWSYM 93 Vol. 2* 889-892
- Bandler, J. W., S. H. Chen, R. M. Biernacki, K. Madsen, L. Gao, and H. Yu. Robustizing circuit optimization using Huber functions; *MWSYM 93 Vol. 2* 1009-1012
- Bandler, J. W., R. M. Biernacki, S. H. Chen, S. Ye, and P. A. Grobelny. Multilevel multidimensional quadratic modeling for yield-driven electromagnetic optimization; *MWSYM 93 Vol. 2* 1017-1020
- Bandler, John W., Radoslaw M. Biernacki, Shao Hua Chen, Piotr A. Grobelny, and Shen Ye. Yield-driven electromagnetic optimization via multilevel multidimensional models; *T-MTT Dec 93* 2269-2278
- Bandler, John W., Shao H. Chen, Radoslaw M. Biernacki, Li Gao, Kaj Madsen, and Huanyu Yu. Huber optimization of circuits: A robust approach; *T-MTT Dec 93* 2279-2287
- Banerjee, S. K., G. Zimmer, H. P. Feldle, P. Marten, and L. P. Schmidt. An X-band phased array microwave/photonic beamforming network; *MWSYM 93 Vol. 2* 505-508
- Barba, M., *see* Alessandri, F., *MWSYM 93 Vol. 3* 1447-1450
- Barbosa, Afonso M., *see* Paiva, Carlos R., *T-MTT Jun/Jul 93* 1240
- Barton, David L., and Douglas D. Dunlop. An introduction to MHD; *MWSYM 93 Vol. 3* 1487-1490
- Bastiaansen, Harrie J. M., J. Michiel van der Keur, and Hans Blok. Rigorously modeling short bent, graded-index dielectric slab; *T-MTT Nov 93* 1972-1980
- Basu, S., and S. A. Maas. Design and performance of a planar star mixer (Short p.); *T-MTT Nov 93* 2028-2030
- Batchelor, Robert A., John W. Archer, Trevor S. Bird, Stephen Giugni, John S. Kot, Nasiba Nikolic, Diet I. Ostry, Terence M. Percival, and Alan C. Young. Australian activities in microwave links for wireless LANs; *MWSYM 93 Vol. 2* 677-680
- Batelaan, P., *see* Febvre, P., *MWSYM 93 Vol. 2* 771-774
- Batelaan, Paul D., *see* Choudhury, Debabani, *T-MTT Apr 93* 595-599
- Baudrand, H., *see* Guillot, P., *MWSYM 93 Vol. 1* 455-458
- Baudrand, Henri, *see* Aubert, Hervé, *T-MTT Mar 93* 450-456
- Baudrand, Henri, *see* Guillot, Philippe, *T-MTT Dec 93* 2156-2160
- Bautista, J. J., *see* Laskar, J., *MWSYM 93 Vol. 2* 1095-1098
- Bayraktaroglu, B., *see* Liou, L. L., *MWSYM 93 Vol. 1* 281-284
- Beall, James A., Ronald H. Ono, David Galt, and John C. Price. Tunable high temperature superconductor microstrip resonators; *MWSYM 93 Vol. 3* 1421-1423
- Beaudin, G., *see* Bouregba, R., *T-MTT Nov 93* 2025-2027
- Becker, R., *see* Garbe, G., *MWSYM 93 Vol. 3* 1329-1332
- Becks, Thomas, and Ingo Wolff. Full-wave analysis of various coplanar bends and T-junctions with respect to different types of air-bridges; *MWSYM 93 Vol. 2* 697-700
- Becks, Thomas, and Ingo Wolff. Investigations on the reduction of package densities in coplanar circuits; *MWSYM 93 Vol. 2* 869-872
- Beckwith, B., *see* Ngo, D., *MWSYM 93 Vol. 3* 1461-1464
- Bedard, B., *see* Katzin, P., *MCS 93* 141-144
- Bedard, B., *see* Katzin, P., *MWSYM 93 Vol. 1* 403-406
- Beilenhoff, Klaus, and Wolfgang Heinrich. Treatment of field singularities in the finite-difference approximation; *MWSYM 93 Vol. 2* 979-982
- Beilenhoff, Klaus, Harald Klingbeil, Wolfgang Heinrich, and Hans L. Hartnagel. Open and short circuits in coplanar MMIC's; *T-MTT Sep 93* 1534-1537
- Beker, Benjamin, *see* Chen, Yinchao, *T-MTT Jan 93* 123-128
- Beker, Benjamin, *see* Chen, Yinchao, *T-MTT Apr 93* 673-679
- Beker, Benjamin, *see* Chen, Yinchao, *T-MTT Sep 93* 1489-1493
- Beker, Benjamin, *see* Chen, Yinchao, *T-MTT Nov 93* 1872-1877
- Bellantoni, J. V., *see* Raleigh, G. G., *T-MTT Apr 93* 723-726
- Bellare, Kiran G., *see* Nary, Kevin R., *T-MTT Nov 93* 2034-2037
- Belohoubek, E., *see* Fathy, A., *MWSYM 93 Vol. 3* 1277-1280
- Belyavsky, B. A., *see* Lopin, M. I., *MWSYM 93 Vol. 2* 1119-1121
- Benet, James A., Al R. Perkons, Sam H. Wong, and Afroz Zaman. Spatial power combining for millimeterwave solid state amplifiers; *MWSYM 93 Vol. 2* 619-622
- Berceli, Tibor, Masayuki Izutsu, and Tadasu Sucta. A new lightwave-microwave signal conversion method; *MWSYM 93 Vol. 3* 1407-1410
- Berdaguer, P., *see* Wang, H., *MWSYM 93 Vol. 2* 549-552
- Berenz, J., *see* Chang, K. W., *MCS 93* 41-44
- Berenz, J., *see* Wang, H., *MCS 93* 167-170
- Berenz, J., *see* Dow, G. S., *MWSYM 93 Vol. 1* 163-166
- Berenz, J., *see* Wang, H., *MWSYM 93 Vol. 1* 365-368
- Berenz, J., *see* Wang, H., *MWSYM 93 Vol. 2* 783-785
- Bhartia, P., *see* Mongia, R. K., *T-MTT Mar 93* 445-449
- Bhasin, K. B., *see* Toncich, S. S., *MWSYM 93 Vol. 3* 1527-1530
- Bhasin, Kul B., *see* Rohrer, Norman J., *T-MTT Nov 93* 1865-1871
- Bhasin, Kul B., *see* Toncich, Stanley S., *T-MTT Dec 93* 2067-2073
- Bialas, Slawomir, and Adam Abramowicz. Comments, with reply, on 'Analysis and realization of L-band dielectric resonator microwave filters' by V. Mandrangeas et al.; *T-MTT Nov 93* 2044-2046 (Original item, Jan 92 120-127)
- Bialkowski, Marek E., and Vesa P. Waris. Electromagnetic model of a planar radial-waveguide divider/combiner incorporating probes; *T-MTT Jun/Jul 93* 1126-1134
- Biedenbender, M., *see* Aust, M. V., *MCS 93* 45-48
- Biernacki, Paul, *see* Chen, Kuang Yi, *MWSYM 93 Vol. 1* 313-316
- Biernacki, R. M., *see* Bandler, J. W., *MWSYM 93 Vol. 2* 889-892
- Biernacki, R. M., *see* Bandler, J. W., *MWSYM 93 Vol. 2* 1009-1012
- Biernacki, R. M., *see* Bandler, J. W., *MWSYM 93 Vol. 2* 1017-1020
- Biernacki, Radoslaw M., *see* Bandler, John W., *T-MTT Dec 93* 2269-2278
- Biernacki, Radoslaw M., *see* Bandler, John W., *T-MTT Dec 93* 2279-2287
- Bilbro, G. L., *see* Ybarra, G. A., *MWSYM 93 Vol. 1* 249-252
- Bilbro, G. L., A. N. Riddle, and R. J. Trew. Excess noise in GaAs MESFET oscillators; *MWSYM 93 Vol. 1* 305-308
- Bilbro, Griff, *see* Skaggs, Steven G., *T-MTT Apr 93* 726-729

- Billonnet, L., B. Jarry, and P. Guillon. Theoretical and experimental analysis of microwave tunable recursive active filters using power dividers; *MWSYM 93 Vol. 1* 185-188
- Bird, Trevor S., see Batchelor, Robert A., *MWSYM 93 Vol. 2* 677-680
- Birkeland, Joel. A low power GaAs MESFET monolithic downconverter for digital handheld telephone applications; *MWSYM 93 Vol. 2* 1105-1108
- Bishop, William L., see Ali-Ahmad, Walid Y., *MWSYM 93 Vol. 2* 527-530
- Bishop, William L., see Ali-Ahmad, Walid Y., *T-MTT Apr 93* 558-564
- Bishop, William L., see Kormanyos, Brian K., *T-MTT Oct 93* 1730-1737
- Bishop, William L., see Siegel, Peter H., *T-MTT Nov 93* 1913-1921
- Biswas, B. N., A. P. Sinha, P. Lahiri, and D. Mondal. Unconditionally stable tracking discriminator at 35 GHz; *T-MTT Mar 93* 388-394
- Black, Alistair, see Shakouri, Mohammad S., *MCS 93* 79-81
- Blackham, Dave, and Roger Pollard. Finite element analysis of open-ended coaxial lines; *MWSYM 93 Vol. 3* 1247-1250
- Blair, David G., see Ivanov, Eugene N., *T-MTT Apr 93* 632-638
- Block, T. R., see Meng, C. C., *MWSYM 93 Vol. 2* 539-542
- Blok, Hans, see Bastiaansen, Harrie J. M., *T-MTT Nov 93* 1972-1980
- Blomme, Krist, see Olyslager, Frank, *T-MTT Jan 93* 79-88
- Blondeau, R., see Maricot, S., *MWSYM 93 Vol. 2* 1067-1070
- Bloom, David M., see Shakouri, Mohammad S., *MCS 93* 79-81
- Bockenhoff, E., see Bouregba, R., *T-MTT Nov 93* 2025-2027
- Bögelsack, Frank, see Menzel, Wolfgang, *MWSYM 93 Vol. 2* 593-596
- Bois, P., see Bouregba, R., *T-MTT Nov 93* 2025-2027
- Boll, Gregory G., see Liu, S. M. Joseph, *MWSYM 93 Vol. 3* 1335-1338
- Bonetti, René R., see Yao, Shih-Jih, *MWSYM 93 Vol. 1* 181-184
- Bonetti, René R., see Yao, Shih-Jih, *T-MTT Dec 93* 2182-2189
- Bonnefoy, Jean-Louis, see Mazé-Mercœur, Geneviève, *T-MTT Mar 93* 457-461
- Bor, Sheau-Shong, see Liu, Ji-Chyun, *T-MTT Feb 93* 363-364
- Bor, Sheau-Shong, see Liu, Ji-Chyun, *T-MTT Nov 93* 2042-2043
- Borelli, John, see Raffaelli, Lamberto, *MCS 93* 63-66
- Borisov, Ludvik M., see Gelvich, Edward A., *T-MTT Jan 93* 15-19
- Bornemann, J., see Sieverding, T., *MWSYM 93 Vol. 2* 761-764
- Bornemann, Jens, see Labay, Vladimir A., *MWSYM 93 Vol. 1* 463-466
- Bornemann, Jens, see Cai, Zhenglian, *MWSYM 93 Vol. 2* 927-930
- Bornemann, Jens, see Labay, Vladimir A., *T-MTT Apr 93* 731-733
- Borrego, J. M., see Garrison, D. P., *MWSYM 93 Vol. 3* 1229-1232
- Bosch, D., see Kurdoghlian, A., *MCS 93* 97-98
- Bosisio, Renato G., see Wu, Ke, *MWSYM 93 Vol. 2* 983-986
- Bosisio, Renato G., see Wu, Ke, *MWSYM 93 Vol. 2* 1085-1088
- Bouchard, Pierre, Réal R. J. Gagné, and J.-J. Lavoie. Transients on lossless exponential transmission lines using Allen's method; *T-MTT Jun/Jul 93* 1178-1182
- Bouregba, R., O. Vanbésien, P. Mounaix, D. Lippens, L. Palmateer, J. C. Pemot, G. Beaudin, P. Encrenaz, E. Bockenhoff, J. Nagle, P. Bois, F. Chevoir, and B. Vinter. Resonant tunneling devices as sources for millimeter and submillimeter wavelengths (Short p.); *T-MTT Nov 93* 2025-2027
- Bouysse, P., see Coupat, J. M., *MWSYM 93 Vol. 1* 245-248
- Bouysse, P., see Duvanaud, C., *MWSYM 93 Vol. 1* 285-288
- Bowen, John W., see Martin, Derek H., *T-MTT Oct 93* 1676-1690
- Boyce, William E., see Lynch, Daniel R., *T-MTT Aug 93* 1439-1448
- Brankovic, V. J., D. V. Krupezevic, and F. Amdt. Efficient full-wave 3D and 2D waveguide eigenvalue analysis by using the direct FD-TD wave equation formulation; *MWSYM 93 Vol. 2* 897-900
- Brankovic, V. J., see Krupezevic, D. V., *MWSYM 93 Vol. 2* 997-1000
- Brankovic, Veselin J., see Krupezevic, Dragan V., *T-MTT Dec 93* 997-1000
- Braunstein, J., see Tasker, P. J., *MWSYM 93 Vol. 3* 1251-1254
- Brazil, Thomas J., see Halloran, Patrick, *MWSYM 93 Vol. 3* 1189-1192
- Brazil, Thomas J., see Lu, Ke, *MWSYM 93 Vol. 3* 1259-1262
- Breitbard, Avi, see Shemesh, Yair, *MWSYM 93 Vol. 2* 801-804
- Bretenoux, Alain, C. Marzat, and René Sardos. Turnstile reflecto-polarimeter using the principal incidence method: Determination of permittivities up to 1200°C and industrial applications; *T-MTT Nov 93* 1945-1949
- Breuer, Klaus, see Cohen, Leonard D., *MWSYM 93 Vol. 2* 659-662
- Bristow, Julian P. G., see Khan, M. Nisa, *T-MTT Feb 93* 244-249
- Brock, T., see Kwon, Y., *MCS 93* 49-52
- Brock, Timothy L., see Kwon, Youngwoo, *T-MTT Jan 93* 1-8
- Brock, Timothy L., see Kwon, Youngwoo, *T-MTT Dec 93* 2336-2344
- Brown, A. S., see Matloubian, M., *MWSYM 93 Vol. 2* 535-538
- Brown, April S., see Matloubian, Mehran, *T-MTT Dec 93* 2206-2210
- Brown, E. R., C. D. Parker, A. R. Calawa, M. J. Manfra, and K. M. Molvar. A quasioptical resonant-tunneling-diode oscillator operating above 200 GHz (Short p.); *T-MTT Apr 93* 720-722
- Brown, Julia, see Nguyen, Loi, *MWSYM 93 Vol. 1* 345-347
- Brozovich, R. S., see Komiak, J. J., *MWSYM 93 Vol. 3* 1473-1476
- Bryant, Danny T., Keith Salzman, and Rick Hudgens. Ku-band monolithic 7-watt power amplifier using AlGaAs/GaAs 0.25- μ m T-gate heterostructure FET technology; *MWSYM 93 Vol. 3* 1373-1376
- Buck, B. J., see Devlin, L. M., *MCS 93* 23-26
- Buckley, M. J., see Piatnacia, A. Y., *MWSYM 93 Vol. 3* 1417-1420
- Budka, Thomas P., see Gauthier, Gildas, *MWSYM 93 Vol. 1* 325-328
- Budzinsky, Y. A., and S. P. Kantyuk. A new class of self-protecting low-noise microwave amplifiers; *MWSYM 93 Vol. 2* 1123-1125
- Bul, L. Q., D. Uecker, E. Loose, and Y. Alon. Test results of an experimental autonomous aircraft landing system utilizing a 94 GHz FM-CW imaging radar; *MWSYM 93 Vol. 2* 857-860
- Bul, S., see Kobayashi, K. W., *MCS 93* 85-88
- Bulmer, C. H., see Gopalakrishnan, G. K., *MWSYM 93 Vol. 2* 1055-1058
- Bulmer, Catherine H., see Gopalakrishnan, G. K., *T-MTT Dec 93* 2383-2391
- Bulutay, Ceyhan, and Sheila Prasad. Analysis of millimeter waveguides on anisotropic substrates using the three-dimensional transmission-line matrix method; *T-MTT Jun/Jul 93* 1119-1125
- Bumble, B., see Febvre, P., *MWSYM 93 Vol. 2* 771-774
- Bundy, Scott, see Mader, Thomas, *T-MTT Oct 93* 1775-1781
- Bunshah, R. F., see Zhang, Dawei, *T-MTT Jun/Jul 93* 1032-1036
- Burchett, M. H., S. R. Pennock, and P. R. Shepherd. A rigorous analysis of the higher order modes and attenuation of stripline of arbitrary dimensions; *MWSYM 93 Vol. 3* 1451-1454
- Burchett, M. Hugh, Steve R. Pennock, and Peter R. Shepherd. A rigorous analysis of the higher order modes and attenuation of stripline of arbitrary dimensions; *T-MTT Dec 93* 2074-2080
- Burke, P. J., see Levy, J. S., *MWSYM 93 Vol. 2* 1113-1115
- Burkholder, Robert J., see Pathak, Prabhakar H., *T-MTT Apr 93* 702-707
- Burm, J., see Litvin, K., *MWSYM 93 Vol. 2* 1063-1066
- Burns, W. K., see Gopalakrishnan, G. K., *MWSYM 93 Vol. 2* 1055-1058
- Burns, William K., see Gopalakrishnan, G. K., *T-MTT Dec 93* 2383-2391
- Butetgenbach, Thomas H. An improved solution for integrated array optics in quasi-optical mm and submm receivers: The Hybrid Antenna; *T-MTT Oct 93* 1750-1761
- Byrd, Jeffrey E., see Heron, Patrick L., *MWSYM 93 Vol. 1* 433-436

C

- Cai, Zhenglian, and Jens Bornemann. Full-wave analysis of multiple lossy microstrip lines on multilayered bi-anisotropic substrates and imperfect ground metallization; *MWSYM 93 Vol. 2* 927-930
- Calawa, A. R., see Brown, E. R., *T-MTT Apr 93* 720-722
- Calajo, L., see Chen, C. H., *MWSYM 93 Vol. 3* 1377-1380
- Camacho-Peñalosa, C., and J. T. Entrambasaguas-Muñoz. Comments, with reply, on 'Instantaneous model of a MESFET for use in linear and nonlinear circuit simulations' by I. Corbella; *T-MTT Nov 93* 2040-2041 (Original paper, Jul 92 1410-1421)
- Cameron, Tom, see Hunt, William D., *MWSYM 93 Vol. 3* 1509-1512
- Camiade, M., see Villemazet, I. F., *MWSYM 93 Vol. 2* 1029-1032
- Camiade, Marc, see Quéré, Raymond, *T-MTT Nov 93* 1928-1938
- Camilleri, N., see Ngo, D., *MWSYM 93 Vol. 3* 1461-1464
- Camilleri, Natalino, see Costa, Julio C., *MWSYM 93 Vol. 1* 293-296
- Camilleri, Natalino, Julio Costa, David Lovelace, and David Ngo. Silicon MOSFETs, the microwave device technology for the 90s; *MWSYM 93 Vol. 2* 545-548
- Canyon, J., see Shamma, A. K., *MWSYM 93 Vol. 3* 1343-1346
- Caorsi, S., G. L. Gragnani, and M. Pastorino. Numerical electromagnetic inverse-scattering solutions for two-dimensional infinite dielectric cylinders buried in a lossy half-space (Short p.); *T-MTT Feb 93* 352-357
- Caorsi, Salvatore, Gian Luigi Gragnani, and Matteo Pastorino. Use of redundant testing functions in moment-method solutions for block models; *T-MTT Feb 93* 305-310
- Cappy, Alain, see Danneville, François, *MWSYM 93 Vol. 1* 373-376
- Cappy, Alain, see Dambrine, Gilles, *T-MTT Mar 93* 375-381
- Capsalis, C. N., N. K. Uzunoglu, C. P. Chronopoulos, and Y. D. Sigourou. A rigorous analysis of a shielded microstrip asymmetric step discontinuity (Short p.); *T-MTT Mar 93* 520-523
- Carin, L., G. W. Slade, K. J. Webb, and A. A. Oliner. Packaged printed transmission lines: Modal phenomena and relation to leakage; *MWSYM 93 Vol. 3* 1195-1198
- Carin, Lawrence, see Kralj, David, *MWSYM 93 Vol. 3* 1239-1242
- Carin, Lawrence, and Kamil Agi. Ultra-wideband transient microwave scattering measurements using optoelectronically switched antennas; *T-MTT Feb 93* 250-254
- Carlsten, B. E., see Sailor, W. C., *T-MTT Aug 93* 1471-1474
- Carpenter, Lynn A., see Grosch, Theodore O., *T-MTT Sep 93* 1543-1548
- Carroll, Jim, and Kai Chang. Metallization effects on GaAs microstrip line attenuation (Short p.); *T-MTT Jun/Jul 93* 1227-1229
- Carvalho, P., E. Ngoya, J. Rousset, and J. Obregon. Object-oriented design of microwave circuit simulators; *MWSYM 93 Vol. 3* 1491-1494

- Case, Michael, *see* Yu, Ruai, *MWSYM 93 Vol. 3* 1339-1342
- Caverly, Robert H., and Gerald Hiller. The temperature dependence of PIN diode attenuators; *MWSYM 93 Vol. 2* 553-556
- Caverly, Robert H. Distortion in off-state arsenide MESFET switches; *T-MTT Aug 93* 1323-1328
- Cecchetti, Claudio, *see* Rizzoli, Vittorio, *MWSYM 93 Vol. 2* 629-632
- Cecchini, R., *see* Levy, J. S., *MWSYM 93 Vol. 2* 1113-1115
- Celuch-Marcysiak, M., and W. K. Gwarek. Comments, with reply, on 'A new finite-difference time-domain formulation and its equivalence with the TLM symmetrical condensed node' by Z. Chen et al.; *T-MTT Jan 93* 168-172 (Original paper, Dec 91 2160-2169)
- Celuch-Marcysiak, Malgorzata, and Wojciech K. Gwarek. A transformed symmetrical condensed node for the effective TLM analysis of guided wave problems; *T-MTT May 93* 820-823
- Ceperley, Peter H., *see* Velazco, Jose E., *T-MTT Feb 93* 330-335
- Cerri, Graziano, Roberto De Leo, and Valter Mariani Primiani. 'Thermic end-fire' interstitial applicator for microwave hyperthermia; *T-MTT Jun/Jul 93* 1135-1142
- César, Amílcar Carell, and Rui Fragassi Souza. Full-wave analysis of a transversely magnetized ferrite nonradiative dielectric waveguide; *T-MTT Apr 93* 647-651
- Cetas, Thomas C., *see* Gopal, Mohan Krishnan, *T-MTT Mar 93* 431-437
- Chaki, S., *see* Nakahara, K., *MWSYM 93 Vol. 1* 369-372
- Chakraborty, Ajoy, *see* Datta, Amlan, *T-MTT Apr 93* 738-739
- Chan, Chi H., *see* Kipp, Robert, *T-MTT May 93* 848-854
- Chan, Chi H., *see* Kipp, Robert, *T-MTT Jun/Jul 93* 1187-1194
- Chan, Chi Hou, *see* Kouki, Ammar B., *T-MTT Aug 93* 1356-1362
- Chan, S., *see* Kobayashi, K. W., *MWSYM 93 Vol. 1* 377-380
- Chang, Chung-Chi, *see* Lo, Wen-Teng, *MWSYM 93 Vol. 3* 1199-1202
- Chang, Chung-Chi, *see* Tien, Ching-Cheng, *T-MTT Sep 93* 1616-1624
- Chang, Chung-Chi, *see* Lo, Wen-Teng, *T-MTT Dec 93* 2099-2108
- Chang, Hsin-Chin, *see* Liang, Xiao-Peng, *MWSYM 93 Vol. 2* 597-600
- Chang, K. W., *see* Maas, S. A., *MCS 93* 53-55
- Chang, K. W., G. S. Dow, H. Wang, T. H. Chen, K. Tan, B. Allen, J. Berenz, J. Wehling, and R. Lin. A W-band single-chip transceiver for FMCW radar; *MCS 93* 41-44
- Chang, Kai, *see* Ho, Chien-Hsun, *MWSYM 93 Vol. 2* 585-588
- Chang, Kai, *see* Ho, Chien-Hsun, *MWSYM 93 Vol. 2* 877-880
- Chang, Kai, *see* Magerko, Mark A., *MWSYM 93 Vol. 2* 947-950
- Chang, Kai, *see* Ho, Chien-Hsun, *MWSYM 93 Vol. 3* 1321-1324
- Chang, Kai, *see* Navarro, Julio A., *T-MTT May 93* 760-766
- Chang, Kai, *see* Carroll, Jim, *T-MTT Jun/Jul 93* 1227-1229
- Chang, Kai, *see* Leverich, W. Kent, *T-MTT Sep 93* 1515-1518
- Chang, Kai, *see* Ho, Chien-Hsun, *T-MTT Sep 93* 1648-1650
- Chang, Kai, *see* McCleary, James, *T-MTT Oct 93* 1703-1709
- Chang, Kai, *see* Navarro, Julio A., *T-MTT Oct 93* 1856-1863
- Chang, Kai, *see* Ho, Chien-Hsun, *T-MTT Dec 93* 2116-2125
- Chang, Kwo Wei, *see* Maas, Stephen A., *T-MTT Dec 93* 2330-2335
- Chang, T. N., and Y. T. Lin. Quasi-static analysis of shielded microstripline by a modified boundary element method (Short p.); *T-MTT Apr 93* 729-731
- Chang, The-Nan, and Y. C. Sze. Flexibility in the choice of Green's function for the boundary element method; *MWSYM 93 Vol. 2* 921-922
- Chang, W. H., *see* Wang, J. S., *MWSYM 93 Vol. 2* 1047-1050
- Chang, W. H., *see* Golob, L. P., *MWSYM 93 Vol. 3* 1395-1398
- Chao, P. C., *see* Duh, K. H. G., *MCS 93* 99-102
- Chao, P. C., *see* Fu, S. T., *MWSYM 93 Vol. 3* 1469-1472
- Char, K., *see* Martens, J. S., *MWSYM 93 Vol. 3* 1243-1246
- Chau, D., *see* Issogna, P., *MWSYM 93 Vol. 2* 497-500
- Chen, C. H., H. C. Yen, K. Tan, L. Callejo, G. Onak, D. C. Streit, P. H. Liu, and J. M. Schellenberg. 20 GHz high power high efficiency HEMT module; *MWSYM 93 Vol. 3* 1377-1380
- Chen, Chun Hsiung, *see* Ke, Jeng-Yi, *MWSYM 93 Vol. 2* 931-934
- Chen, Hong-Twu, *see* Wong, Kin-Lu, *T-MTT Aug 93* 1466-1468
- Chen, J., *see* Kurdoghlian, A., *MCS 93* 97-98
- Chen, Ji, Chen Wu, Ke-Li Wu, and John Litva. Combining an autoregressive (AR) model with the FD-TD algorithm for improved computational efficiency; *MWSYM 93 Vol. 2* 749-752
- Chen, Jin-Yuan, *see* Gandhi, Om P., *T-MTT Apr 93* 658-665
- Chen, Kuang Yi, Paul Biemacki, Alan R. Mickelson, and Zoya Basta Popovic. Optical measurements of microwave grid oscillator power combiners; *MWSYM 93 Vol. 1* 313-316
- Chen, S. H., *see* Bandler, J. W., *MWSYM 93 Vol. 2* 889-892
- Chen, S. H., *see* Bandler, J. W., *MWSYM 93 Vol. 2* 1009-1012
- Chen, S. H., *see* Bandler, J. W., *MWSYM 93 Vol. 2* 1017-1020
- Chen, Seng-Woon, Thomas C. Ho, Fred R. Phelleps, Jack L. Singer, Krishna Pande, Paul Rice, James Adair, and Mohammad Ghahremani. Rigorous design of a 94 GHz MMIC doubler; *MCS 93* 89-92
- Chen, Seng-Woon, *see* Ho, Thomas C., *T-MTT Dec 93* 2288-2294
- Chen, Seng-Woon, Thomas C. Ho, Krishna Pande, and Paul D. Rice. Rigorous design of a 94 GHz MMIC doubler; *T-MTT Dec 93* 2317-2322
- Chen, Shao H., *see* Bandler, John W., *T-MTT Dec 93* 2279-2287
- Chen, Shao Hua, *see* Bandler, John W., *T-MTT Dec 93* 2269-2278
- Chen, T. H., *see* Chang, K. W., *MCS 93* 41-44
- Chen, T. H., *see* Wang, H., *MWSYM 93 Vol. 2* 519-522
- Chen, Wai-Kai, *see* Gong, Ji-An, *T-MTT May 93* 886-890
- Chen, Yinchao, and Benjamin Beker. Analysis of single and coupled microstrip lines on anisotropic substrates using differential matrix operators and the spectral-domain method; *T-MTT Jan 93* 123-128
- Chen, Yinchao, and Benjamin Beker. Dispersion characteristics of open and shielded microstrip lines under a combined principal axes rotation of electrically and magnetically anisotropic substrates; *T-MTT Apr 93* 673-679
- Chen, Yinchao, and Benjamin Beker. Analysis of bilateral coplanar waveguides printed on anisotropic substrates for use in monolithic MICs; *T-MTT Sep 93* 1489-1493
- Chen, Yinchao, and Benjamin Beker. Spectral-domain analysis of open and shielded slotlines printed on various anisotropic substrates; *T-MTT Nov 93* 1872-1877
- Chen, Zhizhang, Michel M. Ney, and Wolfgang J. R. Hoefer. Absorbing and connecting boundary conditions for the TLM method; *T-MTT Nov 93* 2016-2024
- Cheng, C. S., *see* Helszajn, J., *T-MTT Nov 93* 1950-1958
- Cheng, H., and J. F. Whitaker. 300-GHz-bandwidth network analysis using time-domain electro-optic sampling; *MWSYM 93 Vol. 3* 1355-1358
- Cheng, Kwok K. M., *see* Everard, Jeremy K. A., *T-MTT Sep 93* 1568-1573
- Cheng, Kwok K. M., and Jeremy K. A. Everard. A new technique for the quasi-TEM analysis of conductor-backed coplanar waveguide structures; *T-MTT Sep 93* 1589-1592
- Cheng, Yuan-Tung, *see* Wong, Kin-Lu, *T-MTT May 93* 814-819
- Cherepenin, V. A., *see* Lopin, M. I., *MWSYM 93 Vol. 2* 1119-1121
- Chevoir, F., *see* Bouregba, R., *T-MTT Nov 93* 2025-2027
- Chew, Weng Cho, *see* Lu, Cai-Cheng, *T-MTT Jan 93* 97-100
- Chiao, Jung-Chih, *see* Kim, Moonil, *MWSYM 93 Vol. 2* 615-618
- Chiao, Jung-Chih, *see* Kim, Moonil, *T-MTT Oct 93* 1762-1771
- Chilo, J., *see* Ndagijimana, F., *MCS 93* 109-112
- Chilo, J., *see* Ndagijimana, F., *MWSYM 93 Vol. 1* 91-94
- Ching-Chuan, Su. The three-dimensional algorithm of solving the electric field integral equation using face-centered node points, conjugate gradient method, and FFT; *T-MTT Mar 93* 510-515
- Chiu, Chien-Wen, and Ruey-Beei Wu. A moment method analysis for coplanar waveguide discontinuity inductances; *T-MTT Sep 93* 1511-1514
- Chiu, Jung-Hui, *see* Jung, Wen-Lin, *T-MTT Feb 93* 336-340
- Chivers, Michael J., *see* Mahon, Simon J., *T-MTT Jun/Jul 93* 1065-1067
- Chou, Chia S., *see* Rosenbaum, Steven E., *MWSYM 93 Vol. 2* 1103-1104
- Choudhury, Debabani, Margaret A. Frerking, and Paul D. Batelaan. A 200 GHz tripler using a single barrier varactor; *T-MTT Apr 93* 595-599
- Chow, P. D., *see* Wang, H., *MWSYM 93 Vol. 2* 519-522
- Chow, Y. L., *see* Omar, A. A., *MWSYM 93 Vol. 2* 823-826
- Chow, Y. L., *see* Shubair, Raed M., *T-MTT Mar 93* 498-502
- Chow, Y. L., *see* Omar, A. A., *T-MTT Sep 93* 1559-1563
- Chow, Y. Leonard, *see* Omar, Amjad A., *T-MTT Apr 93* 687-692
- Chrang, Tun-Ruey, *see* Chung, Shyh-Jong, *T-MTT Sep 93* 1601-1605
- Christensen, J. A., T. J. Grant, P. M. Lally, P. Puri, G. Dohler, and S. Ludvik. MPM technology developments: An industry perspective; *MWSYM 93 Vol. 1* 115-118
- Chronopoulos, C. P., *see* Capsalis, C. N., *T-MTT Mar 93* 520-523
- Chu, Chiao-Min, *see* Radmanesh, Matthew M., *T-MTT Jan 93* 89-96
- Chu, Tah-Hsiung, *see* Lin, Ding-Bing, *T-MTT May 93* 855-861
- Chung, Esther, *see* Sjogren, Lance B., *T-MTT Oct 93* 1782-1790
- Chung, Shyh-Jong, and Lin-Kun Wu. Analysis of the effects of a resistively coated upper dielectric layer on the propagation characteristics of hybrid modes in a waveguide-shielded microstrip using the method of lines; *T-MTT Aug 93* 1393-1399
- Chung, Shyh-Jong, and Tun-Ruey Chrang. Full-wave analysis of discontinuities in conductor-backed coplanar waveguides using the method of lines; *T-MTT Sep 93* 1601-1605
- Ciric, Ioan R., *see* Tugulea, Alexandru A., *MWSYM 93 Vol. 2* 1025-1028
- Ciric, Ioan R., *see* Gesell, Glenn A., *T-MTT Mar 93* 484-490
- Citerne, J., *see* Amrani, C., *MWSYM 93 Vol. 2* 843-846
- Claxton, S., *see* Kobayashi, K. W., *MCS 93* 151-154
- Claxton, S., *see* Kobayashi, K. W., *MWSYM 93 Vol. 1* 349-352
- Claxton, Shimen K. Z., *see* Kobayashi, Kevin W., *T-MTT Dec 93* 2295-2302
- Clibbon, K. L., and A. McCowen. Thermal modelling of non-ideal interstitial microwave antenna array hyperthermia for the treatment of cancer; *MWSYM 93 Vol. 2* 1147-1150
- Clifton, J. C., *see* Devlin, L. M., *MCS 93* 23-26
- Cognata, Alex, *see* Kondoh, Hiroshi, *MCS 93* 35-38
- Cognata, Alex, *see* Root, David E., *MWSYM 93 Vol. 1* 261-264

- Cognata, Alex, *see* Root, David E., *T-MTT Dec 93* 2211-2217
- Cohen, L. D., *see* Levy, J. S., *MWSYM 93 Vol. 2* 1113-1115
- Cohen, Leonard D., and Klaus Breuer. A fast-tuned, injection locked, DDS-based local oscillator for the 3.6 to 4.1 GHz frequency range; *MWSYM 93 Vol. 2* 659-662
- Cole, B. F., *see* Liang, G.-C., *MWSYM 93 Vol. 3* 1413-1416
- Cole, Brady F., *see* Liang, Guo-chun, *T-MTT Dec 93* 2368-2375
- Collin, R. E., *see* Toncich, S. S., *MWSYM 93 Vol. 3* 1527-1530
- Collin, R. E., *see* Toncich, Stanley S., *T-MTT Dec 93* 2067-2073
- Collinson, Glenn, and Marty Jones. A novel technique for measuring small signal S-parameters of an RF/microwave, transistor, power amplifying stage for use in power amplifier stability analysis; *MWSYM 93 Vol. 3* 1255-1258
- Colombo, G., *see* Gulloch, W., *MWSYM 93 Vol. 2* 681-684
- Colpitts, Bruce G. Temperature sensitivity of coaxial probe complex permittivity measurements: Experimental approach; *T-MTT Feb 93* 229-233
- Combemale, Yves, François Deborgies, and Philippe Maillot. Rugged optical submodules for microwave applications; *MWSYM 93 Vol. 2* 735-738
- Compton, Richard C., *see* York, Robert A., *T-MTT Mar 93* 438-444
- Compton, Richard C., *see* Davidson, Andrew C., *T-MTT Oct 93* 1845-1850
- Conn, David, *see* Wu, Xiaohua, *MWSYM 93 Vol. 1* 221-224
- Consolazio, Steve, *see* Fudem, Howard, *MCS 93* 119-122
- Consolazio, Steve, *see* Fudem, Howard, *MWSYM 93 Vol. 1* 137-140
- Cosby, Lynwood. MPM applications: A forecast of near- and long-term applications; *MWSYM 93 Vol. 1* 111-114
- Costa, Julio, *see* Camilleri, Natalino, *MWSYM 93 Vol. 2* 545-548
- Costa, Julio C., Dave Lovelace, Dave Ngo, and Natalino Camilleri. Modeling a new generation of RF devices: MOSFETs for L-band applications; *MWSYM 93 Vol. 1* 293-296
- Costamagna, E., A. Fanni, and M. Usai. Slab line impedances revisited (Short p.); *T-MTT Jan 93* 156-159
- Costamagna, E., and A. Fanni. Comments, with reply, on 'An analytic algorithm for unbalanced stripline impedance' by P. Robrish; *T-MTT Jan 93* 173-174 (Original paper, Aug 90 1011-1016)
- Costanzo, Alessandra, *see* Rizzoli, Vittorio, *MWSYM 93 Vol. 2* 629-632
- Couffignal, P., *see* Guillot, P., *MWSYM 93 Vol. 1* 455-458
- Couffignal, Patrick, *see* Guillot, Philippe, *T-MTT Dec 93* 2156-2160
- Coupat, J. M., P. Bouysse, J. M. Nebus, and J. P. Villotte. An enhanced active load-pull system for highly mismatched power transistor measurements; *MWSYM 93 Vol. 1* 245-248
- Cox, C. H., III. High-performance fiber-optic links for microwave applications; *MWSYM 93 Vol. 2* 719-722
- Crawford, Devin, and Marat Davidovitz. Semi-discrete finite element analysis of zero-thickness inductive strips in a rectangular waveguide (Short p.); *T-MTT Mar 93* 523-526
- Crawford, Jay D., *see* Stokes, Robert B., *T-MTT Jun/Jul 93* 1075-1080
- Cronin, N. J., *see* Sammut, C. V., *MWSYM 93 Vol. 2* 1041-1044
- Cros, Dominique, *see* Longo, Iginio, *T-MTT Jan 93* 117-122
- Crowe, Thomas W., *see* Ali-Ahmad, Walid Y., *MWSYM 93 Vol. 2* 527-530
- Crowe, Thomas W., *see* Ali-Ahmad, Walid Y., *T-MTT Apr 93* 558-564
- Crowe, Thomas W., *see* Kormanyos, Brian K., *T-MTT Oct 93* 1730-1737
- Crowe, Thomas W., *see* Siegel, Peter H., *T-MTT Nov 93* 1913-1921
- Cui, Y., *see* Smith, G. M., *MWSYM 93 Vol. 1* 155-158
- Cypher, Scott R., *see* Stimson, Philip A., *T-MTT Apr 93* 609-615
- D
- Dai, Dong, *see* Yang, Jian-Xun, *T-MTT Apr 93* 581-589
- Dai, Fa, and Abbas S. Omar. Field-analysis model for predicting dispersion property of coupled-cavity circuits; *MWSYM 93 Vol. 2* 901-904
- Daïdo, Yoshimasa, *see* Nagatomo, Kazuo, *T-MTT Feb 93* 199-205
- Dambrine, Gilles, *see* Danneville, François, *MWSYM 93 Vol. 1* 373-376
- Dambrine, Gilles, Henri Happy, François Danneville, and Alain Cappy. A new method for on wafer noise measurement; *T-MTT Mar 93* 375-381
- Daniel, Elizabeth M., *see* Raitlon, C. J., *T-MTT Feb 93* 290-297
- Danneville, François, Gilles Dambrine, Henri Happy, and Alain Cappy. Influence of the gate leakage current on the noise performance of MESFETs and MODFETs; *MWSYM 93 Vol. 1* 373-376
- Danneville, François, *see* Dambrine, Gilles, *T-MTT Mar 93* 375-381
- Daryoush, A., *see* Saedi, R., *MWSYM 93 Vol. 2* 501-504
- Daryoush, Afshin S., *see* Zhou, Xuesong, *MWSYM 93 Vol. 1* 321-324
- Daryoush, Afshin S., *see* Sturzebecher, Dana J., *T-MTT Jun/Jul 93* 998-1004
- Daryoush, Afshin S., *see* Ackerman, Edward, *T-MTT Aug 93* 1299-1306
- Das, B. N., *see* Datta, Amlan, *T-MTT Apr 93* 738-739
- Das, Nirod K. Generalized multipoint reciprocity analysis of surface-to-surface transitions between multiple printed transmission lines; *T-MTT Jun/Jul 93* 1164-1177
- Datta, Amlan, B. N. Das, and Ajoy Chakraborty. Corrections to 'Moment method formulation of thick diaphragms in a rectangular waveguide' (Mar 92 592-595); *T-MTT Apr 93* 738-739
- Davidovitz, Marat, *see* Crawford, Devin, *T-MTT Mar 93* 523-526
- Davidovitz, Marat, and Zhiqiang Wu. Semi-discrete finite element method analysis of arbitrary microstrip elements—Static solution; *T-MTT Apr 93* 680-686
- Davidson, Andrew C., Frank W. Wise, and Richard C. Compton. A 60-GHz IMPATT oscillator array with pulsed operation; *T-MTT Oct 93* 1845-1850
- Davies, P. A., *see* Razzooqi, K. A. R., *MWSYM 93 Vol. 3* 1553-1556
- Davis, L. E., *see* Wright, P., *MWSYM 93 Vol. 1* 269-272
- Davis, L. E., and R. Sloan. Semiconductor junction circulators; *MWSYM 93 Vol. 1* 483-486
- Davis, Lionel E. Status of microwave ferrite technology in Europe; *MWSYM 93 Vol. 1* 199-202
- Davis, Lionel E., and Robin Sloan. Predicted performance of semiconductor junction circulators with losses; *T-MTT Dec 93* 2243-2247
- Davis, W. Alan, *see* Drury, Denis M., *T-MTT Feb 93* 183-189
- Davito, Dave, *see* Liu, William, *MWSYM 93 Vol. 3* 1477-1480
- De Angelis, Danilo, *see* Morini, Antonio, *MWSYM 93 Vol. 2* 1077-1080
- DeAnni, T., *see* Golob, L. P., *MWSYM 93 Vol. 3* 1395-1398
- Dearn, A. W., *see* Devlin, L. M., *MCS 93* 23-26
- Debicki, Piotr S., and Melvin A. Astrahan. Calculating input impedance of electrically small insulated antennas for microwave hyperthermia (Short p.); *T-MTT Feb 93* 357-360
- Deborgies, F., *see* Mongardien, D., *MWSYM 93 Vol. 2* 731-734
- Deborgies, François, *see* Combemale, Yves, *MWSYM 93 Vol. 2* 735-738
- Decoster, D., *see* Elkadi, H., *MWSYM 93 Vol. 1* 217-220
- Decoster, D., *see* Maricot, S., *MWSYM 93 Vol. 2* 1067-1070
- de Cremoux, B., *see* Maricot, S., *MWSYM 93 Vol. 2* 1067-1070
- De Flaviis, Franco, Tullio Rozzi, Franco Moglie, Andrea Sgreccia, and Anselmo Panzeri. Accurate analysis and design of millimeter wave mixers (Short p.); *T-MTT May 93* 870-873
- de Graauw, T., *see* Dierichs, M. M. T. M., *T-MTT Apr 93* 605-608
- de Graauw, T., *see* Honingh, C. E., *T-MTT Apr 93* 616-623
- Delaney, M. J., *see* Matloubian, M., *MWSYM 93 Vol. 2* 535-538
- Delaney, M. J., *see* Matloubian, Mehran, *T-MTT Dec 93* 2206-2210
- Delaney, Michael, *see* Nguyen, Loi, *MWSYM 93 Vol. 1* 345-347
- de Lange, G., *see* Honingh, C. E., *T-MTT Apr 93* 616-623
- De Leo, Roberto, *see* Cerri, Graziano, *T-MTT Jun/Jul 93* 1135-1142
- De Lisio, Michael P., *see* Kim, Moonil, *MWSYM 93 Vol. 2* 615-618
- De Lisio, Michael P., *see* Kim, Moonil, *T-MTT Oct 93* 1762-1771
- De Lisio, Michael P., *see* Kim, Moonil, *T-MTT Oct 93* 1772-1774
- Dengler, Robert J., *see* Stimson, Philip A., *T-MTT Apr 93* 609-615
- Dengler, Robert J., *see* Siegel, Peter H., *T-MTT Nov 93* 1913-1921
- Detlefsen, Jürgen, *see* Kees, Norbert, *MWSYM 93 Vol. 2* 805-808
- Devlin, L. M., B. J. Buck, J. C. Clifton, A. W. Deam, and A. P. Long. A 2.4 GHz single chip transceiver; *MCS 93* 23-26
- De Zutter, Daniël, *see* Sercu, Jeannick, *MWSYM 93 Vol. 2* 753-756
- De Zutter, Daniël, *see* Olyslager, Frank, *T-MTT Jan 93* 79-88
- De Zutter, Daniël, *see* Olyslager, Frank, *T-MTT Aug 93* 1385-1392
- De Zutter, Daniël, *see* Sercu, Jeannick, *T-MTT Sep 93* 1581-1588
- Dia, R. M., *see* Pospieszalski, M. W., *MWSYM 93 Vol. 2* 515-518
- Dib, Nihad, Minoo Gupta, George Ponchak, and Linda Katehi. Effects of ground equalization on the electrical performance of asymmetric CPW shunt stubs; *MWSYM 93 Vol. 2* 701-704
- Dib, Nihad I., George E. Ponchak, and Linda P. B. Katehi. A theoretical and experimental study of coplanar waveguide shunt stubs; *T-MTT Jan 93* 38-44
- Dib, Nihad I., Minoo Gupta, George E. Ponchak, and Linda P. B. Katehi. Characterization of asymmetric coplanar waveguide discontinuities; *T-MTT Sep 93* 1549-1558
- Dickens, L. E., *see* Gippich, J. W., *MWSYM 93 Vol. 3* 1369-1372
- Di Domenico, L., *see* Kim, A., *MWSYM 93 Vol. 3* 1221-1224
- Dienot, J., *see* Parra, T., *T-MTT May 93* 876-879
- Dierichs, M. M. T. M., C. E. Honingh, R. A. Panhuyzen, B. J. Feenstra, A. Skalare, J. J. Wijnbergen, H. v. d. Stadt, and T. de Graauw. Evaluation of integrated tuning elements with SIS devices; *T-MTT Apr 93* 605-608
- Dierichs, M. M. T. M., *see* Honingh, C. E., *T-MTT Apr 93* 616-623
- Dietz, Greg, *see* Fudem, Howard, *MCS 93* 119-122
- Dietz, Greg, *see* Fudem, Howard, *MWSYM 93 Vol. 1* 137-140
- Dieudonné, J.-M., *see* Gütlich, U., *MWSYM 93 Vol. 2* 667-670
- Dillon, B. M., and A. A. P. Gibson. Phase shift calculations in axially-magnetized ferrites using the finite element method; *MWSYM 93 Vol. 1* 469-472
- Dillon, B. M., and A. A. P. Gibson. Applied field/frequency dependency of propagation in axially magnetized ferrite waveguides; *T-MTT Dec 93* 2092-2098

- Dillon, Bernice M., Andrew A. P. Gibson, and Jon P. Webb. Cut-off and phase constants of partially filled axially magnetized, gyromagnetic waveguides using finite elements; *T-MTT May 93* 803-808
- Di Lorenzo, Elpidio, see Macchiarella, Giuseppe, *T-MTT Aug 93* 1294-1298
- Dindo, Salam, and Michel Ney. Two-dimensional transmission line matrix (TLM) simulation of the electromagnetic fields in a rectangular section of a discretized GaAs MESFET channel with arbitrary doping profile; *MWSYM 93 Vol. 3* 1455-1458
- Ding, Zhan, and Jiadong Huang. The surface roughness measurement of metals using microwave; *MWSYM 93 Vol. 1* 253-256
- Dionne, G. F., see Lax, B., *MWSYM 93 Vol. 1* 479-482
- Dionne, Gerald F., see Lax, Benjamin, *T-MTT Dec 93* 2190-2197
- Djuandi, A., see Hwu, R. J., *T-MTT May 93* 890-893
- Dohler, G., see Christensen, J. A., *MWSYM 93 Vol. 1* 115-118
- Dokas, V., see Mansour, R. R., *MWSYM 93 Vol. 3* 1281-1284
- Domier, Calvin W., see Sjogren, Lance B., *T-MTT Oct 93* 1782-1790
- Donnelly, Joseph P., see Khan, M. Nisa, *T-MTT Feb 93* 244-249
- Dow, G. S., see Aust, M. V., *MCS 93* 45-48
- Dow, G. S., see Chang, K. W., *MCS 93* 41-44
- Dow, G. S., see Katz, R., *MCS 93* 131-134
- Dow, G. S., see Wang, H., *MCS 93* 167-170
- Dow, G. S., see Katz, R., *MWSYM 93 Vol. 1* 149-152
- Dow, G. S., T. N. Ton, H. Wang, D. C. W. Lo, W. Lam, B. Allen, K. Tan, J. Berenz, L. Yujiri, M. Mussetto, and P. Lee. W-band MMIC direct detection receiver for passive imaging system; *MWSYM 93 Vol. 1* 163-166
- Dow, G. S., see Wang, H., *MWSYM 93 Vol. 1* 365-368
- Dow, G. S., see Wang, H., *MWSYM 93 Vol. 2* 783-785
- Dow, G. S., see Sharma, A. K., *MWSYM 93 Vol. 3* 1343-1346
- Drake, Enrique, Francisco Medina, and Manuel Hormo. Improved quasi-TEM spectral domain analysis of boxed coplanar multiconductor microstrip lines; *T-MTT Feb 93* 260-267
- Draxler, Paul J. Electromagnetic simulator interfacing to a general CAD framework: Automatic, electromagnetic-based mesh generation; *MWSYM 93 Vol. 3* 1495-1498
- Dreher, Achim, and Reinhold Pregla. Full-wave analysis of radiating planar resonators with the method of lines; *T-MTT Aug 93* 1363-1368
- Drissi, M., see Amrani, C., *MWSYM 93 Vol. 2* 843-846
- Drury, Denis M., David C. Zimmermann, and W. Alan Davis. Large-signal characterization of dual-gate field effect transistors using load-pull measurements; *T-MTT Feb 93* 183-189
- Dryagin, Y., see Koistinen, O., *MWSYM 93 Vol. 2* 775-778
- Dryagin, Y. A., see Koistinen, Olli P., *T-MTT Dec 93* 775-778
- Duh, K. H. G., S. M. J. Liu, S. C. Wang, P. Ho, and P. C. Chao. High performance Q-band 0.15 μm InGaAs HEMT MMIC LNA; *MCS 93* 99-102
- Duh, K. H. G., see Fu, S. T., *MWSYM 93 Vol. 3* 1469-1472
- Dunleavy, Lawrence P., see Henning, Rudolf E., *T-MTT Jun/Jul 93* 913-919
- Dunlop, Douglas D., see Barton, David L., *MWSYM 93 Vol. 3* 1487-1490
- Dunn, John M., see Howard, Lincoln Cole, *MWSYM 93 Vol. 3* 1543-1546
- Dunn, John M., Lincoln Cole Howard, and Kent Larson. An efficient algorithm for the calculation of parasitic coupling between lines in MICs; *T-MTT Aug 93* 1287-1293
- Dunn, M., see Smith, G. M., *MWSYM 93 Vol. 1* 155-158
- Duvanaud, C., P. Bouysse, J. M. Nebus, L. Lapierre, and J. P. Villotte. Optimization of trade-offs between efficiency and intermodulation in SSPAs based on experimental and theoretical considerations; *MWSYM 93 Vol. 1* 285-288
- E**
- East, Jack R., see Tectet, Douglas A., *T-MTT Jun/Jul 93* 1087-1093
- Eastman, L. F., see Litvin, K., *MWSYM 93 Vol. 2* 1063-1066
- Eda, Kazuo, see Taguchi, Yutaka, *MWSYM 93 Vol. 3* 1325-1328
- Eddy, M., see Zhang, Dawei, *T-MTT Jun/Jul 93* 1032-1036
- Egan, Aidan, see Murphy, J. Anthony, *T-MTT Oct 93* 1700-1702
- Ekstrom, Hans, see Acharya, Pranay R., *T-MTT Oct 93* 1715-1719
- Eleftheriades, George V., and Gabriel M. Rebeiz. Design and analysis of quasi-integrated horn antennas for millimeter and submillimeter-wave applications; *T-MTT Jun/Jul 93* 954-965
- El-Ghazaly, Samir M., see Megahed, Mohamed A., *MWSYM 93 Vol. 2* 963-966
- El-Ghazaly, Samir M., see Hakim, Mohammed S., *MWSYM 93 Vol. 3* 1303-1306
- Elkadi, H., S. Maricot, R. Hamelin, J. Harari, J. P. Vilcot, and D. Decoster. A large signal equivalent circuit model for multielectrode laser and microwave semiconductor lasers for CAD applications; *MWSYM 93 Vol. 1* 217-220
- El-Sharaway, El-Badawy. Double ridged waveguide phase shifters for broadband applications; *MWSYM 93 Vol. 1* 473-475
- El-Sharaway, El-Badawy. Double ridged waveguide phase shifters for broadband applications; *T-MTT Dec 93* 2161-2165
- Elsherbeni, Atef Z., see He, Shidong, *T-MTT Jan 93* 53-61
- Elsherbeni, Atef Z., see Auda, Hesham A., *T-MTT Jun/Jul 93* 1037-1043
- Encrenaz, P., see Bouregba, R., *T-MTT Nov 93* 2025-2027
- Endo, Tadashi, see Yoshida, Haruo, *MWSYM 93 Vol. 1* 389-392
- Endo, Tadashi, see Yoshida, Haruo, *T-MTT Dec 93* 2353-2358
- Engdahl, J., see Ndagijimana, F., *MCS 93* 109-112
- Engdahl, J., see Ndagijimana, F., *MWSYM 93 Vol. 1* 91-94
- Engel, A. G., Jr., and Linda P. B. Katehi. The role of higher order modes in the characterization of a shielded transition to a dielectric waveguide; *MWSYM 93 Vol. 2* 831-834
- Engel, Andrew G., Jr., and Linda P. B. Katehi. Frequency and time domain characterization of microstrip-ridge structures; *T-MTT Aug 93* 1251-1262
- Engelhardt, Robert J., Jr., see Virga, Kathleen L., *MWSYM 93 Vol. 1* 123-126
- Engels, M., and R. H. Jansen. Rigorous 3D EM simulation and an efficient approximate model of MMIC overlay capacitors with multiple feedpoints; *MWSYM 93 Vol. 2* 757-760
- Engheta, Nader, see Mirotznik, Mark S., *T-MTT Nov 93* 1878-1886
- Engheta, Nader, see Mariotte, Frédéric, *T-MTT Nov 93* 1895-1906
- Enomoto, Y., see Suzuki, Katsumi, *MWSYM 93 Vol. 3* 1429-1432
- Entrambasaguas-Muñoz, J. T., see Camacho-Peñalosa, C., *T-MTT Nov 93* 2040-2041
- Eom, Hyo J., see Kang, Soo H., *T-MTT May 93* 895-899
- Eom, Hyo J., see Park, Tah J., *T-MTT Aug 93* 1458-1460
- Erickson, Neal R., see Louhi, Jyrki T., *T-MTT Apr 93* 565-571
- Escotte, Laurent, see Llopis, Olivier, *T-MTT Mar 93* 369-374
- Escotte, Laurent, Robert Plana, and Jacques Graffeul. Evaluation of noise parameter extraction methods; *T-MTT Mar 93* 382-387
- Eskandarian, A., and S. Weinreb. A note on experimental determination of small-signal equivalent circuit of millimeter-wave FETs (Short p.); *T-MTT Jan 93* 159-162
- Eswarappa, Channabasappa, and Wolfgang J. R. Hoefer. Time domain analysis of via holes and shorting pins in microstrip using 3-D SCN TLM; *MWSYM 93 Vol. 2* 917-920
- Eswarappa, Channabasappa, and Wolfgang J. R. Hoefer. Performance study of one-way absorbing boundary equations in 3-D TLM for dispersive guiding structures; *MWSYM 93 Vol. 3* 1439-1442
- Everard, Jeremy K. A., and Kwok K. M. Cheng. High performance direct coupled bandpass filters on coplanar waveguide; *T-MTT Sep 93* 1568-1573
- Everard, Jeremy K. A., see Cheng, Kwok K. M., *T-MTT Sep 93* 1589-1592
- F**
- Faché, Niels, see Sercu, Jeannick, *MWSYM 93 Vol. 2* 753-756
- Faché, Niels, see Sercu, Jeannick, *T-MTT Sep 93* 1581-1588
- Fan, Lu, see Ho, Chien-Hsun, *MWSYM 93 Vol. 2* 585-588
- Fan, Lu, see Ho, Chien-Hsun, *MWSYM 93 Vol. 2* 877-880
- Fan, Lu, see Magerko, Mark A., *MWSYM 93 Vol. 2* 947-950
- Fan, Lu, see Ho, Chien-Hsun, *MWSYM 93 Vol. 3* 1321-1324
- Fan, Lu, see Ho, Chien-Hsun, *T-MTT Sep 93* 1648-1650
- Fan, Lu, see Ho, Chien-Hsun, *T-MTT Dec 93* 2116-2125
- Fan, Shou-Kong, see Liu, William, *MWSYM 93 Vol. 3* 1477-1480
- Fan, Siqi, see Root, David E., *MWSYM 93 Vol. 1* 261-264
- Fan, Siqi, see Root, David E., *T-MTT Dec 93* 2211-2217
- Fan, Z., and S. R. Pennock. Analysis of broadside coupled strip inset dielectric guide; *MWSYM 93 Vol. 2* 839-842
- Fang, Jiayuan, and Jishi Ren. A locally conformed finite-difference time-domain algorithm of modeling arbitrary shape planar metal strips; *T-MTT May 93* 830-838
- Fanni, A., see Costamagna, E., *T-MTT Jan 93* 156-159
- Fanni, A., see Costamagna, E., *T-MTT Jan 93* 173-174
- Fathy, A., D. Kalokitis, V. Pendrick, E. Belohoubek, A. Piqué, and M. Mathur. Superconducting narrow band pass filters for advanced multiplexers; *MWSYM 93 Vol. 3* 1277-1280
- Faulkner, J. A., see Gippich, J. W., *MWSYM 93 Vol. 3* 1369-1372
- Febvre, P., W. R. McGrath, P. Batelaan, H. G. LeDuc, B. Bumble, M. A. Frerking, and J. Hernichel. A 547 GHz SIS receiver employing a submicron Nb junction with an integrated matching circuit; *MWSYM 93 Vol. 2* 771-774
- Feenstra, B. J., see Dierichs, M. M. T. M., *T-MTT Apr 93* 605-608
- Feldle, H. P., see Banerjee, S. K., *MWSYM 93 Vol. 2* 505-508
- Feldman, Marc J., see Ke, Qing, *T-MTT Apr 93* 600-604
- Felgentreff, Tilman, see Sattler, Sebastian, *MCS 93* 57-60
- Felgentreff, Tilman, see Sattler, Sebastian, *MWSYM 93 Vol. 3* 1531-1534
- Feng, M., see Wang, J. S., *MWSYM 93 Vol. 2* 1047-1050
- Feng, M., see Laskar, J., *MWSYM 93 Vol. 2* 1095-1098

- Fenniman, Christopher, *see* Merenda, Joseph L., *MWSYM 93 Vol. 2* 1109-1112
- Fernandez, F. Anibal, *see* Lu, Yilong, *T-MTT Jun/Jul 93* 1215-1223
- Ferrero, Andrea, Umberto Pisani, and Kevin J. Kerwin. Corrections to 'A new implementation of a multiport network analyzer' (Nov 92 2078-2085); *T-MTT Jun/Jul 93* 1074
- Fetterman, H. R., *see* Meng, C. C., *MWSYM 93 Vol. 2* 539-542
- Fetterman, H. R., *see* Kain, Aron Z., *MWSYM 93 Vol. 3* 1425-1428
- Fetterman, Harold R., *see* Zhang, Dawei, *T-MTT Jun/Jul 93* 1032-1036
- Fettweis, Alfred, *see* Zhu, Lihong, *MWSYM 93 Vol. 2* 1073-1076
- Fiedziuszko, S. J., *see* Holme, C. J., *MWSYM 93 Vol. 1* 443-446
- Fikart, Josef, and Yongnan Xuan. A new circuit structure for microwave frequency doublers; *MCS 93* 145-148
- Fikart, Josef, and Yongnan Xuan. A new circuit structure for microwave frequency doublers; *MWSYM 93 Vol. 1* 407-410
- Fikart, Josef L., *see* Wu, Ke, *T-MTT Mar 93* 421-430
- Fikart, Josef L., *see* Xuan, Yongnan, *T-MTT Dec 93* 2264-2268
- Fikioris, John G., *see* Tsalamengas, John L., *T-MTT Jun/Jul 93* 966-973
- Filipovic, Daniel F., *see* Gauthier, Gildas, *MWSYM 93 Vol. 1* 325-328
- Filipovic, Daniel F., Steven S. Gearhart, and Gabriel M. Rebeiz. Double-slot antennas on extended hemispherical and elliptical silicon dielectric lenses; *T-MTT Oct 93* 1738-1749
- Filleböck, Marion, Martin Schwab, and Peter Russer. Automatic generation of starting values for the simulation of microwave oscillators by frequency domain techniques; *T-MTT May 93* 809-813
- Fischerauer, G., *see* Weigel, R., *MWSYM 93 Vol. 3* 1505-1508
- Fisher, D., *see* Ramachandran, R., *MCS 93* 93-95
- Fléchet, Bernard, *see* Tao, Jun-Wu, *MWSYM 93 Vol. 2* 935-938
- Foo, S. L., and P. P. Silvester. Finite element analysis of inductive strips in unilaterial finlines; *T-MTT Feb 93* 298-304
- Fook, Set Hin, *see* Gordon, Richard K., *T-MTT Aug 93* 1280-1286
- Foster, Kenneth R., *see* Mirotnik, Mark S., *T-MTT Nov 93* 1878-1886
- Fouad Hanna, V., *see* Visan, S., *MWSYM 93 Vol. 2* 709-712
- Fouad Hanna, V., *see* Amrani, C., *MWSYM 93 Vol. 2* 843-846
- Fourikis, N. Microwave engineering education in Australia; *T-MTT Jun/Jul 93* 948-953
- Frank, M., *see* Morkner, H., *MCS 93* 13-16
- Frerking, M. A., *see* Febvre, P., *MWSYM 93 Vol. 2* 771-774
- Frerking, Margaret A., *see* Choudhury, Debabani, *T-MTT Apr 93* 595-599
- Frezza, Fabrizio, Alessandro Galli, Giorgio Gerosa, and Paolo Lampariello. Characterization of the resonant and coupling parameters of dielectric resonators for NRD-guide filtering devices; *MWSYM 93 Vol. 2* 893-896
- Fu, S. T., W. F. Kopp, M. Y. Kao, K. H. G. Duh, P. M. Smith, P. C. Chao, and T. H. Yu. 4 GHz high-power high-efficiency pseudomorphic power HEMT; *MWSYM 93 Vol. 3* 1469-1472
- Fu, S. T., *see* Komiak, J. J., *MWSYM 93 Vol. 3* 1473-1476
- Fudem, Howard, Sanjay Moghe, Greg Dietz, and Steve Consolazio. A highly integrated MMIC K-band transmit/receive chip; *MCS 93* 119-122
- Fudem, Howard, Sanjay Moghe, Greg Dietz, and Steve Consolazio. A highly integrated MMIC K-band transmit/receive chip; *MWSYM 93 Vol. 1* 137-140
- Fujino, S., *see* Suzuki, Katsumi, *MWSYM 93 Vol. 3* 1429-1432
- Fujita, M., *see* Ishizaki, T., *MWSYM 93 Vol. 1* 177-180
- Fujiwara, B., *see* Laskar, J., *MWSYM 93 Vol. 2* 1095-1098
- Fusco, Vincent F., *see* Patterson, Andrew D., *T-MTT Mar 93* 395-405
- Fusco, Vincent F., *see* Merugu, L. N., *T-MTT Apr 93* 708-716
- G**
- Gagné, Réal R. J., *see* Bouchard, Pierre, *T-MTT Jun/Jul 93* 1178-1182
- Gagnon, David R., *see* Kim, Moonil, *MWSYM 93 Vol. 2* 615-618
- Gagnon, David R., *see* Kim, Moonil, *T-MTT Oct 93* 1762-1771
- Galli, Alessandro, *see* Frezza, Fabrizio, *MWSYM 93 Vol. 2* 893-896
- Gallo, M., *see* Issogna, P., *MWSYM 93 Vol. 2* 497-500
- Galt, David, *see* Beall, James A., *MWSYM 93 Vol. 3* 1421-1423
- Gandhi, Om P., Ben-Qing Gao, and Jin-Yuan Chen. A frequency-dependent finite-difference time-domain formulation for general dispersive media; *T-MTT Apr 93* 658-665
- Gao, Ben-Qing, *see* Gandhi, Om P., *T-MTT Apr 93* 658-665
- Gao, L., *see* Bandler, J. W., *MWSYM 93 Vol. 2* 1009-1012
- Gao, Li, *see* Bandler, John W., *T-MTT Dec 93* 2279-2287
- Garbe, G., R. Becker, M. Patel, W. Guthrie, S. Moghe, R. Williams, and G. Giacomino. A 6.8–10.7 GHz EW module using 72 MMICs; *MWSYM 93 Vol. 3* 1329-1332
- Garrison, D. P., A. Lam, J. M. Borrego, and R. J. Gutmann. Shunt-mounted harmonically-tuned power rectifier for distributed power converters; *MWSYM 93 Vol. 3* 1229-1232
- Gasiewski, A. J., and David B. Kunkee. Calibration and applications of polarization-correlating radiometers; *T-MTT May 93* 767-773
- Gatti, Giuliano, *see* Walters, Peter C., *MWSYM 93 Vol. 3* 1173-1176
- Gauthier, Gildas, Thomas P. Budka, Walid Y. Ali-Ahmad, Daniel F. Filipovic, and Gabriel M. Rebeiz. A low-noise 86–90 GHz uniplanar Schottky-receiver; *MWSYM 93 Vol. 1* 325-328
- Gavaler, J. R., *see* Piatnicia, A. Y., *MWSYM 93 Vol. 3* 1417-1420
- Gayral, M., *see* Llopis, O., *MWSYM 93 Vol. 2* 1033-1036
- Gayral, M., *see* Parra, T., *T-MTT May 93* 876-879
- Gearhart, Steven S., *see* Acharya, Pranay R., *T-MTT Oct 93* 1715-1719
- Gearhart, Steven S., *see* Filipovic, Daniel F., *T-MTT Oct 93* 1738-1749
- Gee, C. M., *see* Khairandish, R., *MCS 93* 71-73
- Geissberger, Art, *see* Raffaelli, Lamberto, *MCS 93* 63-66
- Gelvich, E. A., *see* Pobedonostev, A. S., *MWSYM 93 Vol. 2* 1131-1134
- Gelvich, Edward A., Ludvik M. Borisov, Yevgeny V. Zhary, Anatoli D. Zakurdayev, Alexandr S. Pobedonostev, and Victor I. Poognin. The new generation of high-power multiple-beam klystrons; *T-MTT Jan 93* 15-19
- Gerber, Jason, *see* Skaggs, Steven G., *T-MTT Apr 93* 726-729
- Gerosa, Giorgio, *see* Frezza, Fabrizio, *MWSYM 93 Vol. 2* 893-896
- Gerritsma, Gerrit J., *see* Klopman, Boele B. G., *T-MTT May 93* 781-791
- Gesell, Glenn A., and Ioan R. Ciric. Recurrence modal analysis for multiple waveguide discontinuities and its application to circular structures; *T-MTT Mar 93* 484-490
- Geshiro, Masahiro, Masashi Hotta, and Tomotoshi Kameshima. Coupled-mode analysis of leaky waves in channel waveguides consisting of anisotropic material; *T-MTT Jun/Jul 93* 1159-1163
- Getsinger, William J. End-effects in quasi-TEM transmission lines; *T-MTT Apr 93* 666-672
- Ghahremani, M., *see* Ho, T., *MWSYM 93 Vol. 2* 531-534
- Ghahremani, Mohammad, *see* Chen, Seng-Woon, *MCS 93* 89-92
- Gheri, G., *see* Guglielmi, M., *MWSYM 93 Vol. 1* 447-450
- Ghione, Giovanni. A CAD-oriented analytical model for the losses of general asymmetric coplanar lines in hybrid and monolithic MICs; *T-MTT Sep 93* 1499-1510
- Ghosh, Prasanta K., *see* Anand, M. B., *T-MTT Apr 93* 624-631
- Giacomino, G., *see* Garbe, G., *MWSYM 93 Vol. 3* 1329-1332
- Giannini, F., G. Leuzzi, E. Limiti, and L. Scucchia. Design-oriented non-linear analysis of class-AB power amplifiers; *MWSYM 93 Vol. 1* 297-300
- Gibson, A. A. P., *see* Dillon, B. M., *MWSYM 93 Vol. 1* 469-472
- Gibson, A. A. P., *see* Dillon, B. M., *T-MTT Dec 93* 2092-2098
- Gibson, Andrew A. P., *see* Dillon, Bernice M., *T-MTT May 93* 803-808
- Gilb, James P. K., *see* Lyons, Michael R., *MWSYM 93 Vol. 2* 943-946
- Gilb, James P. K., and Constantine A. Balanis. Closed-form expressions for the design of microstrip lines with two substrate layers; *MWSYM 93 Vol. 2* 1005-1008
- Gilb, James P. K., and Constantine A. Balanis. Accurate and efficient computation of dielectric losses in multi-level, multi-conductor microstrip for CAD applications (Short p.); *T-MTT Mar 93* 527-530
- Gilb, James P. K., *see* Lyons, Michael R., *T-MTT Sep 93* 1564-1567
- Gilbert, Barry K., *see* Pan, George W., *T-MTT Mar 93* 531-535
- Gillick, Matthew. Ultra low impedance CPW transmission lines for multilayer MMIC's; *MCS 93* 127-130
- Gillick, Matthew, and Ian D. Robertson. Ultra low impedance CPW transmission lines for multilayer MMIC's; *MWSYM 93 Vol. 1* 145-148
- Gillick, Matthew, Ian D. Robertson, and Jai S. Joshi. Direct analytical solution for the electric field distribution at the conductor surfaces of coplanar waveguides; *T-MTT Jan 93* 129-135
- Gillick, Matthew, Ian D. Robertson, and Jai S. Joshi. Design analysis of novel coupling structures for multilayer MMIC's (Short p.); *T-MTT Feb 93* 346-349
- Gillick, Matthew, Ian D. Robertson, and Jai S. Joshi. An analytical method for direct calculation of *E* & *H*-field patterns of conductor-backed coplanar waveguides; *T-MTT Sep 93* 1606-1610
- Gipprich, J. W. A new class of branch-line directional couplers; *MWSYM 93 Vol. 2* 589-592
- Gipprich, J. W., L. E. Dickens, and J. A. Faulkner. A power amplifier yields 10 watts over 8–14 GHz using GaAs MMICs in an LTCC serial combiner/divider network; *MWSYM 93 Vol. 3* 1369-1372
- Giugni, Stephen, *see* Batchelor, Robert A., *MWSYM 93 Vol. 2* 677-680
- Godshalk, Edward M. A W-band wafer probe; *MWSYM 93 Vol. 1* 171-174
- Godshalk, Edward M. Generation and observation of surface waves on dielectric slabs and coplanar structures; *MWSYM 93 Vol. 2* 923-926
- Goel, Ashok K., and Wei Xu. Modeling of transverse propagation delays in the GaAs/AlGaAs modulation doped heterojunction field effect transistors (Short p.); *T-MTT Jun/Jul 93* 1230-1232
- Goggans, Paul M., *see* Shu, Shianfeng, *T-MTT Jun/Jul 93* 1111-1118
- Goldsmith, Charles L., and Brad Kanack. Broadband microwave matching of high speed photodiodes; *MWSYM 93 Vol. 1* 233-236
- Goldsmith, P. F., C.-T. Hsieh, G. R. Huguenin, J. Kapitzy, and E. L. Moore. Focal plane imaging systems for millimeter wavelengths; *T-MTT Oct 93* 1664-1675
- Goldsmith, Paul F., *see* Stephan, Karl D., *T-MTT Oct 93* 1791-1798

- Golob, L. P., S. L. Huang, Chi H. Lee, W. H. Chang, K. Jones, M. Taysing-Lara, and T. DeAnni. Picosecond photoconductive switches designed for on-wafer characterization of high frequency interconnects; *MWSYM 93 Vol. 3* 1395-1398
- Goloubkoff, M., see Meyer, S., *MWSYM 93 Vol. 3* 1549-1552
- Gomes, N. J., see Razzoqi, K. A. R., *MWSYM 93 Vol. 3* 1553-1556
- Gondermann, J., see von Kamienski, E. Stein, *MWSYM 93 Vol. 1* 393-396
- Gondermann, Jörg, Elard G. Stein von Kamienski, Hartmut G. Röske, and Heinrich Kurz. Al-SiO₂-Al sandwich microstrip lines for high-frequency on-chip interconnects; *T-MTT Dec 93* 2087-2091
- Gong, Ji-An, and Wai-Kai Chen. Computer-aided design of a singly-matched (S-M) multiplexer with a common junction (Short p.); *T-MTT May 93* 886-890
- Gopal, Mohan Krishnan, and Thomas C. Cetas. Current sheet applicators for clinical microwave hyperthermia; *T-MTT Mar 93* 431-437
- Gopalakrishnan, G. K., W. K. Burns, and C. H. Bulmer. A LiNbO₃ microwave-optoelectronic mixer with linear performance; *MWSYM 93 Vol. 2* 1055-1058
- Gopalakrishnan, G. K., William K. Burns, and Catherine H. Bulmer. Microwave-optical mixing in LiNbO₃ modulators; *T-MTT Dec 93* 2383-2391
- Gopinath, Anand, see Yu, Mark, *MWSYM 93 Vol. 1* 237-239
- Gopinath, Anand, see Khan, M. Nisa, *T-MTT Feb 93* 244-249
- Gordon, Richard K., and Set Hin Fook. A finite difference approach that employs an asymptotic boundary condition on a rectangular outer boundary for modeling two-dimensional transmission line structures; *T-MTT Aug 93* 1280-1286
- Gosling, Ian G. Reduction of edge reflections in the TLM model; *T-MTT Jun/Jul 93* 1057-1064
- Gothelf, Ulrich V., and Allan Østergaard. Full-wave analysis of a two slot microstrip filter using a new algorithm for computation of the spectral integrals; *T-MTT Jan 93* 101-108
- Graffeuil, J., see Llopis, O., *MWSYM 93 Vol. 2* 1033-1036
- Graffeuil, J., see Parra, T., *T-MTT May 93* 876-879
- Graffeuil, Jacques, see Llopis, Olivier, *T-MTT Mar 93* 369-374
- Graffeuil, Jacques, see Escotte, Laurent, *T-MTT Mar 93* 382-387
- Gragnani, G. L., see Caorsi, S., *T-MTT Feb 93* 352-357
- Gragnani, Gian Luigi, see Caorsi, Salvatore, *T-MTT Feb 93* 305-310
- Grammer, Wes, see Yang, Jian-Xun, *T-MTT Apr 93* 581-589
- Grammer, Wes, and K. Sigfrid Yngvesson. Coplanar waveguide transitions to slotline: Design and microprobe characterization (Short p.); *T-MTT Sep 93* 1653-1658
- Grant, T. J., see Christensen, J. A., *MWSYM 93 Vol. 1* 115-118
- Green, Josephine L., see Preece, Alan W., *MWSYM 93 Vol. 2* 1145-1146
- Greenspon, Arnold J., see Rosenbaum, Richard M., *MWSYM 93 Vol. 2* 1155-1158
- Gregory, R. O., see Rosenbaum, F. J., *MCS 93* 163-166
- Gregory, R. O., see Rosenbaum, F. J., *MWSYM 93 Vol. 1* 361-364
- Griffith, D. W., see Harris, H. M., *MWSYM 93 Vol. 1* 159-162
- Grimm, Jerry Michael, and Dennis P. Nyquist. Spectral analysis considerations relevant to radiation and leaky modes of open-boundary microstrip transmission line (Short P.); *T-MTT Jan 93* 150-153
- Grishin, B. S., see Lopin, M. I., *MWSYM 93 Vol. 2* 1119-1121
- Grobely, P. A., see Bandler, J. W., *MWSYM 93 Vol. 2* 1017-1020
- Grobely, Piotr A., see Bandler, John W., *T-MTT Dec 93* 2269-2278
- Grönqvist, Hans, see Nilsen, Svein M., *T-MTT Apr 93* 572-580
- Grosch, Theodore O., and Lynn A. Carpenter. Two-port to three-port noise-wave transformation for CAD applications; *T-MTT Sep 93* 1543-1548
- Grüb, Andreas, see Jelenski, Andrzej, *T-MTT Apr 93* 549-557
- Gu, Qizheng, Y. Eric Yang, and M. Ali Tassoudji. Modeling and analysis of vias in multilayered integrated circuits; *T-MTT Feb 93* 206-214
- Guen, J., see Meyer, S., *MWSYM 93 Vol. 3* 1549-1552
- Guglielmi, M., see Karacaoglu, U., *MWSYM 93 Vol. 1* 189-192
- Guglielmi, M., A. Alvarez, and G. Gheri. Multimode synthesis procedure for microwave filters based on thick inductive windows; *MWSYM 93 Vol. 1* 447-450
- Guglielmi, M. Optimum CAD procedure for manifold duplexers; *MWSYM 93 Vol. 2* 1081-1084
- Guglielmi, Marco, and Alejandro Alvarez Melcón. Rigorous, multimode equivalent network representation of capacitive discontinuities; *T-MTT Jun/Jul 93* 1195-1206
- Guha, Debatosh, see Saha, Pradip Kumar, *T-MTT May 93* 881-884
- Guillon, P., see Billonnet, L., *MWSYM 93 Vol. 1* 185-188
- Guillon, Pierre, see Longo, Iginio, *T-MTT Jan 93* 117-122
- Guillot, P., P. Couffignal, H. Baudrand, and B. Theron. Improvement in calculation of some surface integrals: Application to junction characterization in cavity filter design; *MWSYM 93 Vol. 1* 455-458
- Guillot, Philippe, Patrick Couffignal, Henri Baudrand, and Bernard Theron. Improvement in calculation of some surface integrals: Application to junction characterization in cavity filter design; *T-MTT Dec 93* 2156-2160
- Gulloch, W., M. Politi, R. Nobili, M. Amati, and G. Colombo. Development of a commercial, 38 GHz, communication link; *MWSYM 93 Vol. 2* 681-684
- Gulloch, William, see Morini, Antonio, *MWSYM 93 Vol. 2* 1077-1080
- Güntherich, V., F. Zinkler, W. Anzill, and P. Russer. Reduced phase noise of a varactor tunable oscillator: Numerical calculations and experimental results; *MWSYM 93 Vol. 2* 561-564
- Gupta, K. C., see Tsai, C. M., *MWSYM 93 Vol. 2* 1013-1016
- Gupta, Minoo, see Dib, Nihad, *MWSYM 93 Vol. 2* 701-704
- Gupta, Minoo, see Dib, Nihad I., *T-MTT Sep 93* 1549-1558
- Gupta, R. S., see Kukreja, Nirupama, *T-MTT Mar 93* 543-545
- Guthrie, W., see Garbe, G., *MWSYM 93 Vol. 3* 1329-1332
- Gutmann, R. J., see Garrison, D. P., *MWSYM 93 Vol. 3* 1229-1232
- Güttich, U., J.-M. Dieudonné, and L.-P. Schmidt. A monolithic dielectrically stabilized voltage controlled oscillator for the millimeter wave range; *MWSYM 93 Vol. 2* 667-670
- Gwarek, W. K., see Celuch-Marcysiak, M., *T-MTT Jan 93* 168-172
- Gwarek, Wojciech K., Tadeusz Morawski, and Cezary Mroczkowski. Application of the FD-TD method to the analysis of circuits described by the two-dimensional vector wave equation; *T-MTT Feb 93* 311-317
- Gwarek, Wojciech K., see Celuch-Marcysiak, Malgorzata, *T-MTT May 93* 820-823

H

- Hacker, Jonathan B., see Kim, Moonil, *MWSYM 93 Vol. 2* 615-618
- Hacker, Jonathan B., see Kim, Moonil, *T-MTT Oct 93* 1762-1771
- Hacker, Jonathan B., see Kim, Moonil, *T-MTT Oct 93* 1772-1774
- Haddad, George I., see Radmanesh, Matthew M., *T-MTT Jan 93* 89-96
- Haddad, George I., see Teeter, Douglas A., *T-MTT Jun/Jul 93* 1087-1093
- Haffa, Steffen, see Hollmann, Detlev, *T-MTT May 93* 893-895
- Hakim, Mohammed S., and Samir M. El-Ghazaly. Analysis of wave propagation effects on microwave field-effect transistors; *MWSYM 93 Vol. 3* 1303-1306
- Halloran, Patrick, and Thomas J. Brazil. A convolution-based black-box approach for incorporating linear circuit blocks described by frequency-domain data into a nonlinear transient time-domain simulator; *MWSYM 93 Vol. 3* 1189-1192
- Halpern, S. M., see Harris, H. M., *MWSYM 93 Vol. 1* 159-162
- Hamelin, R., see Elkadi, H., *MWSYM 93 Vol. 1* 217-220
- Hanczor, Michael, and Mahesh Kumar. 12 kW S-band solid state transmitter for modern radar systems; *MWSYM 93 Vol. 3* 1213-1216
- Hanczor, Michael, and Mahesh Kumar. 12-kW S-band solid-state transmitter for modern radar systems; *T-MTT Dec 93* 2237-2242
- Hanna, V. Fouad, see Fouad Hanna, V.
- Happy, Henri, see Danneville, François, *MWSYM 93 Vol. 1* 373-376
- Happy, Henri, see Dambrine, Gilles, *T-MTT Mar 93* 375-381
- Hara, S., H. Sato, J. K. Twynam, M. Akagi, N. Nambu, N. Tanba, K. Yoshikawa, T. Kinosada, M. Yagura, H. Tsuji, T. Shinozaki, T. Yoshimasu, T. Miyajima, and T. Tomita. High-efficiency AlGaAs/GaAs HBT power amplifier MMIC for 1.9 GHz Japanese digital cordless phone; *MCS 93* 19-22
- Hara, Shinji, Kohsuke Osato, Atsushi Yamada, Toshiya Tsukao, and Toshihiko Yoshimasu. Miniaturized low noise variable MMIC amplifiers with low power consumption for L-band portable communication applications; *MCS 93* 67-70
- Harari, J., see Elkadi, H., *MWSYM 93 Vol. 1* 217-220
- Harms, Paul H., and Raj Mittra. Equivalent circuits for multiconductor microstrip bend discontinuities; *T-MTT Jan 93* 62-69
- Harms, Paul H., Jin-Fa Lee, and Raj Mittra. Characterizing the cylindrical via discontinuity (Short p.); *T-MTT Jan 93* 153-156
- Harrington, Roger F., see Hsu, Chung-I G., *T-MTT Jan 93* 70-78
- Harris, H. M., A. Torabi, R. W. McMillan, C. J. Summers, J. C. Wiltse, S. M. Halpern, and D. W. Griffith. Quasi-optical power combining of solid state sources in K_a-band; *MWSYM 93 Vol. 1* 159-162
- Harris, N. W., see Lax, B., *MWSYM 93 Vol. 1* 479-482
- Harris, Neville W., see Lax, Benjamin, *T-MTT Dec 93* 2190-2197
- Harrison, Robert G., see Krishnamurthi, Kathiravan, *MWSYM 93 Vol. 2* 649-652
- Hartnagel, Hans L., see Jelenski, Andrzej, *T-MTT Apr 93* 549-557
- Hartnagel, Hans L., see Beilenhoff, Klaus, *T-MTT Sep 93* 1534-1537
- Hasegawa, H., K. Katsukawa, T. Itoh, T. Noguchi, and Y. Kaneko. High reliability power GaAs MESFET under RF overdrive condition; *MWSYM 93 Vol. 1* 289-292
- Hassin, D., and R. Vahldieck. Improved feedforward linearization of laser diodes—Simulation and experimental results; *MWSYM 93 Vol. 2* 727-730

- Hassini, D., and R. Vahldieck. Feedforward linearization of analog modulated laser diodes—Theoretical analysis and experimental verification; *T-MTT Dec 93* 2376-2382
- Hayashi, K., see Suzuki, Katsumi, *MWSYM 93 Vol. 3* 1429-1432
- Hayden, Leonard A., and Vijai K. Tripathi. Calibration methods for time domain network analysis; *T-MTT Mar 93* 415-420
- He, Jianqing, Norris S. Nahman, and Sedki M. Riad. A causal skin-effect model of microstrip lines; *MWSYM 93 Vol. 2* 865-868
- He, Shidong, Atef Z. Elsherbeni, and Charles E. Smith. Decoupling between two conductor microstrip transmission line; *T-MTT Jan 93* 53-61
- Hearn, C. P., see Ybarra, G. A., *MWSYM 93 Vol. 1* 249-252
- Heinbockel, John, see Balasubramanian, Arul, *MWSYM 93 Vol. 2* 611-614
- Heinrich, Wolfgang. The resistance of strip conductors embedded in a two-dimensional field distribution; *MWSYM 93 Vol. 1* 417-420
- Heinrich, Wolfgang, see Beilenhoff, Klaus, *MWSYM 93 Vol. 2* 979-982
- Heinrich, Wolfgang. Quasi-TEM description of MMIC coplanar lines including conductor-loss effects; *T-MTT Jan 93* 45-52
- Heinrich, Wolfgang, see Beilenhoff, Klaus, *T-MTT Sep 93* 1534-1537
- Hejase, Hassan A. N. On the use of Davidenko's method in complex root search (Short p.); *T-MTT Jan 93* 141-143
- Helszajn, J., C. S. Cheng, and B. A. Wilcock. A nonreciprocal tunable waveguide directional filter using a turnstile open gyromagnetic resonator; *T-MTT Nov 93* 1950-1958
- Henderson, Timothy, see Liu, William, *MWSYM 93 Vol. 3* 1477-1480
- Henning, Rudolf E., and Lawrence P. Dunleavy. Educating microwave engineers in the United States; *T-MTT Jun/Jul 93* 913-919
- Henry, Paul S. Transmission technologies in global communications (Abstr.); *MWSYM 93 Vol. 2* 569
- Herczfeld, P., see Saedi, R., *MWSYM 93 Vol. 2* 501-504
- Herczfeld, P. R., see Silva, M. T. Camargo, *MWSYM 93 Vol. 1* 229-232
- Herczfeld, P. R., see Romero, M. A., *MWSYM 93 Vol. 3* 1403-1406
- Herczfeld, Peter R., see Jemison, William D., *MWSYM 93 Vol. 2* 1051-1054
- Herczfeld, Peter R., see Madjar, Asher, *MWSYM 93 Vol. 3* 1399-1402
- Herczfeld, Peter R., see Madjar, Asher, *T-MTT Jan 93* 165-167
- Hernández-Figueroa, H. E., and G. Pagiatakis. Shape function optimization in the finite element analysis of waveguides (Short p.); *T-MTT Jun/Jul 93* 1235-1238
- Hernichel, J., see Febvre, P., *MWSYM 93 Vol. 2* 771-774
- Heron, Patrick L., Gregory P. Monahan, Jeffrey E. Byrd, Michael B. Steer, F. W. Schwing, and J. W. Mink. Circuit level modeling of quasi-optical power combining open cavities; *MWSYM 93 Vol. 1* 433-436
- Heron, Patrick L., Gregory P. Monahan, J. W. Mink, Felix K. Schwing, and Michael B. Steer. Impedance matrix of an antenna array in a quasi-optical resonator; *T-MTT Oct 93* 1816-1826
- Herzig, W., see Plattner, A., *MWSYM 93 Vol. 2* 853-856
- Hessane, Mohammed, see Quére, Raymond, *T-MTT Nov 93* 1928-1938
- Heston, David, see Yarborough, Ron, *MWSYM 93 Vol. 3* 1381-1383
- Hetzler, Keith T., see Platzker, Aryeh, *MWSYM 93 Vol. 3* 1185-1188
- Hey-Shipton, G. L., see Matthaei, G. L., *MWSYM 93 Vol. 3* 1269-1272
- Hey-Shipton, G. L., see Mattaei, G. L., *MWSYM 93 Vol. 3* 1273-1276
- Hey-Shipton, Gregory L., see Matthaei, George L., *T-MTT Dec 93* 2345-2352
- Hidaka, Seiji, see Ishikawa, Youhei, *MWSYM 93 Vol. 1* 193-196
- Hidaka, Seiji, see Ishikawa, Youhei, *T-MTT Dec 93* 2133-2138
- Hietala, V. M., see Martens, J. S., *MWSYM 93 Vol. 3* 1243-1246
- Higashio, Masato, see Ohta, Isao, *MWSYM 93 Vol. 1* 317-320
- Higgins, Thomas, see Mizan, Muhammad, *MWSYM 93 Vol. 2* 813-816
- Higgins, Thomas, see Paoletta, Arthur, *MWSYM 93 Vol. 2* 1059-1062
- Hiller, Gerald, see Caverly, Robert H., *MWSYM 93 Vol. 2* 553-556
- Himmel, J., see McGowan, R., *MWSYM 93 Vol. 1* 381-384
- Hirose, M., see Kitayoshi, H., *MWSYM 93 Vol. 1* 241-244
- Hirota, Tetsuo, see Liu, Yaozhong, *MWSYM 93 Vol. 3* 1203-1206
- Hirota, Tetsuo, see Minakawa, Akira, *T-MTT Sep 93* 1634-1637
- Hirtz, P., see Maricot, S., *MWSYM 93 Vol. 2* 1067-1070
- Hjelme, Dag R., see Radišić, Vesna, *MWSYM 93 Vol. 2* 951-954
- Hjelme, Dag R., see Radišić, Vesna, *T-MTT Sep 93* 1524-1533
- Hjelme, Dag Roar, Michael John Yadlowsky, and Alan Rolf Mickelson. Two-dimensional mapping of the microwave potential on MMIC's using electrooptic sampling; *T-MTT Jun/Jul 93* 1149-1158
- Hjelmgren, Hans, see Nilsen, Svein M., *T-MTT Apr 93* 572-580
- Hjipieris, G., see Potter, C. M., *MWSYM 93 Vol. 3* 1263-1266
- Ho, Chien-Hsun, Lu Fan, and Kai Chang. A broad-band uniplanar slotline hybrid ring coupler with over one octave bandwidth; *MWSYM 93 Vol. 2* 585-588
- Ho, Chien-Hsun, Lu Fan, and Kai Chang. Experimental investigations of CPW-slotline transitions for uniplanar microwave integrated circuits; *MWSYM 93 Vol. 2* 877-880
- Ho, Chien-Hsun, Lu Fan, and Kai Chang. Slot-coupled double-sided microstrip interconnects and couplers; *MWSYM 93 Vol. 3* 1321-1324
- Ho, Chien-Hsun, Lu Fan, and Kai Chang. Slotline annular ring elements and their applications to resonator, filter and coupler design (Short p.); *T-MTT Sep 93* 1648-1650
- Ho, Chien-Hsun, Lu Fan, and Kai Chang. Broad-band uniplanar hybrid-ring and branch-line couplers; *T-MTT Dec 93* 2116-2125
- Ho, P., see Duh, K. H. G., *MCS 93* 99-102
- Ho, T., K. Pande, F. Phelless, J. Singer, P. Rice, J. Adair, and M. Ghahremani. A 0.6-watt U-band monolithic MESFET power amplifier; *MWSYM 93 Vol. 2* 531-534
- Ho, Thomas, see Chen, Seng-Woon, *MCS 93* 89-92
- Ho, Thomas C., Seng-Woon Chen, Krishna Pande, and Paul G. Rice. A W-band integrated power module using MMIC MESFET power amplifiers and varactor diodes; *T-MTT Dec 93* 2288-2294
- Ho, Thomas C., see Chen, Seng-Woon, *T-MTT Dec 93* 2317-2322
- Hoefler, W. J. R., see Right, M., *MWSYM 93 Vol. 1* 425-428
- Hoefler, Wolfgang J. R., see Eswarappa, Channabasappa, *MWSYM 93 Vol. 2* 917-920
- Hoefler, Wolfgang J. R., see Eswarappa, Channabasappa, *MWSYM 93 Vol. 3* 1439-1442
- Hoefler, Wolfgang J. R., see So, Poman P. M., *MWSYM 93 Vol. 3* 1443-1446
- Hoefler, Wolfgang J. R. Microwave engineering education in Canada; *T-MTT Jun/Jul 93* 932-936
- Hoefler, Wolfgang J. R., see Nielsen, John S., *T-MTT Aug 93* 1375-1384
- Hoefler, Wolfgang J. R., see Chen, Zhizhang, *T-MTT Nov 93* 2016-2024
- Hollmann, Detlev, Steffen Haffa, Friedhelm Rostan, and Werner Wiesbeck. The introduction of surface resistance in the three-dimensional finite-difference method in frequency domain (Short p.); *T-MTT May 93* 893-895
- Holme, C. J., and S. J. Fiedziuszko. A 4 GHz dielectric contiguous output multiplexer for satellite applications; *MWSYM 93 Vol. 1* 443-446
- Honingh, C. E., see Dierichs, M. M. T. M., *T-MTT Apr 93* 605-608
- Honingh, C. E., G. de Lange, M. M. T. M. Dierichs, H. H. A. Schaeffer, T. de Graauw, and T. M. Klapwijk. Performance of a two-junction array SIS-mixer operating around 345 GHz; *T-MTT Apr 93* 616-623
- Hooper, Catherine, see Nguyen, Loi, *MWSYM 93 Vol. 1* 345-347
- Horng, Tzy-Sheng, Chua-Chin Wang, and Nicolaos G. Alexopoulos. Microstrip circuit design using neural networks; *MWSYM 93 Vol. 1* 413-416
- Horno, Manuel, see Drake, Enrique, *T-MTT Feb 93* 260-267
- Horno, Manuel, see Marqués, Ricardo, *T-MTT Aug 93* 1409-1418
- Horrigan, Aileen, see Radisic, Vesna, *T-MTT Sep 93* 1524-1533
- Horton, John B., see Yang, Cheng Chih, *T-MTT Jun/Jul 93* 992-997
- Hotta, Masashi, see Geshiro, Masahiro, *T-MTT Jun/Jul 93* 1159-1163
- Houshmand, Bijan, see Huang, Tian-Wei, *MWSYM 93 Vol. 3* 1435-1438
- How, Hoton, C. Vittoria, and K. Trott. Nonlinear response to picosecond pulse excitations in magneto-dielectric media; *T-MTT Feb 93* 255-259
- Howard, Lincoln Cole, and John M. Dunn. An expression for the S-parameters of arbitrarily oriented microstrip lines; *MWSYM 93 Vol. 3* 1543-1546
- Howard, Lincoln Cole, see Dunn, John M., *T-MTT Aug 93* 1287-1293
- Hsieh, C.-T., see Goldsmith, P. F., *T-MTT Oct 93* 1664-1675
- Hsu, Chung-I G., Roger F. Harrington, Krzysztof A. Michalski, and Dalian Zheng. Analysis of multiconductor transmission lines of arbitrary cross section in multilayered uniaxial media; *T-MTT Jan 93* 70-78
- Hsu, Steven, see Rosenbaum, Richard M., *MWSYM 93 Vol. 2* 1155-1158
- Hu, M., see Kurdoghlian, A., *MCS 93* 97-98
- Huang, C. I., see Liou, L. L., *MWSYM 93 Vol. 1* 281-284
- Huang, Jenq-Wen, see Lo, Wen-Teng, *MWSYM 93 Vol. 3* 1199-1202
- Huang, Jenq-Wen, see Lo, Wen-Teng, *T-MTT Dec 93* 2099-2108
- Huang, Jiadong, see Ding, Zhan, *MWSYM 93 Vol. 1* 253-256
- Huang, Jifu, Ruediger Vahldieck, and Hang Jin. Computer-aided design of circular ridged waveguide evanescent-mode bandpass filters using the FDTLM method; *MWSYM 93 Vol. 1* 459-462
- Huang, Jifu, see Yu, Ming, *MWSYM 93 Vol. 2* 705-708
- Huang, Jifu, see Jin, Hang, *MWSYM 93 Vol. 2* 713-716
- Huang, Jifu, Ruediger Vahldieck, and Hang Jin. Microstrip discontinuities on cylindrical surfaces; *MWSYM 93 Vol. 3* 1299-1302
- Huang, Jifu, see Jin, Hang, *T-MTT Dec 93* 2248-2255
- Huang, John C., Gordon S. Jackson, Stanley Shanfield, Aryeh Platzker, Pamela K. Saledas, and Calvin Weichert. An AlGaAs/InGaAs pseudomorphic high electron mobility transistor with improved breakdown voltage for X- and Ku-band power applications; *T-MTT May 93* 752-759
- Huang, Kuang-Chih, see Wong, Kin-Lu, *T-MTT Apr 93* 698-701
- Huang, P., D. S. Pan, and N. C. Luhmann, Jr. A microwave measurement technique for characterizing the I-V relationship for negative differential conductance devices (Short p.); *T-MTT Aug 93* 1455-1458
- Huang, S. L., H.-L. A. Hung, and Chi H. Lee. Broadband and real-time waveform sampling using optic-microwave phase-locking; *MWSYM 93 Vol. 3* 1387-1390

- Huang, S. L., *see* Golob, L. P., *MWSYM 93 Vol. 3* 1395-1398
- Huang, Tian-Wei, Bijan Houshmand, and Tatsuo Itoh. The FDTD diaptics method; *MWSYM 93 Vol. 3* 1435-1438
- Huang, Tian-Wei, and Tatsuo Itoh. The influence of metallization thickness on the characteristics of cascaded junction discontinuities of shielded coplanar type transmission line; *T-MTT Apr 93* 693-697
- Hudgens, Rick, *see* Bryant, Danny T., *MWSYM 93 Vol. 3* 1373-1376
- Huff, D., *see* Khairandish, R., *MCS 93* 71-73
- Hughes, B., *see* Tasker, P. J., *MWSYM 93 Vol. 3* 1251-1254
- Hughes, Brian, Julio Perdomo, and Hiroshi Kondoh. 12 GHz low-noise MMIC amplifier designed with a noise model that scales with MODFET size and bias; *MCS 93* 31-34
- Hughes, Brian. Designing FET's for broad noise circles; *T-MTT Feb 93* 190-198
- Hughes, Brian. A linear dependence of $F_{\min}$ on frequency for FET's; *T-MTT Jun/Jul 93* 979-982
- Hughes, Brian, Julio Perdomo, and Hiroshi Kondoh. 12 GHz low-noise MMIC amplifier designed with a noise model that scales with MODFET size and bias; *T-MTT Dec 93* 2311-2316
- Huguenin, G. R., *see* Goldsmith, P. F., *T-MTT Oct 93* 1664-1675
- Hung, H.-L. A., *see* Huang, S. L., *MWSYM 93 Vol. 3* 1387-1390
- Hunt, William D., Tom Cameron, John C. B. Saw, Yoonkee Kim, and Mark S. Suthers. Transverse and longitudinal modes in waveguide-coupled resonators; *MWSYM 93 Vol. 3* 1509-1512
- Hunt, William D., *see* Kenney, J. Stevenson, *MWSYM 93 Vol. 3* 1513-1516
- Hunt, William D., *see* Kenney, J. Stevenson, *T-MTT Dec 93* 2218-2226
- Hwang, J. C. M., *see* Wei, C. J., *MWSYM 93 Vol. 3* 1347-1350
- Hwang, Y., *see* Sharma, A. K., *MWSYM 93 Vol. 3* 1343-1346
- Hwu, R. J. Comments, with reply, on 'Modeling of planar varactor frequency multiplier devices with blocking barriers' by U. Lieneweg et al.; *T-MTT Feb 93* 361-363 (Original paper, May 92 839-845)
- Hwu, R. J., A. Djuandi, and S. C. Lee. Negative differential resistance (NDR) frequency conversion with gain (Short p.); *T-MTT May 93* 890-893
- I**
- Ihara, Toshio, *see* Takimoto, Yukio, *MWSYM 93 Vol. 2* 673-676
- Ihmels, R., and F. Arndt. Field theory CAD of L-shaped iris coupled mode launchers and dual-mode filters; *MWSYM 93 Vol. 2* 765-768
- Ihmels, R., U. Papziner, and F. Arndt. Field theory design of a corrugated septum OMT; *MWSYM 93 Vol. 2* 909-912
- Ikalainen, Pertti K., Larry C. Witkowski, and Karl R. Varian. Low-noise, low DC power linear amplifiers; *MCS 93* 159-162
- Ikalainen, Pertti K., Larry C. Witkowski, and Karl R. Varian. Low-noise, low DC power linear amplifiers; *MWSYM 93 Vol. 1* 357-360
- Ikalainen, Pertti K. Extraction of device noise sources from measured data using circuit simulator software (Short p.); *T-MTT Feb 93* 340-343
- Imai, K., *see* Suzuki, Katsumi, *MWSYM 93 Vol. 3* 1429-1432
- Imai, Kazuo, *see* Mitsumoto, Hideo, *MWSYM 93 Vol. 2* 663-666
- Imai, Yuhki, Eiichi Sano, Makoto Nakamura, Noboru Ishihara, Hiroyuki Kikuchi, and Takashi Ono. Design and performance of clock-recovery GaAs ICs for high-speed optical communication systems; *T-MTT May 93* 745-751
- Inosako, Keiko, *see* Iwata, Naotaka, *MWSYM 93 Vol. 3* 1465-1468
- Isele, B., *see* Thomann, W., *MWSYM 93 Vol. 2* 835-838
- Ishida, Osami, *see* Oh-hashi, Hideyuki, *MWSYM 93 Vol. 2* 873-876
- Ishida, Toru, *see* Taguchi, Yutaka, *MWSYM 93 Vol. 3* 1325-1328
- Ishihara, Noboru, *see* Imai, Yuhki, *T-MTT May 93* 745-751
- Ishii, T. Koryu, *see* Natzke, John R., *T-MTT Aug 93* 1463-1466
- Ishikawa, Youhei, Sadao Yamashita, and Seiji Hidaka. Noise design of active feedback resonator BEF; *MWSYM 93 Vol. 1* 193-196
- Ishikawa, Youhei, Sadao Yamashita, and Seiji Hidaka. Noise design of active feedback resonator BEF; *T-MTT Dec 93* 2133-2138
- Ishizaki, T., M. Fujita, H. Kagata, T. Uwano, and H. Miyake. A very small dielectric planar filter for portable telephones; *MWSYM 93 Vol. 1* 177-180
- Iskander, Magdy F. Computer-based electromagnetic education; *T-MTT Jun/Jul 93* 920-931
- Islam, M. Saiful, Emre Tuncer, and Dean P. Neikirk. Accurate quasi-static model for conductor loss in coplanar waveguide; *MWSYM 93 Vol. 2* 959-962
- Issogna, P., G. Savit, D. Chau, M. Gallo, M. Kumar, and P. Valentino. L-band high power transmit/receive module for electronically scanned cylindrical array radar; *MWSYM 93 Vol. 2* 497-500
- Itoh, T., *see* Hasegawa, H., *MWSYM 93 Vol. 1* 289-292
- Itoh, Tatsuo, *see* Lin, Jenshan, *MWSYM 93 Vol. 2* 607-610
- Itoh, Tatsuo, *see* Tran, Allen M., *MWSYM 93 Vol. 2* 819-822
- Itoh, Tatsuo, *see* Liu, Yaozhong, *MWSYM 93 Vol. 3* 1203-1206
- Itoh, Tatsuo, *see* Niu, Dow-Chih, *MWSYM 93 Vol. 3* 1207-1210
- Itoh, Tatsuo, *see* Huang, Tian-Wei, *MWSYM 93 Vol. 3* 1435-1438

- Itoh, Tatsuo, *see* Huang, Tian-Wei, *T-MTT Apr 93* 693-697
- Itoh, Tatsuo, *see* Kawasaki, Shigeo, *T-MTT Apr 93* 717-719
- Itoh, Tatsuo, *see* Toland, Brent, *T-MTT Jun/Jul 93* 1052-1056
- Itoh, Tatsuo, *see* Tran, Allen M., *T-MTT Sep 93* 1611-1615
- Itoh, Tatsuo, *see* Nogi, Shigeji, *T-MTT Oct 93* 1827-1837
- Itoh, Tatsuo, *see* Kawasaki, Shigeo, *T-MTT Oct 93* 1838-1844
- Itoh, Tatsuo, *see* Niu, Dow-Chih, *T-MTT Dec 93* 2126-2132
- Itoh, Tatsuo, *Guest Ed.*, *see* Sharma, Arvind K., *Guest Ed.*, *T-MTT Sep 93* 1481-1483
- Itoh, Yasushi, *see* Mochizuki, Mitsuru, *MWSYM 93 Vol. 3* 1365-1368
- Ivanov, Eugene N., David G. Blair, and Victor I. Kalinichev. Approximate approach to the design of shielded dielectric disk resonators with whispering-gallery modes; *T-MTT Apr 93* 632-638
- Iwata, Naotaka, Keiko Inosako, and Masaaki Kuzuhara. 3 V operation L-band power double-doped heterojunction FETs; *MWSYM 93 Vol. 3* 1465-1468
- Izutsu, Masayuki, *see* Berceli, Tibor, *MWSYM 93 Vol. 3* 1407-1410

J

- Jablonski, Daniel G. Comments, with reply, on 'Josephson effect gain and noise in SIS mixers' by M. J. Wengler et al.; *T-MTT Jan 93* 172-173 (Original paper, May 92 820-826)
- Jackson, David R., *see* Nghiem, David, *MWSYM 93 Vol. 3* 1291-1294
- Jackson, Gordon S., *see* Huang, John C., *T-MTT May 93* 752-759
- Jackson, Robert W. The use of side wall images to compute package effects in MoM analysis of MMIC circuits; *T-MTT Mar 93* 406-414
- Jackson, Robert W. Circuit model for substrate resonance coupling in grounded coplanar waveguide circuits (Short p.); *T-MTT Sep 93* 1641-1645
- Jacobs, M., *see* Adler, D., *MWSYM 93 Vol. 2* 809-812
- Jacobsson, Stellan, *see* Acharya, Pranay R., *T-MTT Oct 93* 1715-1719
- Jaeger, Nicolas A. F., and Benny P. C. Tsou. Calculation of the fundamental mode sizes in optical channel waveguides using Gaussian quadrature; *T-MTT Nov 93* 1907-1912
- Janocko, M. A., *see* Piatnacia, A. Y., *MWSYM 93 Vol. 3* 1417-1420
- Jansen, R. H., *see* Engels, M., *MWSYM 93 Vol. 2* 757-760
- Jarem, John M., *see* Mohamed, Magdy Z., *T-MTT Mar 93* 536-539
- Jarry, B., *see* Billonnet, L., *MWSYM 93 Vol. 1* 185-188
- Jasper, L., *see* Kim, A., *MWSYM 93 Vol. 3* 1221-1224
- Jelenski, Andrzej, Andreas Grüb, Viktor Krozer, and Hans L. Hartnagel. New approach to the design and the fabrication of THz Schottky barrier diodes; *T-MTT Apr 93* 549-557
- Jelloian, L. M., *see* Matloubian, M., *MWSYM 93 Vol. 2* 535-538
- Jelloian, Linda M., *see* Matloubian, Mehran, *T-MTT Dec 93* 2206-2210
- Jemison, William D., and Peter R. Herczfeld. Acousto-optic control of MMIC T/R modules for phased array beamsteering; *MWSYM 93 Vol. 2* 1051-1054
- Jere, Jayant N., and Yannick L. Le Coz. An improved floating-random-walk algorithm for solving the multi-dielectric Dirichlet problem; *T-MTT Feb 93* 325-329
- Jevremovic, Vladan, *see* Radišić, Vesna, *T-MTT Sep 93* 1645-1647
- Jiang, Xiao-hong, and Zhenyu Tang. Comments, with reply, on 'Deterministic approach to full-wave analysis of discontinuities in MIC's using the method of lines' by Z. Chen and B. Gao; *T-MTT Jun/Jul 93* 1239-1240 (Original paper, Mar 89 606-611)
- Jin, Hang, *see* Huang, Jifu, *MWSYM 93 Vol. 1* 459-462
- Jin, Hang, Rüdiger Vahldieck, Peter Russer, and Jifu Huang. Full-wave analysis of discontinuities in uniplanar and multiplanar transmission lines using the frequency-domain TLM method; *MWSYM 93 Vol. 2* 713-716
- Jin, Hang, *see* Huang, Jifu, *MWSYM 93 Vol. 3* 1299-1302
- Jin, Hang, and Rüdiger Vahldieck. Full-wave analysis of guiding structures using a 2-D array of 3-D TLM nodes; *T-MTT Mar 93* 472-477
- Jin, Hang, and Rüdiger Vahldieck. Full-wave analysis of coplanar waveguide discontinuities using the frequency-domain TLM method; *T-MTT Sep 93* 1538-1542
- Jin, Hang, Ruediger Vahldieck, Jifu Huang, and Peter Russer. Rigorous analysis of mixed transmission line interconnects using the frequency-domain TLM method; *T-MTT Dec 93* 2248-2255
- Johannsson, Joakim F., *see* Acharya, Pranay R., *T-MTT Oct 93* 1715-1719
- Johansson, M. E., *see* Liang, G.-C., *MWSYM 93 Vol. 3* 1413-1416
- Johansson, Marie E., *see* Liang, Guo-chun, *T-MTT Dec 93* 2368-2375
- Johnson, Gerald E., Michael D. Medley, Ralph Levy, Ronal W. Larson, Poh Ng, and David S. Mackie. A novel approach for integrating high-Q band-pass filters into microwave integrated circuit assemblies; *MWSYM 93 Vol. 3* 1309-1311
- Johnson, Reg H., *see* Preece, Alan W., *MWSYM 93 Vol. 2* 1145-1146
- Jones, K., *see* Golob, L. P., *MWSYM 93 Vol. 3* 1395-1398
- Jones, Marty, *see* Collinson, Glenn, *MWSYM 93 Vol. 3* 1255-1258

- Jones, W., *see* Minot, K., *T-MTT Sep 93* 1650-1653
- Jones, William L., *see* Yang, Cheng Chih, *T-MTT Jun/Jul 93* 992-997
- Joshi, Jai S., *see* Gillick, Matthew, *T-MTT Jan 93* 129-135
- Joshi, Jai S., *see* Gillick, Matthew, *T-MTT Feb 93* 346-349
- Joshi, Jai S., *see* Gillick, Matthew, *T-MTT Sep 93* 1606-1610
- Jöstingmeier, A., C. Rieckmann, and A. S. Omar. Analysis of an efficient $TE_{0,n}$ -to- $TE_{0,n} + p$ -mode converter in circular waveguides; *MWSYM 93 Vol. 2* 939-941
- Jöstingmeier, A., C. Rieckmann, and A. S. Omar. Numerically efficient taper analysis with controlled resolution; *MWSYM 93 Vol. 2* 995-996
- Jöstingmeier, Andreas, and A. S. Omar. Analysis of inhomogeneously filled cavities coupled to waveguides using the VIE formulation; *T-MTT Jun/Jul 93* 1207-1214
- Jung, Wen-Lin, and Jung-Hui Chiu. Stable broadband microwave amplifier design using the simplified real frequency technique (Short p.); *T-MTT Feb 93* 336-340

K

- Kagata, H., *see* Ishizaki, T., *MWSYM 93 Vol. 1* 177-180
- Kahrizi, Masoud, Tapan K. Sarkar, and Zoran A. Maricevic. Analysis of a wide radiating slot in the ground plane of a microstrip line; *T-MTT Jan 93* 29-37
- Kain, Aron Z., and H. R. Fetterman. Parametric interactions in high- T_c superconducting step edge junctions at X band; *MWSYM 93 Vol. 3* 1425-1428
- Kaji, Akihiro, *see* Sakagami, Iwata, *T-MTT Feb 93* 234-243
- Kalinichev, Victor I., *see* Ivanov, Eugene N., *T-MTT Apr 93* 632-638
- Kalokitis, D., *see* Fathy, A., *MWSYM 93 Vol. 3* 1277-1280
- Kameshima, Tomotoshi, *see* Geshiro, Masahiro, *T-MTT Jun/Jul 93* 1159-1163
- Kamitsuna, Hideki, and Hiroyo Ogawa. Monolithic image rejection optoelectronic up-converters that employ the MMIC process; *MCS 93* 75-78
- Kamitsuna, Hideki, *see* Ogawa, Hiroyo, *MWSYM 93 Vol. 1* 225-228
- Kamitsuna, Hideki, and Hiroyo Ogawa. Ultra-wideband MMIC active power splitters with arbitrary phase relationships; *T-MTT Sep 93* 1519-1523
- Kamitsuna, Hideki, and Hiroyo Ogawa. Monolithic image-rejection optoelectronic up-converters that employ the MMIC process; *T-MTT Dec 93* 2323-2329
- Kanack, Brad, *see* Goldsmith, Charles L., *MWSYM 93 Vol. 1* 233-236
- Kanamori, M., *see* Matsumura, T., *MWSYM 93 Vol. 3* 1481-1484
- Kaneko, Y., *see* Hasegawa, H., *MWSYM 93 Vol. 1* 289-292
- Kang, Soo H., Hyo J. Eom, and Tah J. Park. TM-scattering from a slit in a thick conducting screen: Revisited (Short p.); *T-MTT May 93* 895-899
- Kantyuk, S. P., *see* Budzinsky, Y. A., *MWSYM 93 Vol. 2* 1123-1125
- Kao, M. Y., *see* Fu, S. T., *MWSYM 93 Vol. 3* 1469-1472
- Kapitzky, J., *see* Goldsmith, P. F., *T-MTT Oct 93* 1664-1675
- Karacaoglu, U., I. D. Robertson, and M. Guglielmi. A dual-mode microstrip ring resonator filter with active devices for loss compensation; *MWSYM 93 Vol. 1* 189-192
- Karlsson, Christer, *see* Zirath, Herbert, *MWSYM 93 Vol. 1* 341-344
- Karlsson, Christer, *see* Angelov, Ilcho, *MWSYM 93 Vol. 2* 787-790
- Kasemset, Dumrong, *see* Ackerman, Edward, *T-MTT Aug 93* 1299-1306
- Kashiwa, T., *see* Katoh, T., *MWSYM 93 Vol. 1* 337-340
- Kasody, R., *see* Aust, M. V., *MCS 93* 45-48
- Kasody, R., *see* Katz, R., *MCS 93* 131-134
- Kasody, R., *see* Katz, R., *MWSYM 93 Vol. 1* 149-152
- Katehl, L. P., *see* Weller, T. M., *MWSYM 93 Vol. 2* 827-830
- Katehl, Linda, *see* Dib, Nihad, *MWSYM 93 Vol. 2* 701-704
- Katehl, Linda P. B., *see* Engel, A. G., Jr., *MWSYM 93 Vol. 2* 831-834
- Katehl, Linda P. B., *see* Sabetfakhri, Kazem, *MWSYM 93 Vol. 3* 1523-1526
- Katehl, Linda P. B., *see* Dib, Nihad I., *T-MTT Jan 93* 38-44
- Katehl, Linda P. B., *see* Engel, Andrew G., Jr., *T-MTT Aug 93* 1251-1262
- Katehl, Linda P. B., *see* Dib, Nihad I., *T-MTT Sep 93* 1549-1558
- Kato, Yuji, and Mitsunobu Miyagi. Asymptotic analysis of mode transition in general class of circular hollow waveguides at the infrared frequency (Short p.); *T-MTT Apr 93* 733-736
- Katoh, T., N. Yoshida, H. Minami, T. Kashiwa, and S. Orisaka. A 60 GHz-band ultra low noise planar-doped HEMT; *MWSYM 93 Vol. 1* 337-340
- Katsukawa, K., *see* Hasegawa, H., *MWSYM 93 Vol. 1* 289-292
- Katz, Allen, Shabbir Mooschalla, and Jerry Klatskin. Passive FET MMIC linearizers for C, X and Ku-band satellite applications; *MCS 93* 155-158
- Katz, Allen, Shabbir Mooschalla, and Jerry Klatskin. Passive FET MMIC linearizers for C, X, and Ku-band satellite applications; *MWSYM 93 Vol. 1* 353-356
- Katz, R., M. V. Aust, R. Kasody, H. Wang, B. Allen, G. S. Dow, K. Tan, S. Lin, and R. Myers. A highly compact, wideband GaAs HEMT X-Ku band image-reject receiver MMIC; *MCS 93* 131-134
- Katz, R., M. V. Aust, R. Kasody, H. Wang, B. Allen, G. S. Dow, K. Tan, S. Lin, and R. Myers. A highly compact, wideband GaAs HEMT X-Ku band image-reject receiver MMIC; *MWSYM 93 Vol. 1* 149-152
- Katzin, P., B. Bedard, and Y. Ayasli. Narrow-band MMIC filters with automatic tuning and Q-factor control; *MCS 93* 141-144
- Katzin, P., B. Bedard, and Y. Ayasli. Narrow-band MMIC filters with automatic tuning and Q-factor control; *MWSYM 93 Vol. 1* 403-406
- Kawasaki, Hisao, *see* Yoshinaga, Hiroyuki, *MWSYM 93 Vol. 2* 779-782
- Kawasaki, Shigeo, and Tatsuo Itoh. 2×2 quasi-optical power combiner array at 20 GHz (Short p.); *T-MTT Apr 93* 717-719
- Kawasaki, Shigeo, and Tatsuo Itoh. Quasi-optical planar arrays with FET's and slots; *T-MTT Oct 93* 1838-1844
- Kaylie, Harvey, and Radha Setty. Inexpensive mixers for hi-rel commercial markets; *MWSYM 93 Vol. 1* 121-122
- Ke, Jeng-Yi, and Chun Hsiung Chen. A new approach to the microstrip lines with finite strip thickness and conductivity; *MWSYM 93 Vol. 2* 931-934
- Ke, Qing, and Marc J. Feldman. Optimum source conductance for high frequency superconducting quasiparticle receivers; *T-MTT Apr 93* 600-604
- Keam, R. B., and A.G. Williamson. Analysis of a general coaxial-line/radial-line region junction (Short p.); *T-MTT Mar 93* 516-520
- Kees, Norbert, Martin Weinberger, and Jürgen Detlefsen. Doppler measurement of lateral and longitudinal velocity for automobiles at millimeterwaves; *MWSYM 93 Vol. 2* 805-808
- Kenney, J. Stevenson, and William D. Hunt. A physically-based small-signal circuit model for heterostructure acoustic charge transport devices; *MWSYM 93 Vol. 3* 1513-1516
- Kenney, J. Stevenson, and William D. Hunt. A physically-based small-signal circuit model for heterostructure acoustic charge transport devices; *T-MTT Dec 93* 2218-2226
- Kerr, Anthony R., Shing-Kuo Pan, and Stafford Withington. Embedding impedance approximations in the analysis of SIS mixers; *T-MTT Apr 93* 590-594
- Kerwin, Kevin J., *see* Ferrero, Andrea, *T-MTT Jun/Jul 93* 1074
- Khairandish, R., C. M. Gee, J. Paslaski, and D. Huff. Low noise wideband fiberoptic MMIC-based receiver; *MCS 93* 71-73
- Khan, M. Nisa, Anand Gopinath, Julian P. G. Bristow, and Joseph P. Donnelly. Technique for velocity-matched traveling-wave electrooptic modulator in AlGaAs/GaAs; *T-MTT Feb 93* 244-249
- Khatibzadeh, Ali, *see* Liu, William, *MWSYM 93 Vol. 3* 1477-1480
- Kikuchi, Hiroyuki, *see* Imai, Yuhki, *T-MTT May 93* 745-751
- Kim, A., L. Di Domenico, R. Youmans, A. Balekdjian, M. Weiner, and L. Jasper. Monolithic, photoconductive ultra-wideband RF device; *MWSYM 93 Vol. 3* 1221-1224
- Kim, J., J. Son, S. Wakana, J. Nees, S. Williamson, J. Whitaker, Y. Kwon, and D. Pavlidis. Time-domain network analysis of MM-wave circuits based on a photoconductive probe sampling technique; *MWSYM 93 Vol. 3* 1359-1362
- Kim, Moonil, Emilio A. Sovero, Jonathan B. Hacker, Michael P. De Lisio, Jung-Chih Chiao, Shi-Jie Li, David R. Gagnon, James J. Rosenberg, and David B. Rutledge. A 100-element HBT grid amplifier; *MWSYM 93 Vol. 2* 615-618
- Kim, Moonil, Emilio A. Sovero, Jonathan B. Hacker, Michael P. De Lisio, Jung-Chih Chiao, Shi-Jie Li, David R. Gagnon, James J. Rosenberg, and David B. Rutledge. A 100-Element HBT Grid Amplifier; *T-MTT Oct 93* 1762-1771
- Kim, Moonil, Emilio A. Sovero, Jonathan B. Hacker, Michael P. De Lisio, James J. Rosenberg, and David B. Rutledge. A 6.5 GHz–11.5 GHz source using a grid amplifier with a twist reflector; *T-MTT Oct 93* 1772-1774
- Kim, S., S. Ali, and J. White. A vector surface integral approach to computing inductances of general 3-D structures; *MWSYM 93 Vol. 3* 1535-1538
- Kim, Se-Yun, *see* Suh, Kyoung-Whoan, *MWSYM 93 Vol. 2* 1141-1144
- Kim, Yoonkee, *see* Hunt, William D., *MWSYM 93 Vol. 3* 1509-1512
- Kimishima, Masayuki, and Tetsuya Ashizuka. 18–40 GHz semi-monolithic balanced cascade amplifiers using AlGaAs/InGaAs P-HEMT and GaAs MESFET; *MWSYM 93 Vol. 2* 523-526
- Kinosada, T., *see* Hara, S., *MCS 93* 19-22
- Kipp, Robert, Chi H. Chan, Andrew T. Yang, and Jack Tzu-Wen Yao. Simulation of high-frequency integrated circuits incorporating full-wave analysis of microstrip discontinuities; *T-MTT May 93* 848-854
- Kipp, Robert, and Chi H. Chan. Triangular-domain basis functions for full-wave analysis of microstrip discontinuities; *T-MTT Jun/Jul 93* 1187-1194
- Kishk, Ahmed A., *see* Shu, Shianfeng, *T-MTT Jun/Jul 93* 1111-1118
- Kitai, A., *see* Kitayoshi, H., *MWSYM 93 Vol. 1* 241-244
- Kitayoshi, H., B. Rossiter, A. Kitai, H. Ashida, and M. Hirose. Holographic imaging of microwave propagation; *MWSYM 93 Vol. 1* 241-244

- Kitazawa, Toshihide**, David Polifko, and Hiroyo Ogawa. Analysis of LiNbO₃ optical modulator using coplanar-type electrodes; *MWSYM 93 Vol. 1* 213-216
- Kiyokawa, Masahiro**, see Matsui, Toshiaki, *T-MTT Oct 93* 1710-1714
- Klapwijk, T. M.**, see Honingh, C. E., *T-MTT Apr 93* 616-623
- Klatskin, Jerry**, see Katz, Allen, *MCS 93* 155-158
- Klatskin, Jerry**, see Katz, Allen, *MWSYM 93 Vol. 1* 353-356
- Klein, Udo**, see Yoshida, Haruo, *MWSYM 93 Vol. 1* 389-392
- Klein, Udo**, see Yoshida, Haruo, *T-MTT Dec 93* 2353-2358
- Kline, G. R.**, see Lakin, K. M., *MWSYM 93 Vol. 3* 1517-1520
- Kline, Gerald R.**, see Lakin, Kenneth M., *T-MTT Dec 93* 2139-2146
- Klingbeil, Harald**, see Beilenhoff, Klaus, *T-MTT Sep 93* 1534-1537
- Klopman, Boele B. G.**, Gerrit J. Gerritsma, and Horst Rogalla. The propagation characteristics of wave-guiding structures with very thin superconductors: Application to coplanar waveguide YBa₂Cu₃O_{7-x} resonators; *T-MTT May 93* 781-791
- Knox, M. E.**, P. J. Sbuttoni, J. J. Stangel, M. Kumar, and P. Valentino. Solid state 6 × 6 transfer switch for cylindrical array radar; *MWSYM 93 Vol. 3* 1225-1228
- Kobayashi, J. H.**, see Kobayashi, K. W., *MWSYM 93 Vol. 1* 377-380
- Kobayashi, K. W.**, A. K. Oki, D. K. Umemoto, S. Claxton, and D. C. Streit. GaAs HBT pin diode attenuators and switches; *MCS 93* 151-154
- Kobayashi, K. W.**, L. T. Tran, S. Bui, J. Velebir, D. Nguyen, A. K. Oki, and D. C. Streit. InP based HBT millimeter-wave technology and circuit performance to 40 GHz; *MCS 93* 85-88
- Kobayashi, K. W.**, A. K. Oki, D. K. Umemoto, S. Claxton, and D. C. Streit. GaAs HBT PIN diode attenuators and switches; *MWSYM 93 Vol. 1* 349-352
- Kobayashi, K. W.**, J. H. Kobayashi, M. Leung, A. K. Oki, M. Matloubian, S. Chan, and D. C. Streit. A cryogenic GaAs HBT microwave amplifier and its application to a superconductor digital IC; *MWSYM 93 Vol. 1* 377-380
- Kobayashi, Kevin W.**, Aaron K. Oki, Donald K. Umemoto, Shimen K. Z. Claxton, and Dwight C. Streit. Monolithic GaAs HBT p-i-n diode variable gain amplifiers, attenuators and switches; *T-MTT Dec 93* 2295-2302
- Kobayashi, Takehiko**, Toshio Nojima, Kenji Yamada, and Shinji Uebayashi. Dry phantom composed of ceramics and its application to SAR estimation; *T-MTT Jan 93* 136-140
- Kobayashi, Y.**, and T. Senju. Field analysis of shielded uniaxial-dielectric rod resonators; *MWSYM 93 Vol. 2* 913-916
- Kobayashi, Yoshio**, and Tomohiro Senju. Resonant modes in shielded uniaxial-anisotropic dielectric rod resonators; *T-MTT Dec 93* 2198-2205
- Kohno, Masaki**, see Mochizuki, Mitsuru, *MWSYM 93 Vol. 3* 1365-1368
- Koistinen, O.**, H. Valmu, A. Räisänen, V. Vdovin, Y. Dryagin, and I. Lapkin. A 110 GHz ozone radiometer with a cryogenically cooled planar Schottky mixer; *MWSYM 93 Vol. 2* 775-778
- Koistinen, Olli P.**, Heikki T. Valmu, Antti Räisänen, Vjacheslav F. Vdovin, Y. A. Dryagin, and Igor V. Lapkin. A 110 GHz ozone radiometer with a cryogenic planar Schottky mixer; *T-MTT Dec 93* 775-778
- Kollberg, Erik L.**, see Nilsen, Svein M., *T-MTT Apr 93* 572-580
- Kollberg, Erik L.**, see Acharya, Pranay R., *T-MTT Oct 93* 1715-1719
- Komiak, J. J.**, L. W. Yang, R. S. Brozovich, S. T. Fu, and D. P. Smith. Broadband high-efficiency HBT MMIC power amplifier fabricated with re-aligned process; *MWSYM 93 Vol. 3* 1473-1476
- Kompa, G.**, see Werthof, A., *MWSYM 93 Vol. 2* 645-648
- Kompa, Günter**, see Lin, Fujiang, *MWSYM 93 Vol. 2* 1021-1024
- Konczykowska, A.**, see Wang, H., *MWSYM 93 Vol. 2* 549-552
- Kondo, Hirotaka**, see Bae, Jongsuck, *T-MTT Oct 93* 1851-1855
- Kondoh, Hiroshi**, see Hughes, Brian, *MCS 93* 31-34
- Kondoh, Hiroshi**, see Shakouri, Mohammad S., *MCS 93* 79-81
- Kondoh, Hiroshi**, and Alex Cognata. A 20–50 GHz MMIC amplifier with 21 dBm output power and its application as a frequency doubler; *MCS 93* 35-38
- Kondoh, Hiroshi**, see Hughes, Brian, *T-MTT Dec 93* 2311-2316
- Konno, Ken-ichi**, Hiroshi Wada, and Kohichi Matsukawa. A 2.45 GHz wireless IC card system for automatic gates; *MWSYM 93 Vol. 2* 797-800
- Kopp, W. F.**, see Fu, S. T., *MWSYM 93 Vol. 3* 1469-1472
- Kormanyos, Brian K.**, Paul H. Ostieck, William L. Bishop, Thomas W. Crowe, and Gabriel M. Rebeiz. A planar wideband 80–200 GHz subharmonic receiver; *T-MTT Oct 93* 1730-1737
- Kornreich, Philipp G.**, see Anand, M. B., *T-MTT Apr 93* 624-631
- Korolyov, A. N.** 'ISTOK'—A leading Russian microwave R&D facility (Abstr.); *MWSYM 93 Vol. 2* 1127
- Kosanovich, Stevan**, and Raj Mittra. Modeling of discontinuities in microwave and millimeter wave integrated circuits using the curvilinear finite difference time domain approach; *MWSYM 93 Vol. 2* 741-744
- Koscica, Thomas E.** Microstrip quarter-wave high voltage DC block (Short p.); *T-MTT Jan 93* 162-164
- Kosinski, J.**, see McGowan, R., *MWSYM 93 Vol. 1* 381-384
- Kosslowsky, Stefan**, see Paoloni, Claudio, *MWSYM 93 Vol. 1* 273-276
- Kot, John S.**, see Batchelor, Robert A., *MWSYM 93 Vol. 2* 677-680
- Kouki, Ammar B.**, Raj Mittra, and Chi Hou Chan. Analysis of a thin slot discontinuity in the reference plane of a microstrip structure; *T-MTT Aug 93* 1356-1362
- Kouris, Stamatias S.**, see Polichronakis, Ioannis P., *T-MTT Aug 93* 1449-1454
- Kralj, David**, and Lawrence Carin. Ultra-wideband characterization of lossy materials: Short-pulse microwave measurements; *MWSYM 93 Vol. 3* 1239-1242
- Krishnamurthi, Kathiravan**, and Robert G. Harrison. Analysis of symmetric-varactor-frequency triplers; *MWSYM 93 Vol. 2* 649-652
- Krowne, Aaron P.**, see Krowne, Clifford M., *MWSYM 93 Vol. 2* 1159-1162
- Krowne, Clifford M.**, and Aaron P. Krowne. Nonlinear dynamical formulation for describing growth of cancer cells based on intracellular constituents; *MWSYM 93 Vol. 2* 1159-1162
- Krozer, Viktor**, see Jelenski, Andrzej, *T-MTT Apr 93* 549-557
- Krupezevic, D. V.**, see Brankovic, V. J., *MWSYM 93 Vol. 2* 897-900
- Krupezevic, D. V.**, V. J. Brankovic, and F. Arndt. A simplified 2D graded mesh FD-TD algorithm for calculating the characteristic impedance of shielded or open planar waveguides with finite metallization thickness; *MWSYM 93 Vol. 2* 997-1000
- Krupezevic, Dragan V.**, Veselin J. Brankovic, and Fritz Arndt. The wave-equation FD-TD method for the efficient eigenvalue analysis and S-matrix computation of waveguide structures; *T-MTT Dec 93* 997-1000
- Kubalek, E.**, see Mertin, W., *MWSYM 93 Vol. 3* 1351-1354
- Kuhns, F. G.**, see Rosenbaum, F. J., *MCS 93* 163-166
- Kuhns, F. G.**, see Rosenbaum, F. J., *MWSYM 93 Vol. 1* 361-364
- Kukreja, Nirupama**, and R. S. Gupta. Comments, with reply, on 'An analytical two-dimensional perturbation method to model submicron GaAs MESFET's' by E. Donkor and F. C. Jain; *T-MTT Mar 93* 543-545 (Original paper, Sep 89 1484-1487)
- Kumar, M.**, see Issogna, P., *MWSYM 93 Vol. 2* 497-500
- Kumar, M.**, see Knox, M. E., *MWSYM 93 Vol. 3* 1225-1228
- Kumar, Mahesh**, see Hanczor, Michael, *MWSYM 93 Vol. 3* 1213-1216
- Kumar, Mahesh**, see Hanczor, Michael, *T-MTT Dec 93* 2237-2242
- Kumar, Raj**, see Verma, A. K., *MWSYM 93 Vol. 2* 861-864
- Kunisch, J.**, A. Bahr, M. Rittweger, and I. Wolff. Analysis of nonlinear microwave circuits using the compression approach; *MWSYM 93 Vol. 2* 637-640
- Kunisch, J.**, and I. Wolff. Determination of stationary traveling waves on nonlinear transmission lines; *MWSYM 93 Vol. 2* 1037-1040
- Kunkee, David B.**, see Gasiewski, A. J., *T-MTT May 93* 767-773
- Kuo, Chih-Wen**, see Wong, Kin-Lu, *T-MTT Apr 93* 698-701
- Kurdoghlian, A.**, C. S. Wu, W. Yau, J. Chen, M. Hu, C. Pao, and D. Bosch. The demonstration of Ka-band multi-functional MMIC circuits fabricated on the same PHEMT wafer with superior performance; *MCS 93* 97-98
- Kurokawa, K.** Comments on 'Unconditional stability' (comments on 'A new criterion for linear 2-port stability using a single geometrically derived parameter' by M. L. Edwards and J. H. Sinsky); *T-MTT Aug 93* 1475 (Original paper, Dec 92 2303-2311)
- Kurz, H.**, see von Kamienski, E. Stein, *MWSYM 93 Vol. 1* 393-396
- Kurz, Heinrich**, see Gondermann, Jörg, *T-MTT Dec 93* 2087-2091
- Kusunoki, Shigeo**, see Ohgihara, Takahiro, *MCS 93* 9-12
- Kuzuhara, Masaaki**, see Iwata, Naotaka, *MWSYM 93 Vol. 3* 1465-1468
- Kwan, P.**, and C. Vittoria. Scattering parameters measurement of a nonreciprocal coupling structure; *T-MTT Apr 93* 652-657
- Kwon, Y.**, D. Pavlidis, T. Brock, and D. C. Streit. A D-band monolithic fundamental oscillator using InP-based HEMT's; *MCS 93* 49-52
- Kwon, Y.**, see Kim, J., *MWSYM 93 Vol. 3* 1359-1362
- Kwon, Youngwoo**, Dimitris Pavlidis, Phil Marsh, Geok-Ing Ng, and Timothy L. Brock. Experimental characteristics and performance analysis of monolithic InP-based HEMT mixers at W-band; *T-MTT Jan 93* 1-8
- Kwon, Youngwoo**, Dimitris Pavlidis, Timothy L. Brock, and Dwight C. Streit. A D-band monolithic fundamental oscillator using InP-based HEMT's; *T-MTT Dec 93* 2336-2344

L

- Labay, Vladimir A.**, and Jens Bornemann. An integrated T-septum waveguide diplexer for compact front-end applications; *MWSYM 93 Vol. 1* 463-466
- Labay, Vladimir A.**, and Jens Bornemann. CAD of T-septum waveguide evanescent-mode filters (Short p.); *T-MTT Apr 93* 731-733
- Lahiri, P.**, see Biswas, B. N., *T-MTT Mar 93* 388-394
- Lai, R.**, see Pospieszalski, M. W., *MWSYM 93 Vol. 2* 515-518
- Lai, R.**, see Wang, H., *MWSYM 93 Vol. 2* 519-522
- Lakatos, W. J.**, see Pospieszalski, M. W., *MWSYM 93 Vol. 2* 515-518
- Lakin, K. M.**, G. R. Kline, and K. T. McCarron. High Q microwave acoustic resonators and filters; *MWSYM 93 Vol. 3* 1517-1520

- Lakin, Kenneth M., Gerald R. Kline, and Kevin T. McCarron. High- Q microwave acoustic resonators and filters; *T-MTT Dec 93* 2139-2146
- Lally, P. M., see Christensen, J. A., *MWSYM 93 Vol. 1* 115-118
- Lam, A., see Garrison, D. P., *MWSYM 93 Vol. 3* 1229-1232
- Lam, W., see Wang, H., *MCS 93* 167-170
- Lam, W., see Dow, G. S., *MWSYM 93 Vol. 1* 163-166
- Lam, W., see Wang, H., *MWSYM 93 Vol. 1* 365-368
- Lampariello, Paolo, see Frezza, Fabrizio, *MWSYM 93 Vol. 2* 893-896
- Lampariello, Paolo, and Arthur A. Oliner. New equivalent networks with simple closed-form expressions for open and slit-coupled E-plane tee junctions; *T-MTT May 93* 839-847
- Lape, Kristine M., and Tawfik Rahal-Arabi. A broad band time domain technique for the measurement of the frequency dependent complex permittivity in lossy transmission line systems; *MWSYM 93 Vol. 3* 1235-1238
- Lapierre, L., see Duvanaud, C., *MWSYM 93 Vol. 1* 285-288
- Lapkin, I., see Koistinen, O., *MWSYM 93 Vol. 2* 775-778
- Lapkin, Igor V., see Koistinen, Olli P., *T-MTT Dec 93* 775-778
- Larson, Kent, see Dunn, John M., *T-MTT Aug 93* 1287-1293
- Larson, L. E., see Matloubian, M., *MWSYM 93 Vol. 2* 535-538
- Larson, Lawrence E., see Rosenbaum, Steven E., *MWSYM 93 Vol. 2* 1103-1104
- Larson, Lawrence E., see Matloubian, Mehran, *T-MTT Dec 93* 2206-2210
- Larson, Ronald W., see Johnson, Gerald E., *MWSYM 93 Vol. 3* 1309-1311
- Laskar, J., J. J. Bautista, B. Fujiwara, D. Scherrer, and M. Feng. Low noise device and amplifier characterization for deep space communication applications; *MWSYM 93 Vol. 2* 1095-1098
- Lau, Kei May, see Liou, Jenn-Chong, *T-MTT May 93* 824-829
- Lau, Kei May, see Yang, Jian-Xun, *T-MTT Apr 93* 581-589
- Laura, Patricio A., Carlos A. Rossit, and Diana V. Bambill. Comments on 'A procedure defining behavior of weight functions near the edge for best convergence using the Galerkin method' by P. S. Fridberg and I. M. Yakover; *T-MTT May 93* 900-901 (Original paper, Aug 92 1661-1667)
- Lavoie, J.-J., see Bouchard, Pierre, *T-MTT Jun/Jul 93* 1178-1182
- Lax, B., J. A. Weiss, N. W. Harris, and G. F. Dionne. Quasi-optical reflection circulator; *MWSYM 93 Vol. 1* 479-482
- Lax, Benjamin, Jerald A. Weiss, Neville W. Harris, and Gerald F. Dionne. Quasi-optical reflection circulator; *T-MTT Dec 93* 2190-2197
- Le, Minh, see Nguyen, Loi, *MWSYM 93 Vol. 1* 345-347
- Leader, K. M., see Piatnicia, A. Y., *MWSYM 93 Vol. 3* 1417-1420
- Lebedev, V. N., see Zaytsev, S. A., *MWSYM 93 Vol. 2* 1129
- Le Coz, Yannick L., see Jere, Jayant N., *T-MTT Feb 93* 325-329
- Ledov, I. A., see Zaytsev, S. A., *MWSYM 93 Vol. 2* 1129
- LeDuc, H. G., see Febvre, P., *MWSYM 93 Vol. 2* 771-774
- LeDuc, Henry G., see Stimson, Philip A., *T-MTT Apr 93* 609-615
- Lee, Chi H., see Huang, S. L., *MWSYM 93 Vol. 3* 1387-1390
- Lee, Chi H., see Golob, L. P., *MWSYM 93 Vol. 3* 1395-1398
- Lee, Ching-Her, see Bagby, Jonathan S., *T-MTT Nov 93* 1887-1894
- Lee, Jin-Fa, see Hams, Paul H., *T-MTT Jan 93* 153-156
- Lee, Jin-Fa, see Aoyagi, Paul H., *T-MTT Sep 93* 1593-1600
- Lee, Jin-Fa, Gregory M. Wilkins, and Raj Mittra. Finite-element analysis of axisymmetric cavity resonator using a hybrid edge element technique; *T-MTT Nov 93* 1981-1987
- Lee, L., see Martens, J. S., *MWSYM 93 Vol. 3* 1243-1246
- Lee, L. H., S. M. Ali, W. G. Lyons, R. S. Withers, and T. P. Orlando. Full-wave analysis of superconducting microstrip lines on sapphire substrates; *MWSYM 93 Vol. 1* 385-388
- Lee, Laurence H., W. G. Lyons, Terry P. Orlando, Sami M. Ali, and Richard S. Withers. Full-wave analysis of superconducting microstrip lines on anisotropic substrates using equivalent surface impedance approach; *T-MTT Dec 93* 2359-2367
- Lee, P., see Dow, G. S., *MWSYM 93 Vol. 1* 163-166
- Lee, Richard Q., see Simons, Rainee N., *MWSYM 93 Vol. 2* 623-626
- Lee, S. C., see Hwu, R. J., *T-MTT May 93* 890-893
- Leopold, Raymond J., and Ann Miller. The IRIDIUM communications system; *MWSYM 93 Vol. 2* 575-578
- Leost, J. C., see Meyer, S., *MWSYM 93 Vol. 3* 1549-1552
- Lerer, Alexander M., and Alexander G. Schuchinsky. Full-wave analysis of three-dimensional planar structures; *T-MTT Nov 93* 2002-2015
- Lesurf, J. C. G., see Smith, G. M., *MWSYM 93 Vol. 1* 155-158
- Leung, M., see Kobayashi, K. W., *MWSYM 93 Vol. 1* 377-380
- Leuzzi, G., see Giannini, F., *MWSYM 93 Vol. 1* 297-300
- Leverich, W. Kent, Xiao-Dong Wu, and Kai Chang. FET active slotline notch antennas for quasi-optical power combining; *T-MTT Sep 93* 1515-1518
- Levy, J. S., P. J. Burke, L. D. Cohen, and R. Cecchini. VCO based chirp generation for broad bandwidth compressive receiver applications; *MWSYM 93 Vol. 2* 1113-1115
- Levy, Ralph, see Tan, Robert, *MWSYM 93 Vol. 2* 881-883
- Levy, Ralph, see Johnson, Gerald E., *MWSYM 93 Vol. 3* 1309-1311
- Li, Ming-yi, see McCleary, James, *T-MTT Oct 93* 1703-1709
- Li, Shi-Jie, see Kim, Moonil, *MWSYM 93 Vol. 2* 615-618
- Li, Shi-Jie, see Kim, Moonil, *T-MTT Oct 93* 1762-1771
- Li, Tong, see Wu, Wen, *MWSYM 93 Vol. 1* 301-303
- Liang, G.-C., C. F. Shih, R. S. Withers, B. F. Cole, M. E. Johansson, and L. P. Suppan. Superconductive digital instantaneous frequency-measurement subsystem; *MWSYM 93 Vol. 3* 1413-1416
- Liang, Guo-chun, Chein-Fu Shih, Richard S. Withers, Brady F. Cole, Marie E. Johansson, and Larry P. Suppan, Jr. Superconductive digital instantaneous frequency measurement subsystem; *T-MTT Dec 93* 2368-2375
- Liang, Ji-Fuh, and Kawthar A. Zaki. CAD of microwave junctions by polynomial curve fitting; *MWSYM 93 Vol. 1* 451-454
- Liang, Ji-Fuh, see Yao, Hui-Wen, *MWSYM 93 Vol. 2* 601-604
- Liang, Ji-Fuh, see Yao, Hui-Wen, *T-MTT Dec 93* 2166-2173
- Liang, Xiao-Peng, Hsin-Chin Chang, and Kawthar A. Zaki. Modeling of cylindrical dielectric resonators in rectangular waveguides and cavities; *MWSYM 93 Vol. 2* 597-600
- Liang, Xiao-Peng, see Yao, Hui-Wen, *MWSYM 93 Vol. 2* 601-604
- Liang, Xiao-Peng, see Yao, Hui-Wen, *T-MTT Dec 93* 2166-2173
- Liang, Xiao-Peng, and Kawthar A. Zaki. Modeling of cylindrical dielectric resonators in rectangular waveguides and cavities; *T-MTT Dec 93* 2174-2181
- Liao, P., and R. A. York. A new phase-shifterless beam-scanning technique using arrays of coupled oscillators; *T-MTT Oct 93* 1810-1815
- Libbrecht, Frank, see Sercu, Jeannick, *MWSYM 93 Vol. 2* 753-756
- Libbrecht, Frank, see Sercu, Jeannick, *T-MTT Sep 93* 1581-1588
- Limiti, E., see Giannini, F., *MWSYM 93 Vol. 1* 297-300
- Lin, Ding-Bing, and Tah-Hsiung Chu. Bistatic frequency-swept microwave imaging: Principle, methodology and experimental results; *T-MTT May 93* 855-861
- Lin, Fujiang, and Günter Komp. Efficient FET model parameter extraction using multi-plane data-fitting and bidirectional search technique; *MWSYM 93 Vol. 2* 1021-1024
- Lin, Jenshan, and Tatsuo Itoh. A 4×4 spatial power-combining array with strongly coupled oscillators in multi-layer structure; *MWSYM 93 Vol. 2* 607-610
- Lin, Jenshan, see Nogi, Shigeji, *T-MTT Oct 93* 1827-1837
- Lin, Jinq-Min, see Tzuang, Ching-Kuang C., *T-MTT Aug 93* 1400-1408
- Lin, Quinan, Hamid Aghvami, and Ian Robertson. A design method for lumped broad-band MMIC matching networks with semiuniform frequency-dependent losses (Short p.); *T-MTT May 93* 873-876
- Lin, R., see Chang, K. W., *MCS 93* 41-44
- Lin, S., see Katz, R., *MCS 93* 131-134
- Lin, S., see Katz, R., *MWSYM 93 Vol. 1* 149-152
- Lin, Y. T., see Chang, T. N., *T-MTT Apr 93* 729-731
- Lindenmuth, R., see McGowan, R., *MWSYM 93 Vol. 1* 381-384
- Liou, Jenn-Chong, and Kei May Lau. Analysis of slow-wave transmission lines on multi-layered semiconductor structures including conductor loss; *T-MTT May 93* 824-829
- Liou, L. L., B. Bayraktaroglu, and C. I. Huang. Thermal stability analysis of multiple emitter finger microwave AlGaAs/GaAs heterojunction bipolar transistors; *MWSYM 93 Vol. 1* 281-284
- Lippens, D., see Bouregba, R., *T-MTT Nov 93* 2025-2027
- Lisak, M., see Semenov, V., *T-MTT May 93* 879-881
- Litva, John, see Chen, Ji, *MWSYM 93 Vol. 2* 749-752
- Litva, John, see Wu, Ke-Li, *MWSYM 93 Vol. 2* 975-978
- Litva, John, see Shen, Ying, *T-MTT Jun/Jul 93* 1005-1010
- Litvin, K., J. Burn, D. Woodard, W. Schaff, and L. F. Eastman. High speed optical detectors for monolithic millimeter wave integrated circuits; *MWSYM 93 Vol. 2* 1063-1066
- Liu, Hong-Xia L., see Sjogren, Lance B., *T-MTT Oct 93* 1782-1790
- Liu, Jianfen, see Alexander, Philip H., *T-MTT May 93* 792-796
- Liu, Ji-Chyun, Sheau-Shong Bor, and Po-Chiang Lu. Comments, with reply, on 'Optimum noise measure terminations for microwave transistor amplifiers' by C. R. Poole and D. K. Paul; *T-MTT Feb 93* 363-364 (Original paper, Nov 85 1254-1257)
- Liu, Ji-Chyun, Sheau-Shong Bor, and Po-Chiang Lu. Comments on 'Optimum noise measure terminations for microwave transistor amplifiers' by C. R. Poole and D. K. Paul; *T-MTT Nov 93* 2042-2043 (Original paper, Nov 85 1254-1257)
- Reply to comments by Paul, D. K. and Gardner, P. *T-MTT Nov 93* 2043
- Liu, P. H., see Pospieszalski, M. W., *MWSYM 93 Vol. 2* 515-518
- Liu, P. H., see Wang, H., *MWSYM 93 Vol. 2* 519-522
- Liu, P. H., see Wang, H., *MWSYM 93 Vol. 2* 783-785
- Liu, P. H., see Chen, C. H., *MWSYM 93 Vol. 3* 1377-1380
- Liu, S. M. J., see Duh, K. H. G., *MCS 93* 99-102
- Liu, S. M. Joseph, and Gregory G. Boll. A new probe for W-band on-wafer measurements; *MWSYM 93 Vol. 3* 1335-1338
- Liu, Takyiu, see Nguyen, Loi, *MWSYM 93 Vol. 1* 345-347
- Liu, Takyiu, see Rosenbaum, Steven E., *MWSYM 93 Vol. 2* 1103-1104

- Liu, Tina, *see* Sjogren, Lance B., *T-MTT Oct 93* 1782-1790
- Liu, William, Ali Khatibzadeh, Timothy Henderson, Shou-Kong Fan, and Dave Davito. X-band GaInP/GaAs power heterojunction bipolar transistor; *MWSYM 93 Vol. 3* 1477-1480
- Liu, Yaozhong, Tetsuo Hirota, and Tatsuo Itoh. Coupling phenomena in conductor-backed slotline structures; *MWSYM 93 Vol. 3* 1203-1206
- Llopis, O., H. Amine, M. Gayral, J. Graffeuil, and J. F. Sautereau. Analytical model of noise in an analog frequency divider; *MWSYM 93 Vol. 2* 1033-1036
- Llopis, Olivier, Robert Plana, Hicham Amine, Laurent Escotte, and Jacques Graffeuil. Phase noise in cryogenic microwave HEMT and MESFET oscillators; *T-MTT Mar 93* 369-374
- Lo, D. C. W., *see* Wang, H., *MCS 93* 167-170
- Lo, D. C. W., *see* Dow, G. S., *MWSYM 93 Vol. 1* 163-166
- Lo, Wen-Teng, Ching-Kuang C. Tzuang, Song-Tsuen Peng, Chung-Chi Chang, Jenq-Wen Huang, and Ching-Cheng Tien. Resonant phenomena in conductor-backed coplanar waveguide (CBCPW); *MWSYM 93 Vol. 3* 1199-1202
- Lo, Wen-Teng, and Ching-Kuang C. Tzuang. A new full-wave integral equation method for the analysis of coplanar strip circuit using the mixed-potentials eigenfunction expansion technique; *MWSYM 93 Vol. 3* 1539-1542
- Lo, Wen-Teng, and Ching-Kuang C. Tzuang. K-band quasi-planar tapped combline filter and diplexer; *T-MTT Feb 93* 215-223
- Lo, Wen-Teng, Ching-Kuang C. Tzuang, Song-Tsuen Peng, Ching-Cheng Tien, Chung-Chi Chang, and Jenq-Wen Huang. Resonant phenomena in conductor-backed coplanar waveguide (CBCPW's); *T-MTT Dec 93* 2099-2108
- Long, A. P., *see* Devlin, L. M., *MCS 93* 23-26
- Long, Stephen I., *see* Nary, Kevin R., *T-MTT Nov 93* 2034-2037
- Longo, Iginio, Pierre Guillon, and Dominique Cros. Circular polarization of the magnetic field in the WG modes of resonance of a dielectric disc at microwave frequencies; *T-MTT Jan 93* 117-122
- Loose, E., *see* Bui, L. Q., *MWSYM 93 Vol. 2* 857-860
- Lopin, M. I., B. A. Belyavsky, K. G. Simonov, V. A. Cherepenin, A. D. Zakurdayev, B. S. Grishin, A. A. Negirev, and A. S. Pobedonostsev. High-power millimeter-wave tubes; *MWSYM 93 Vol. 2* 1119-1121
- Lopin, M. I., *see* Pobedonostsev, A. S., *MWSYM 93 Vol. 2* 1131-1134
- Louhi, Jyrki T., Antti V. Räisänen, and Neal R. Erickson. Cooled Schottky varactor frequency multipliers at submillimeter wavelengths; *T-MTT Apr 93* 565-571
- Lovelace, Dave, *see* Costa, Julio C., *MWSYM 93 Vol. 1* 293-296
- Lovelace, David, *see* Camilleri, Natalino, *MWSYM 93 Vol. 2* 545-548
- LoVetri, Joe, and Neil R. S. Simons. A class of symmetrical condensed node TLM methods derived directly from Maxwell's equations; *T-MTT Aug 93* 1419-1428
- Low, D. C. W., *see* Wang, H., *MWSYM 93 Vol. 1* 365-368
- Lu, Cai-Cheng, and Weng Cho Chew. Electromagnetic scattering of finite strip array on a dielectric slab; *T-MTT Jan 93* 97-100
- Lu, Fan, *see* Navarro, Julio A., *T-MTT Oct 93* 1856-1863
- Lu, Ke, and Thomas J. Brazil. A systematic error analysis of HP8510 time-domain gating techniques with experimental verification; *MWSYM 93 Vol. 3* 1259-1262
- Lu, Po-Chiang, *see* Liu, Ji-Chyun, *T-MTT Feb 93* 363-364
- Lu, Po-Chiang, *see* Liu, Ji-Chyun, *T-MTT Nov 93* 2042-2043
- Lu, Yilong, and F. Anibal Fernandez. An efficient finite element solution of inhomogeneous anisotropic and lossy dielectric waveguides; *T-MTT Jun/Jul 93* 1215-1223
- Ludvik, S., *see* Christensen, J. A., *MWSYM 93 Vol. 1* 115-118
- Luebbers, Raymond. Effects of waveguide wall grooves used to hold samples for measurement of permittivity and permeability; *T-MTT Nov 93* 1959-1964
- Luhmann, N. C., Jr., *see* Huang, P., *T-MTT Aug 93* 1455-1458
- Luhmann, N. C., Jr., *see* Sjogren, Lance B., *T-MTT Oct 93* 1782-1790
- Lui, Mark, *see* Nguyen, Loi, *MWSYM 93 Vol. 1* 345-347
- Lukaszek, T., *see* McGowan, R., *MWSYM 93 Vol. 1* 381-384
- Luong, G., *see* Aust, M. V., *MCS 93* 45-48
- Lynch, Daniel R., Keith D. Paulsen, and William E. Boyse. Synthesis of vector parasites in finite element Maxwell solutions; *T-MTT Aug 93* 1439-1448
- Lyons, Michael R., James P. K. Gilb, and Constantine A. Balanis. Enhanced dominant mode operation of shielded multilayer coplanar waveguide; *MWSYM 93 Vol. 2* 943-946
- Lyons, Michael R., James P. K. Gilb, and Constantine A. Balanis. Enhanced dominant mode operation of a shielded multilayer coplanar waveguide via substrate compensation; *T-MTT Sep 93* 1564-1567
- Lyons, W. G., *see* Lee, L. H., *MWSYM 93 Vol. 1* 385-388
- Lyons, W. G., *see* Lee, Laurence H., *T-MTT Dec 93* 2359-2367
- Ma, Zhewang, Eikichi Yamashita, and Shanjia Xu. Hybrid-mode analysis of planar transmission lines with arbitrary metallization cross sections; *T-MTT Mar 93* 491-497
- Ma, Zhewang, Eikichi Yamashita, and Shanjia Xu. Transverse scattering matrix formulation for a class of waveguide eigenvalue problems; *T-MTT Jun/Jul 93* 1044-1051
- Maas, S. A., and K. W. Chang. A broadband, planar, doubly balanced monolithic Ka-band diode mixer; *MCS 93* 53-55
- Maas, S. A., *see* Basu, S., *T-MTT Nov 93* 2028-2030
- Maas, S. A., B. Nelson, and D. Tait. Comments, with reply, on 'Mechanisms determining third-order intermodulation distortion in AlGaAs/GaAs heterojunction bipolar transistors' by A. Samelis and D. Pavlidis; *T-MTT Nov 93* 2038-2040 (Original paper, Dec 92 2374-2380)
- Maas, Stephen A., and Kwo Wei Chang. A broadband, planar, doubly balanced monolithic Ka-band diode mixer; *T-MTT Dec 93* 2330-2335
- Macchiarella, Giuseppe, Alessandro Raggi, and Elpidio Di Lorenzo. Design criteria for multistage microwave amplifiers with match requirements at input and output; *T-MTT Aug 93* 1294-1298
- MacDonald, J., *see* Ackerman, E., *MWSYM 93 Vol. 2* 723-726
- Machui, J., G. Müller, W. Ruile, L. Reindl, R. Weigel, and P. Russer. A new low loss SAW filter structure with extremely wide bandwidth for mobile communication systems; *MWSYM 93 Vol. 3* 1501-1504
- Machui, Jürgen, *see* Müller, Gunter, *T-MTT Dec 93* 2147-2155
- Mackie, David S., *see* Johnson, Gerald E., *MWSYM 93 Vol. 3* 1309-1311
- Mader, Thomas, Scott Bundy, and Zoya Basta Popovic. Quasi-optical VCOs; *T-MTT Oct 93* 1775-1781
- Madjar, Asher, Arthur Paoletta, and Peter R. Herczfeld. The MESFET as an optically activated microwave switch—Theory and experiment; *MWSYM 93 Vol. 3* 1399-1402
- Madjar, Asher, Arthur Paoletta, and Peter R. Herczfeld. The compressive nature of optical detection in GaAs MESFETs and possible application as an RF logarithmic amplifier (Short p.); *T-MTT Jan 93* 165-167
- Madsen, K., *see* Bandler, J. W., *MWSYM 93 Vol. 2* 1009-1012
- Madsen, Kaj, *see* Bandler, John W., *T-MTT Dec 93* 2279-2287
- Magerko, Mark A., Lu Fan, and Kai Chang. A discussion on the coupling effects in conductor-backed coplanar waveguide MIC's with lateral sidewalls; *MWSYM 93 Vol. 2* 947-950
- Mahle, C. High end microwave technologies in global communications; *MWSYM 93 Vol. 2* 571-573
- Mahon, Simon J., Michael J. Chivers, and David J. Skellern. Simulation of HEMT DC drain current and 1 to 50 GHz S-parameters as a function of gate bias (Short p.); *T-MTT Jun/Jul 93* 1065-1067
- Mailhot, Philippe, *see* Combemale, Yves, *MWSYM 93 Vol. 2* 735-738
- Mallavarpu, R., and M. P. Puri. High power 14 GHz SSPA for SATCOM applications; *MWSYM 93 Vol. 3* 1217-1220
- Malone, Steven, *see* Paoletta, Arthur, *MWSYM 93 Vol. 2* 1059-1062
- Maluszcak, Edward, *see* Mizan, Muhammad, *MWSYM 93 Vol. 2* 813-816
- Manfra, M. J., *see* Brown, E. R., *T-MTT Apr 93* 720-722
- Manring, E. B., and J. Asmussen, Jr. Useful Bessel function identities and integrals (Short p.); *T-MTT Aug 93* 1468-1471
- Mansour, R. R. Dual-mode dielectric resonator filters with improved spurious performance; *MWSYM 93 Vol. 1* 439-442
- Mansour, R. R., F. Rammo, and V. Dokas. Design of hybrid-coupled multiplexers and diplexers using asymmetrical superconducting filters; *MWSYM 93 Vol. 3* 1281-1284
- Manthopoulos, Harilaos K., *see* Roumeliotis, John A., *T-MTT May 93* 862-869
- Manthopoulos, Vassilios K., *see* Roumeliotis, John A., *T-MTT May 93* 862-869
- Marchildon, Louis, *see* Abdunour, Jawad, *T-MTT Nov 93* 1988-1994
- Marcozzi, Pio, *see* Moglie, Franco, *MWSYM 93 Vol. 2* 967-970
- Maricevic, Zoran A., *see* Kahrizi, Masoud, *T-MTT Jan 93* 29-37
- Maricot, S., *see* Elkadi, H., *MWSYM 93 Vol. 1* 217-220
- Maricot, S., J. P. Vilcot, D. Decoster, J. C. Renaud, D. Rondi, P. Hirtz, R. Blondeau, and B. de Cremoux. Reactively matched optoelectronic transceivers on InP substrate for 6 GHz operation; *MWSYM 93 Vol. 2* 1067-1070
- Mariotte, Frédéric, and Nader Engheta. Reflection and transmission of guided electromagnetic waves at an air-chiral interface and at a chiral slab in a parallel-plate waveguide; *T-MTT Nov 93* 1895-1906
- Marks, Roger B., *see* Williams, Dylan F., *T-MTT Jun/Jul 93* 1105-1110
- Marqués, Ricardo, Francisco L. Mesa, and Manuel Homo. Nonreciprocal and reciprocal complex and backward waves in parallel plate waveguides loaded with a ferrite slab arbitrarily magnetized; *T-MTT Aug 93* 1409-1418
- Marsh, Phil, *see* Kwon, Youngwoo, *T-MTT Jan 93* 1-8
- Marsh, S. P., *see* Arnold, R. G., *MWSYM 93 Vol. 3* 1313-1316
- Marten, P., *see* Banerjee, S. K., *MWSYM 93 Vol. 2* 505-508

- Martens, J. S., L. Lee, K. Char, R. Withers, D. Zhang, V. M. Hietala, C. P. Tigges, and J. Zolper.** MM-wave confocal resonators for vertical structure profiling in semiconducting and superconducting materials; *MWSYM 93 Vol. 3* 1243-1246
- Martin, Alain, see Yao, Hui-Wen, MWSYM 93 Vol. 2** 601-604
- Martin, Alain, see Yao, Hui-Wen, T-MTT Dec 93** 2166-2173
- Martin, Derek H., and John W. Bowen.** Long-wave optics; *T-MTT Oct 93* 1676-1690
- Martin, Derek H., see Wylde, Richard J., T-MTT Oct 93** 1691-1699
- Martinez, M. A. G., see Silva, M. T. Camargo, MWSYM 93 Vol. 1** 229-232
- Marzat, C., see Bretenoux, Alain, T-MTT Nov 93** 1945-1949
- Masotti, Diego, see Rizzoli, Vittorio, MWSYM 93 Vol. 1** 309-312
- Mastri, Franco, see Rizzoli, Vittorio, MWSYM 93 Vol. 1** 309-312
- Masuda, Kazutoshi, see Yoshinaga, Hiroyuki, MWSYM 93 Vol. 2** 779-782
- Masuno, Hiroyuki, see Mochizuki, Mitsuru, MWSYM 93 Vol. 3** 1365-1368
- Mathur, M., see Fathy, A., MWSYM 93 Vol. 3** 1277-1280
- Matloubian, M., see Kobayashi, K. W., MWSYM 93 Vol. 1** 377-380
- Matloubian, M., L. M. Jelloian, A. S. Brown, Loi D. Nguyen, L. E. Larson, M. J. Delaney, M. A. Thompson, R. A. Rhodes, and J. E. Pence.** V-band high-efficiency high-power AlInAs/GaInAs/InP HEMTs; *MWSYM 93 Vol. 2* 535-538
- Matloubian, Mehran, Linda M. Jelloian, April S. Brown, Loi D. Nguyen, Lawrence E. Larson, M. J. Delaney, Mark A. Thompson, R. A. Rhodes, and J. E. Pence.** V-band high-efficiency high-power AlInAs/GaInAs/InP HEMT's; *T-MTT Dec 93* 2206-2210
- Matsui, Kazuhiro, see Polifko, David, MWSYM 93 Vol. 3** 1391-1394
- Matsui, Toshiaki, Ken'ichi Araki, and Masahiro Kiyokawa.** Gaussian-beam open resonator with highly reflective circular coupling regions; *T-MTT Oct 93* 1710-1714
- Matsukawa, Kohichi, see Konno, Ken-ichi, MWSYM 93 Vol. 2** 797-800
- Matsumura, T., M. Kanamori, Y. Oikawa, and S. Shinozaki.** Quarter-micron WSi/Au gate AlGaAs/InGaAs HJFETs for Q-band power applications; *MWSYM 93 Vol. 3* 1481-1484
- Matsuoka, H., see Nakahara, K., MWSYM 93 Vol. 1** 369-372
- Matsushita, Yoshihiro, see Nomoto, Toshihiro, T-MTT Aug 93** 1316-1322
- Mattaei, G. L., and G. L. Hey-Shipton.** High temperature superconducting 8.45-GHz bandpass filter for the Deep Space Network; *MWSYM 93 Vol. 3* 1273-1276
- Mattauch, Robert J., see Siegel, Peter H., T-MTT Nov 93** 1913-1921
- Matthaei, G. L., and G. L. Hey-Shipton.** Novel staggered resonator array superconducting 2.3-GHz bandpass filter; *MWSYM 93 Vol. 3* 1269-1272
- Matthaei, George L., and Gregory L. Hey-Shipton.** Novel staggered resonator array superconducting 2.3-GHz bandpass filter; *T-MTT Dec 93* 2345-2352
- Maurin, David, see Wu, Ke, MWSYM 93 Vol. 2** 1085-1088
- Mazé-Mercœur, Geneviève, Smail Tedjini, and Jean-Louis Bonnefoy.** Analysis of a CPW on electric and magnetic biaxial substrate; *T-MTT Mar 93* 457-461
- Mazur, Jerzy.** Millimeter-wave three-port finline circulator using distributed coupling effect (Short p.); *T-MTT Jun/Jul 93* 1067-1070
- McCarron, K. T., see Lakin, K. M., MWSYM 93 Vol. 3** 1517-1520
- McCarron, Kevin T., see Lakin, Kenneth M., T-MTT Dec 93** 2139-2146
- McCleary, James, Ming-yi Li, and Kai Chang.** Slot-fed higher order mode Fabry-Perot filters; *T-MTT Oct 93* 1703-1709
- McCormick, Tom, see Niehenke, Edward C., MWSYM 93 Vol. 1** 167-170
- McCowen, A., see Clibbon, K. L., MWSYM 93 Vol. 2** 1147-1150
- McEwan, N. J., see Rayit, A. K., MWSYM 93 Vol. 3** 1317-1320
- McGeehan, Joseph P., see Railton, C. J., T-MTT Feb 93** 290-297
- McGowan, R., J. Kosinski, R. Lindenmuth, J. Himmel, and T. Lukaszek.** Acceleration sensitivity study for commercially available SAW oscillators; *MWSYM 93 Vol. 1* 381-384
- McGrath, W. R., see Febvre, P., MWSYM 93 Vol. 2** 771-774
- McKeown, J. J., see Patterson, Andrew D., T-MTT Mar 93** 395-405
- McMillan, R. W., see Harris, H. M., MWSYM 93 Vol. 1** 159-162
- Meade, S. A., and C. J. Railton.** Efficient implementation of the spectral domain method including pre-calculated corner basis functions; *MWSYM 93 Vol. 2* 991-994
- Medina, Francisco, see Drake, Enrique, T-MTT Feb 93** 260-267
- Medley, Michael D., see Johnson, Gerald E., MWSYM 93 Vol. 3** 1309-1311
- Megahed, Mohamed A., and Samir M. El-Ghazaly.** Finite difference approach for rigorous full-wave analysis of superconducting microwave structures; *MWSYM 93 Vol. 2* 963-966
- Mehdi, Imran, see Siegel, Peter H., T-MTT Nov 93** 1913-1921
- Melcón, Alejandro Alvarez, see Guglielmi, Marco, T-MTT Jun/Jul 93** 1195-1206
- Meng, C. C., H. R. Fetterman, D. C. Streit, T. R. Block, and Y. Saito.** GaAs/AlGaAs multiquantum well structures applied to high frequency IMPATT devices; *MWSYM 93 Vol. 2* 539-542
- Menozi, Roberto, see Tutt, Marcel N., MWSYM 93 Vol. 2** 1099-1102
- Menzel, Wolfgang, and Frank Bögelsack.** Folded stubs for compact suspended stripline circuits; *MWSYM 93 Vol. 2* 593-596
- Merenda, Joseph L., John Pierro, Scott M. Weiner, and Christopher Fenniman.** 3 to 5 GHz compact microwave delay line; *MWSYM 93 Vol. 2* 1109-1112
- Mertin, W., C. Roths, F. Taenzler, and E. Kubalek.** Probe tip invasiveness at indirect electro-optic sampling of MMIC; *MWSYM 93 Vol. 3* 1351-1354
- Merugu, L. N., and Vincent F. Fusco.** Concurrent network diakoptics for electromagnetic field problems; *T-MTT Apr 93* 708-716
- Mesa, Francisco L., see Marqués, Ricardo, T-MTT Aug 93** 1409-1418
- Meyer, S., J. Guena, J. C. Leost, E. Penard, and M. Goloubkoff.** A new concept of LANs: Passive microwave links hooked onto a fiber optic backbone; *MWSYM 93 Vol. 3* 1549-1552
- Michalski, Krzysztof A., see Hsu, Chung-I G., T-MTT Jan 93** 70-78
- Michielssen, Eric, Jean-Michel Sajer, S. Ranjithan, and Raj Mittra.** Design of lightweight, broad-band microwave absorbers using genetic algorithms; *T-MTT Jun/Jul 93* 1024-1031
- Mickelson, Alan R., see Chen, Kuang Yi, MWSYM 93 Vol. 1** 313-316
- Mickelson, Alan R., see Radišić, Vesna, MWSYM 93 Vol. 2** 951-954
- Mickelson, Alan R., see Radišić, Vesna, T-MTT Sep 93** 1524-1533
- Mickelson, Alan Rolf, see Hjelme, Dag Roar, T-MTT Jun/Jul 93** 1149-1158
- Middleton, J., see Wang, J. S., MWSYM 93 Vol. 2** 1047-1050
- Miller, Ann, see Leopold, Raymond J., MWSYM 93 Vol. 2** 575-578
- Millicker, D., see Morkner, H., MCS 93** 13-16
- Minakawa, Akira, and Tetsuo Hirota.** An extremely small 26 GHz monolithic image-rejection mixer without DC power consumption; *T-MTT Sep 93* 1634-1637
- Minami, H., see Katoh, T., MWSYM 93 Vol. 1** 337-340
- Mink, J. W., see Heron, Patrick L., MWSYM 93 Vol. 1** 433-436
- Mink, J. W., and F. K. Schwing.** A hybrid dielectric slab-beam waveguide for the sub-millimeter wave region; *T-MTT Oct 93* 1720-1729
- Mink, J. W., see Heron, Patrick L., T-MTT Oct 93** 1816-1826
- Minkus, H., see Wu, Ke, T-MTT Mar 93** 421-430
- Minot, K., B. Nelson, and W. Jones.** A low noise, phase linear distributed coplanar waveguide amplifier (Short p.); *T-MTT Sep 93* 1650-1653
- Mirotnik, Mark S., Nader Engheta, and Kenneth R. Foster.** Heating characteristics of thin helical antennas with conducting cores in a lossy medium—I: Noninsulated antennas; *T-MTT Nov 93* 1878-1886
- Mirshekar-Syahkal, D., and Adrian Pote.** Characteristics of a coplanar waveguide HEMT mount on GaAs substrate; *T-MTT Sep 93* 1494-1498
- Mitsui, S., see Nakahara, K., MWSYM 93 Vol. 1** 369-372
- Mitsui, Y., see Nakahara, K., MWSYM 93 Vol. 1** 369-372
- Mitsumoto, Hideo, and Kazuo Imai.** GaAs FET direct frequency-modulators for 42-GHz-band HDTV radio cameras and 7-GHz-band field pick-up transmitters; *MWSYM 93 Vol. 2* 663-666
- Mitsuzuka, T., see Suzuki, Katsumi, MWSYM 93 Vol. 3** 1429-1432
- Mittra, Raj, see Kosanovich, Stevan, MWSYM 93 Vol. 2** 741-744
- Mittra, Raj, see Wang, J. S., MWSYM 93 Vol. 2** 745-748
- Mittra, Raj, see Nuteson, Todd W., MWSYM 93 Vol. 2** 971-974
- Mittra, Raj, see Harms, Paul H., T-MTT Jan 93** 62-69
- Mittra, Raj, see Harms, Paul H., T-MTT Jan 93** 153-156
- Mittra, Raj, see Aksun, M. I., T-MTT Mar 93** 503-509
- Mittra, Raj, see Michielssen, Eric, T-MTT Jun/Jul 93** 1024-1031
- Mittra, Raj, see Kouki, Ammar B., T-MTT Aug 93** 1356-1362
- Mittra, Raj, see Aoyagi, Paul H., T-MTT Sep 93** 1593-1600
- Mittra, Raj, see Lee, Jin-FA, T-MTT Nov 93** 1981-1987
- Miyagi, Mitsunobu, see Kato, Yuji, T-MTT Apr 93** 733-736
- Miyajima, T., see Hara, S., MCS 93** 19-22
- Miyake, H., see Ishizaki, T., MWSYM 93 Vol. 1** 177-180
- Miyauchi, Katsuyuki, see Taguchi, Yutaka, MWSYM 93 Vol. 3** 1325-1328
- Mizan, Muhammad, Dana Sturzebecher, Thomas Higgins, and Edward Maluszczak.** Miniaturized, X-band solid-state transmitter; *MWSYM 93 Vol. 2* 813-816
- Mizuno, Koji, see Bae, Jongsuck, T-MTT Oct 93** 1851-1855
- Mochizuki, Mitsuru, Yasushi Itoh, Masaki Kohno, Hiroyuki Masuno, and Tadashi Takagi.** C-X band 14 W power amplifier having flat gain and power response; *MWSYM 93 Vol. 3* 1365-1368
- Moellers, J. A., see Piatnícia, A. Y., MWSYM 93 Vol. 3** 1417-1420
- Moghe, S., see Garbe, G., MWSYM 93 Vol. 3** 1329-1332
- Moghe, Sanjay, see Fudem, Howard, MCS 93** 119-122
- Moghe, Sanjay, see Fudem, Howard, MWSYM 93 Vol. 1** 137-140
- Moglie, Franco, Tullio Rozzi, Pio Marozzi, and Marco Politi.** Wideband circuit modelling of waveguide discontinuities by FD-TD methods; *MWSYM 93 Vol. 2* 967-970
- Moglie, Franco, see De Flaviis, Franco, T-MTT May 93** 870-873
- Mohamed, Magdy Z., and John M. Jarem.** Complete eigenvalue analysis of inhomogeneously dielectric loaded two conductor guiding structures (Short p.); *T-MTT Mar 93* 536-539

- Molisch, Andreas F., Ali R. Baghai-Wadji, and Christian O. Schiebl. On the application of the Wiener-Hopf technique to electrostatic field problems in interdigital transducers; *T-MTT Feb 93* 318-324
- Molvar, K. M., see Brown, E. R., *T-MTT Apr 93* 720-722
- Monahan, Gregory P., see Heron, Patrick L., *MWSYM 93 Vol. 1* 433-436
- Monahan, Gregory P., see Heron, Patrick L., *T-MTT Oct 93* 1816-1826
- Mondal, D., see Biswas, B. N., *T-MTT Mar 93* 388-394
- Mongardien, D., C. Moronville, and F. Deborgies. Microwave signal distribution using an optical amplifier; *MWSYM 93 Vol. 2* 731-734
- Mongia, R. K., and P. Bhartia. Accurate conductor Q -factor of dielectric resonator placed in an MIC environment; *T-MTT Mar 93* 445-449
- Mongia, R. K., and R. K. Arora. Equivalent circuit parameters of an aperture coupled open resonator cavity; *T-MTT Aug 93* 1245-1250
- Mongiardo, M., see Righi, M., *MWSYM 93 Vol. 1* 425-428
- Mongiardo, M., see Alessandri, F., *MWSYM 93 Vol. 2* 1089-1092
- Mongiardo, M., see Alessandri, F., *MWSYM 93 Vol. 3* 1447-1450
- Mongiardo, Mauro, and Tullio Rozzi. Continuous spectrum, characteristic modes, and leaky waves of open waveguides; *T-MTT Aug 93* 1329-1335
- Mongiardo, Mauro, see Alessandri, Ferdinando, *T-MTT Sep 93* 1625-1629
- Monzon, J. Cesar. On surface integral representations: Validity of Huygens' principle and the equivalence principle in inhomogeneous bianisotropic media; *T-MTT Nov 93* 1995-2001
- Moochalla, Shabbir, see Katz, Allen, *MCS 93* 155-158
- Moochalla, Shabbir, see Katz, Allen, *MWSYM 93 Vol. 1* 353-356
- Moore, E. L., see Goldsmith, P. F., *T-MTT Oct 93* 1664-1675
- Morawski, Tadeusz, see Gwarek, Wojciech K., *T-MTT Feb 93* 311-317
- Morini, Antonio, Tullio Rozzi, Danilo De Angelis, and William Gulloch. A novel matched diplexer configuration in E -plane technology; *MWSYM 93 Vol. 2* 1077-1080
- Morishima, Mitsunori. Present and future of mobile communications in Japan; *MCS 93* 3-6
- Morkner, H., M. Frank, and D. Millicker. A high performance 1.5 dB low noise GaAs PHEMT MMIC amplifier for low cost 1.5-8 GHz commercial applications; *MCS 93* 13-16
- Moronville, C., see Mongardien, D., *MWSYM 93 Vol. 2* 731-734
- Mortazawi, Amir, see Balasubramanian, Arul, *MWSYM 93 Vol. 2* 611-614
- Mounaix, P., see Bouregba, R., *T-MTT Nov 93* 2025-2027
- Mourou, Gerard A., see Son, Joo-Hiuk, *T-MTT Sep 93* 1574-1580
- Mroczkowski, Cezary, see Gwarek, Wojciech K., *T-MTT Feb 93* 311-317
- Mueller, F. M., see Sailor, W. C., *T-MTT Aug 93* 1471-1474
- Müller, G., see Machui, J., *MWSYM 93 Vol. 3* 1501-1504
- Müller, Gunter, Jürgen Machui, Leonhard Reindl, Robert Weigel, and Peter Russer. Design of a low loss SAW reflector filter with extremely wide bandwidth for mobile communication systems; *T-MTT Dec 93* 2147-2155
- Muraguchi, Masahiro, Masashi Nakatsugawa, and Masayoshi Aikawa. A novel MMIC power amplifier for pocket-size cellular telephones; *MWSYM 93 Vol. 2* 793-796
- Murakami, Yoshikazu, see Ohgihara, Takahiro, *MCS 93* 9-12
- Murakami, Yoshikazu. Microwave ferrite technology in Japan: Current status and future expectations; *MWSYM 93 Vol. 1* 207-210
- Murphy, J. Anthony, Stafford Withington, and Aidan Egan. Mode conversion at diffracting apertures in millimeter and submillimeter wave optical systems; *T-MTT Oct 93* 1700-1702
- Murphy, Michael T., see Smith, Stephen R., *MWSYM 93 Vol. 1* 131-134
- Musante, Charles F., see Yang, Jian-Xun, *T-MTT Apr 93* 581-589
- Mussetto, M., see Dow, G. S., *MWSYM 93 Vol. 1* 163-166
- Myers, R., see Katz, R., *MCS 93* 131-134
- Myers, R., see Katz, R., *MWSYM 93 Vol. 1* 149-152
- N
- Nagatomo, Kazuo, Yoshimasa Daido, Masahiko Shimizu, and Naofumi Okubo. GaAs MESFET characterization using least squares approximation by rational functions; *T-MTT Feb 93* 199-205
- Naghd, M., see Abdo-Tuko, M., *T-MTT Aug 93* 1307-1315
- Nagle, J., see Bouregba, R., *T-MTT Nov 93* 2025-2027
- Nahman, Norris S., see He, Jianqing, *MWSYM 93 Vol. 2* 865-868
- Naishadham, Krishna, see Nuteson, Todd W., *MWSYM 93 Vol. 2* 971-974
- Nakahara, K., S. Chaki, N. Andoh, H. Matsuo, N. Tanino, Y. Mitsui, M. Otsubo, and S. Mitsui. A novel three phase-states phase shifter; *MWSYM 93 Vol. 1* 369-372
- Nakamura, Makoto, see Imai, Yuhki, *T-MTT May 93* 745-751
- Nakatsugawa, Masashi, see Muraguchi, Masahiro, *MWSYM 93 Vol. 2* 793-796
- Nalezinski, M., see Weigel, R., *MWSYM 93 Vol. 3* 1285-1288
- Nambu, N., see Hara, S., *MCS 93* 19-22
- Närhi, Tapani. Analysis of strongly nonlinear circuits with a frequency-domain method coupled with a consistent large-signal model; *MWSYM 93 Vol. 2* 633-636
- Nary, Kevin R., Kiran G. Bellare, and Stephen I. Long. A model for coplanar waveguide transmission line structures on semiconductor substrates (Short p.); *T-MTT Nov 93* 2034-2037
- Natzke, John R., and T. Koryu Ishii. Electric fields of an H -plane tapered iris (Short p.); *T-MTT Aug 93* 1463-1466
- Navarro, Julio A., and Kai Chang. Varactor-tunable uniplanar ring resonators; *T-MTT May 93* 760-766
- Navarro, Julio A., Fan Lu, and Kai Chang. Active inverted stripline circular patch antennas for spatial power combining; *T-MTT Oct 93* 1856-1863
- Ndagijimana, F., J. Engdahl, A. Ahmadouche, and J. Chilo. The inductive connection effects of a mounted SPDT in a plastic SO8 package; *MCS 93* 109-112
- Ndagijimana, F., J. Engdahl, A. Ahmadouche, and J. Chilo. The inductive connection effects of a mounted SPDT in a plastic SO8 package; *MWSYM 93 Vol. 1* 91-94
- Nebus, J. M., see Coupat, J. M., *MWSYM 93 Vol. 1* 245-248
- Nebus, J. M., see Duvanaud, C., *MWSYM 93 Vol. 1* 285-288
- Neece, R. T., see Ybarra, G. A., *MWSYM 93 Vol. 1* 249-252
- Nees, J., see Kim, J., *MWSYM 93 Vol. 3* 1359-1362
- Negirev, A. A., see Lopin, M. I., *MWSYM 93 Vol. 2* 1119-1121
- Negirev, A. A., see Pobedonostev, A. S., *MWSYM 93 Vol. 2* 1131-1134
- Negirev, A. S., see Zaytsev, S. A., *MWSYM 93 Vol. 2* 1129
- Neidert, Robert E., and Purobi M. Phillips. Losses in Y-junction stripline and microstrip ferrite circulators; *T-MTT Jun/Jul 93* 1081-1086
- Neikirk, Dean P., see Islam, M. Saiful, *MWSYM 93 Vol. 2* 959-962
- Nelson, B., see Minot, K., *T-MTT Sep 93* 1650-1653
- Nelson, B., see Maas, S. A., *T-MTT Nov 93* 2038-2040
- Nelson, Brad L., see Yang, Cheng Chih, *T-MTT Jun/Jul 93* 992-997
- Newberg, Irwin L., and John J. Wooldridge. An affordable low-profile multifunction structure (ALMS) for an optoelectronic (OE) active array; *MWSYM 93 Vol. 2* 509-512
- Ney, Michel, see Dindo, Salam, *MWSYM 93 Vol. 3* 1455-1458
- Ney, Michel M., see Chen, Zhizhang, *T-MTT Nov 93* 2016-2024
- Ng, Geok-Ing, see Kwon, Youngwoo, *T-MTT Jan 93* 1-8
- Ng, Poh, see Johnson, Gerald E., *MWSYM 93 Vol. 3* 1309-1311
- Nghiem, David, Jeffery T. Williams, David R. Jackson, and Arthur A. Oliner. Existence of a leaky dominant mode on microstrip line with an isotropic substrate: Theory and measurement; *MWSYM 93 Vol. 3* 1291-1294
- Ngo, Catherine M., see Rosenbaum, Steven E., *MWSYM 93 Vol. 2* 1103-1104
- Ngo, D., B. Beckwith, P. O'Neil, and N. Camilleri. Low voltage GaAs power amplifiers for personal communications at 1.9 GHz; *MWSYM 93 Vol. 3* 1461-1464
- Ngo, Dave, see Costa, Julio C., *MWSYM 93 Vol. 1* 293-296
- Ngo, David, see Camilleri, Natalino, *MWSYM 93 Vol. 2* 545-548
- Ngoya, E., see Carvalho, P., *MWSYM 93 Vol. 3* 1491-1494
- Ngoya, Edouard, see Quéré, Raymond, *T-MTT Nov 93* 1928-1938
- Nguyen, Cam, see Tran, Michael, *T-MTT Aug 93* 1336-1342
- Nguyen, Cam, see Rahman, Khwaja M., *T-MTT Sep 93* 1484-1488
- Nguyen, Cam. Dispersion characteristics of the broadside-coupled coplanar waveguide; *T-MTT Sep 93* 1630-1633
- Nguyen, D., see Kobayashi, K. W., *MCS 93* 85-88
- Nguyen, Loi, Minh Le, Michael Delaney, Mark Lui, Takyiu Liu, Julia Brown, Rick Rhodes, Mark Thompson, and Catherine Hooper. Manufacturability of 0.1- μ m millimeterwave low-noise InP HEMTs; *MWSYM 93 Vol. 1* 345-347
- Nguyen, Loi D., see Matloubian, M., *MWSYM 93 Vol. 2* 535-538
- Nguyen, Loi D., see Matloubian, Mehran, *T-MTT Dec 93* 2206-2210
- Nicholson, D. J., see Anand, M. B., *T-MTT Apr 93* 624-631
- Nickerson, Kent, see Wu, Xiaohua, *MWSYM 93 Vol. 1* 221-224
- Nickerson, Kent, see Shen, Ying, *T-MTT Jun/Jul 93* 1005-1010
- Niehenke, Edward C., Pete Stenger, Tom McCormick, and Chris Schwerdt. A planar 94-GHz transceiver with switchable polarization; *MWSYM 93 Vol. 1* 167-170
- Nielsen, John S., and Wolfgang J. R. Hoefer. Generalized dispersion analysis and spurious modes of 2-D and 3-D TLM formulations; *T-MTT Aug 93* 1375-1384
- Nijjar, M., see Ramachandran, R., *MCS 93* 93-95
- Nikolic, Nasiha, see Batchelor, Robert A., *MWSYM 93 Vol. 2* 677-680
- Nilsen, Svein M., Hans Grönqvist, Hans Hjelmgren, Anders Rydberg, and Erik L. Kollberg. Single barrier varactors for submillimeter wave power generation; *T-MTT Apr 93* 572-580
- Nilsson, J. L., see Zhang, Dawei, *T-MTT Jun/Jul 93* 1032-1036
- Niu, Dow-Chih, Tsukasa Yoneyama, and Tatsuo Itoh. Measurement of NRD-guide leaky wave coupler in Ka band; *MWSYM 93 Vol. 3* 1207-1210
- Niu, Dow-Chih, Tsukasa Yoneyama, and Tatsuo Itoh. Analysis and measurement of NRD-guide leaky wave coupler in Ka -band; *T-MTT Dec 93* 2126-2132
- Nobili, R., see Gulloch, W., *MWSYM 93 Vol. 2* 681-684

- Nogi, Shigeji, Jenshan Lin, and Tatsuo Itoh. Mode analysis and stabilization of a spatial power combining array with strongly coupled oscillators; *T-MTT Oct 93* 1827-1837
- Noguchi, T., see Hasegawa, H., *MWSYM 93 Vol. 1* 289-292
- Nojima, Toshio, see Kobayashi, Takehiko, *T-MTT Jan 93* 136-140
- Nomoto, Toshihiro, and Yoshihiro Matsushita. A signal-to-noise enhancer using two MSSW filters and its application to noise reduction in DBS reception; *T-MTT Aug 93* 1316-1322
- Nuteson, Todd W., Krishna Naishadham, and Raj Mitra. Spatial interpolation of the moment matrix for efficient analysis of microstrip circuits; *MWSYM 93 Vol. 2* 971-974
- Nyquist, Dennis P., see Grimm, Jerry Michael, *T-MTT Jan 93* 150-153
- Nyquist, Dennis P., see Bagby, Jonathan S., *T-MTT Nov 93* 1887-1894

O

- Obregon, J., see Villemazet, I. F., *MWSYM 93 Vol. 2* 1029-1032
- Obregon, J., see Carvalho, P., *MWSYM 93 Vol. 3* 1491-1494
- Obregon, Juan, see Quéré, Raymond, *T-MTT Nov 93* 1928-1938
- Odyniec, Michal. Nonlinear synchronized LC oscillators: Theory and simulation; *T-MTT May 93* 774-780
- Ogawa, Hiroyo, see Kamitsuna, Hideki, *MCS 93* 75-78
- Ogawa, Hiroyo, see Kitazawa, Toshihide, *MWSYM 93 Vol. 1* 213-216
- Ogawa, Hiroyo, Seiichi Banba, Eiji Suematsu, Hideki Kamitsuna, and David Polifko. A comparison of noise performance between a PIN diode and MMIC HEMT and HBT optical receivers; *MWSYM 93 Vol. 1* 225-228
- Ogawa, Hiroyo, see Polifko, David, *MWSYM 93 Vol. 3* 1391-1394
- Ogawa, Hiroyo, see Kamitsuna, Hideki, *T-MTT Sep 93* 1519-1523
- Ogawa, Hiroyo, see Kamitsuna, Hideki, *T-MTT Dec 93* 2323-2329
- Oh, Kyung S., and José E. Schutt-Ainé. Capacitance computations in a multilayered dielectric medium using closed-form spatial Green's functions; *MWSYM 93 Vol. 1* 429-432
- Oh, Kyung S., and Jose E. Schutt-Ainé. Transient analysis of coupled, tapered transmission lines with arbitrary nonlinear terminations; *T-MTT Feb 93* 268-273
- Ohgihara, Takahiro, Shigeo Kusunoki, Masaru Wada, and Yoshikazu Murakami. GaAs JFET front-end MMICs for L-band personal communications; *MCS 93* 9-12
- Oh-hash, Hideyuki, Hideki Asao, and Osami Ishida. Broadband directional coupler using dielectric loaded slit; *MWSYM 93 Vol. 2* 873-876
- Ohta, Isao, and Masato Higashio. A novel parallel running system of four oscillators coupled through an eight-port hybrid; *MWSYM 93 Vol. 1* 317-320
- Ohtomo, Motoharu. Stability analysis and numerical simulation of multidevice amplifiers; *T-MTT Jun/Jul 93* 983-991
- Ohtomo, Motoharu. Invariance of S_{21}/S_{12} and K -factor under parallel operation of linear two-port devices (Short p.); *T-MTT Nov 93* 2031-2034
- Oikawa, Y., see Matsumura, T., *MWSYM 93 Vol. 3* 1481-1484
- Oki, A. K., see Kobayashi, K. W., *MCS 93* 151-154
- Oki, A. K., see Kobayashi, K. W., *MCS 93* 85-88
- Oki, A. K., see Kobayashi, K. W., *MWSYM 93 Vol. 1* 349-352
- Oki, A. K., see Kobayashi, K. W., *MWSYM 93 Vol. 1* 377-380
- Oki, Aaron K., see Kobayashi, Kevin W., *T-MTT Dec 93* 2295-2302
- Okubo, Naofumi, see Nagatomo, Kazuo, *T-MTT Feb 93* 199-205
- Oliner, A. A., see Carin, L., *MWSYM 93 Vol. 3* 1195-1198
- Oliner, Arthur A., see Nghiem, David, *MWSYM 93 Vol. 3* 1291-1294
- Oliner, Arthur A., see Tsuji, Mikio, *MWSYM 93 Vol. 3* 1295-1298
- Oliner, Arthur A., see Lampariello, Paolo, *T-MTT May 93* 839-847
- Olyslager, Frank, Daniël De Zutter, and Krist Blomme. Rigorous analysis of the propagation characteristics of general lossless and lossy multiconductor transmission lines in multilayered media; *T-MTT Jan 93* 79-88
- Olyslager, Frank, and Daniël De Zutter. Rigorous boundary integral equation solution for general isotropic and uniaxial anisotropic dielectric waveguides in multilayered media including losses, gain and leakage; *T-MTT Aug 93* 1385-1392
- Omar, A. A., Y. L. Chow, L. Roy, and M. G. Stubbs. Effects of air-bridges and mitering on coplanar waveguide 90° bends: Theory and experiment; *MWSYM 93 Vol. 2* 823-826
- Omar, A. A., and Y. L. Chow. Coplanar waveguide with top and bottom shields in place of air-bridges; *T-MTT Sep 93* 1559-1563
- Omar, A. S., see Jöstingmeier, A., *MWSYM 93 Vol. 2* 939-941
- Omar, A. S., see Jöstingmeier, A., *MWSYM 93 Vol. 2* 995-996
- Omar, A. S., see Yang, Rong, *T-MTT Feb 93* 349-352
- Omar, A. S., see Jöstingmeier, Andreas, *T-MTT Jun/Jul 93* 1207-1214
- Omar, A. S., see Yang, Rong, *T-MTT Aug 93* 1369-1374
- Omar, A. S., see Yang, Ron, *T-MTT Aug 93* 1461-1463
- Omar, Abbas S., see Dai, Fa, *MWSYM 93 Vol. 2* 901-904
- Omar, Abbas S., see Sarhan, Ahmed, *MWSYM 93 Vol. 2* 905-908

- Omar, Abbas S., see Tsai, Yu-Yuan, *T-MTT Feb 93* 274-281
- Omar, Amjad A., and Y. Leonard Chow. A versatile moment method solution of the conventional and modified coplanar waveguide T-junctions; *T-MTT Apr 93* 687-692
- Onak, G., see Chen, C. H., *MWSYM 93 Vol. 3* 1377-1380
- O'Neill, P., see Ngo, D., *MWSYM 93 Vol. 3* 1461-1464
- Ono, Ronald H., see Beall, James A., *MWSYM 93 Vol. 3* 1421-1423
- Ono, Takashi, see Imai, Yuhki, *T-MTT May 93* 745-751
- Orisaka, S., see Katoh, T., *MWSYM 93 Vol. 1* 337-340
- Orlando, T. P., see Lee, L. H., *MWSYM 93 Vol. 1* 385-388
- Orlando, Terry P., see Lee, Laurence H., *T-MTT Dec 93* 2359-2367
- Osato, Kohsuke, see Hara, Shinji, *MCS 93* 67-70
- Ostdiek, Paul H., see Komanyos, Brian K., *T-MTT Oct 93* 1730-1737
- Østergaard, Allan, see Gothelf, Ulrich V., *T-MTT Jan 93* 101-108
- Ostry, Diet I., see Batchelor, Robert A., *MWSYM 93 Vol. 2* 677-680
- Oswald, John E., see Siegel, Peter H., *T-MTT Nov 93* 1913-1921
- Otsubo, M., see Nakahara, K., *MWSYM 93 Vol. 1* 369-372
- Ou, Weiming, see Rosenbaum, F. J., *MCS 93* 163-166
- Ou, Weiming, see Rosenbaum, F. J., *MWSYM 93 Vol. 1* 361-364

P

- Pagiatakis, G., see Hernández-Figueroa, H. E., *T-MTT Jun/Jul 93* 1235-1238
- Paiva, Carlos R., and Afonso M. Barbosa. Corrections to 'A linear-operator formalism for the analysis of inhomogeneous biisotropic planar waveguides' (Apr 92 672-678); *T-MTT Jun/Jul 93* 1240
- Pak, S., see Shamma, A. K., *MWSYM 93 Vol. 3* 1343-1346
- Palmateer, L., see Bouregba, R., *T-MTT Nov 93* 2025-2027
- Palmieri, Dan, see Raffaelli, Lamberto, *MCS 93* 63-66
- Pan, D. S., see Huang, P., *T-MTT Aug 93* 1455-1458
- Pan, Dee-Son, see Yang, Cheng Chih, *MWSYM 93 Vol. 1* 329-332
- Pan, George W., Gaofeng Wang, and Barry K. Gilbert. Analysis of nonlinear termination networks for coupled lossy and dispersive transmission lines (Short p.); *T-MTT Mar 93* 531-535
- Pan, S. K., see Wang, H., *MWSYM 93 Vol. 2* 783-785
- Pan, Shing-Kuo, see Kerr, Anthony R., *T-MTT Apr 93* 590-594
- Pance, Aleksandar, and Michael J. Wengler. Microwave modeling of 2-D active grid antenna arrays; *T-MTT Jan 93* 20-28
- Pande, K., see Ho, T., *MWSYM 93 Vol. 2* 531-534
- Pande, Krishna, see Chen, Seng-Woon, *MCS 93* 89-92
- Pande, Krishna, see Ho, Thomas C., *T-MTT Dec 93* 2288-2294
- Pande, Krishna, see Chen, Seng-Woon, *T-MTT Dec 93* 2317-2322
- Panhuyzen, R. A., see Dierichs, M. M. T. M., *T-MTT Apr 93* 605-608
- Panzeri, Anselmo, see De Flaviis, Franco, *T-MTT May 93* 870-873
- Pao, C., see Kurdoghlian, A., *MCS 93* 97-98
- Paoella, Arthur, Steven Malone, Thomas Higgins, Barry Scheiner, and Eric Adler. Fiber optic dual delay line for a multi-mode radar test target simulator; *MWSYM 93 Vol. 2* 1059-1062
- Paoella, Arthur, see Madjar, Asher, *MWSYM 93 Vol. 3* 1399-1402
- Paolilela, Arthur, see Madjar, Asher, *T-MTT Jan 93* 165-167
- Paoloni, Claudio, and Stefan Kosslosky. Graphical design method for traveling wave amplifier based on filter theory; *MWSYM 93 Vol. 1* 273-276
- Papziner, U., see Ihmels, R., *MWSYM 93 Vol. 2* 909-912
- Papziner, Uwe, and Fritz Arndt. Field theoretical computer-aided design of rectangular and circular iris coupled rectangular or circular waveguide cavity filters; *T-MTT Mar 93* 462-471
- Park, Tah J., see Kang, Soo H., *T-MTT May 93* 895-899
- Park, Tah J., and Hyo J. Eom. Scattering and reception by a flanged parallel-plate waveguide: TE-mode analysis (Short p.); *T-MTT Aug 93* 1458-1460
- Parker, C. D., see Brown, E. R., *T-MTT Apr 93* 720-722
- Parker, R. K., see Abrams, R. H., Jr., *MWSYM 93 Vol. 1* 107-110
- Parra, T., J. Dienot, M. Gayral, M. Pouysegur, J. Sautereau, and J. Graffeuil. X-band low phase distortion MMIC power limiter (Short p.); *T-MTT May 93* 876-879
- Paslaski, J., see Khairandish, R., *MCS 93* 71-73
- Pastorino, M., see Caorsi, S., *T-MTT Feb 93* 352-357
- Pastorino, Matteo, see Caorsi, Salvatore, *T-MTT Feb 93* 305-310
- Patel, M., see Garbe, G., *MWSYM 93 Vol. 3* 1329-1332
- Pathak, Prabhakar H., and Robert J. Burkholder. A reciprocity formulation for the EM scattering by an obstacle within a large open cavity; *T-MTT Apr 93* 702-707
- Patterson, Andrew D., Vincent F. Fusco, J. J. McKeown, and J. A. C. Stewart. A systematic optimization strategy for microwave device modelling; *T-MTT Mar 93* 395-405
- Paul, Dominique-Lynda, see Railton, C. J., *T-MTT Feb 93* 290-297
- Paulsen, Keith D., see Lynch, Daniel R., *T-MTT Aug 93* 1439-1448
- Pavlidis, D., see Kwon, Y., *MCS 93* 49-52
- Pavlidis, D., see Kim, J., *MWSYM 93 Vol. 3* 1359-1362

- Pavlidis, Dimitris, *see* Tutt, Marcel N., *MWSYM 93 Vol. 2* 1099-1102
- Pavlidis, Dimitris, *see* Kwon, Youngwoo, *T-MTT Jan 93* 1-8
- Pavlidis, Dimitris, *see* Kwon, Youngwoo, *T-MTT Dec 93* 2336-2344
- Pedro, José Carlos, and Jorge Perez. An MMIC linearized amplifier using active feedback; *MCS 93* 113-116
- Pedro, José Carlos, and Jorge Perez. An MMIC linearized amplifier using active feedback; *MWSYM 93 Vol. 1* 95-98
- Penard, E., *see* Meyer, S., *MWSYM 93 Vol. 3* 1549-1552
- Pence, J. E., *see* Matloubian, M., *MWSYM 93 Vol. 2* 535-538
- Pence, J. E., *see* Matloubian, Mehran, *T-MTT Dec 93* 2206-2210
- Pendrick, V., *see* Fathy, A., *MWSYM 93 Vol. 3* 1277-1280
- Peng, S. T., *see* Tien, Ching-Cheng, *T-MTT Sep 93* 1616-1624
- Peng, Song-Tsuen, *see* Lo, Wen-Teng, *MWSYM 93 Vol. 3* 1199-1202
- Peng, Song-Tsuen, *see* Lo, Wen-Teng, *T-MTT Dec 93* 2099-2108
- Pennock, S. R., *see* Fan, Z., *MWSYM 93 Vol. 2* 839-842
- Pennock, S. R., *see* Burchett, M. H., *MWSYM 93 Vol. 3* 1451-1454
- Pennock, Steve R., *see* Burchett, M. Hugh, *T-MTT Dec 93* 2074-2080
- Percival, Terence M., *see* Batchelor, Robert A., *MWSYM 93 Vol. 2* 677-680
- Perdomo, Julio, *see* Hughes, Brian, *MCS 93* 31-34
- Perdomo, Julio, *see* Shakouri, Mohammad S., *MCS 93* 79-81
- Perdomo, Julio, *see* Hughes, Brian, *T-MTT Dec 93* 2311-2316
- Perez, Jorge, *see* Pedro, José Carlos, *MCS 93* 113-116
- Perez, Jorge, *see* Pedro, José Carlos, *MWSYM 93 Vol. 1* 95-98
- Perkons, Al R., *see* Benet, James A., *MWSYM 93 Vol. 2* 619-622
- Pernot, J. C., *see* Bouregba, R., *T-MTT Nov 93* 2025-2027
- Phelleps, F., *see* Ho, T., *MWSYM 93 Vol. 2* 531-534
- Phelleps, Fred R., *see* Chen, Seng-Woon, *MCS 93* 89-92
- Phillips, Purobi M., *see* Neidert, Robert E., *T-MTT Jun/Jul 93* 1081-1086
- Piatnacia, A. Y., S. H. Talisa, J. R. Gavaler, M. A. Janocko, J. Talvacchio, M. J. Buckley, K. M. Leader, J. A. Moellers, and M. R. Schrote. High-temperature superconducting matching networks for electrically short monopole antennas; *MWSYM 93 Vol. 3* 1417-1420
- Picon, O., *see* Visan, S., *MWSYM 93 Vol. 2* 709-712
- Pierro, John, *see* Merenda, Joseph L., *MWSYM 93 Vol. 2* 1109-1112
- Pinatel, C., *see* Wang, H., *MWSYM 93 Vol. 2* 549-552
- Piqué, A., *see* Fathy, A., *MWSYM 93 Vol. 3* 1277-1280
- Pirola, Marco, *see* Root, David E., *MWSYM 93 Vol. 1* 261-264
- Pirola, Marco, *see* Root, David E., *T-MTT Dec 93* 2211-2217
- Pisani, Umberto, *see* Ferrero, Andrea, *T-MTT Jun/Jul 93* 1074
- Plá, J. A., and W. Struble. Nonlinear model for predicting intermodulation distortion in GaAs FET RF switch devices; *MWSYM 93 Vol. 2* 641-644
- Plana, Robert, *see* Llopis, Olivier, *T-MTT Mar 93* 369-374
- Plana, Robert, *see* Escotte, Laurent, *T-MTT Mar 93* 382-387
- Plattner, A., N. Prediger, and W. Herzig. Indoor and outdoor propagation measurements at 5 and 60 GHz for radio LAN application; *MWSYM 93 Vol. 2* 853-856
- Platzker, Aryeh, Wayne Struble, and Keith T. Hetzler. Instabilities diagnosis and the role of K in microwave circuits; *MWSYM 93 Vol. 3* 1185-1188
- Platzker, Aryeh, *see* Huang, John C., *T-MTT May 93* 752-759
- Plouchart, J. O., *see* Wang, H., *MWSYM 93 Vol. 2* 549-552
- Pobedonostsev, A. S., *see* Lopin, M. I., *MWSYM 93 Vol. 2* 1119-1121
- Pobedonostsev, A. S., E. A. Gelvich, M. I. Lopin, A. M. Alexeyenko, A. A. Negirev, and B. V. Sazonov. Multiple-beam microwave tubes; *MWSYM 93 Vol. 2* 1131-1134
- Pobedonostsev, Alexandr S., *see* Gelvich, Edward A., *T-MTT Jan 93* 15-19
- Polichronakis, Ioannis P., and Stamatis S. Kouris. Higher order modes in suspended substrate microstrip lines; *T-MTT Aug 93* 1449-1454
- Polifko, David, *see* Kitazawa, Toshihide, *MWSYM 93 Vol. 1* 213-216
- Polifko, David, *see* Ogawa, Hiroyo, *MWSYM 93 Vol. 1* 225-228
- Polifko, David, Kazuhiro Matsui, and Hiroyo Ogawa. Design and on-wafer testing of millimeter-wave external optical modulators; *MWSYM 93 Vol. 3* 1391-1394
- Politi, M., *see* Gulloch, W., *MWSYM 93 Vol. 2* 681-684
- Politi, Marco, *see* Moglie, Franco, *MWSYM 93 Vol. 2* 967-970
- Pollard, Roger, *see* Blackham, Dave, *MWSYM 93 Vol. 3* 1247-1250
- Pollard, Roger D., *see* Walters, Peter C., *MWSYM 93 Vol. 3* 1173-1176
- Ponchak, G., *see* Wang, H., *MWSYM 93 Vol. 2* 519-522
- Ponchak, George, *see* Dib, Nihad, *MWSYM 93 Vol. 2* 701-704
- Ponchak, George E., *see* Dib, Nihad I., *T-MTT Jan 93* 38-44
- Ponchak, George E., *see* Dib, Nihad I., *T-MTT Sep 93* 1549-1558
- Poognin, Victor I., *see* Gelvich, Edward A., *T-MTT Jan 93* 15-19
- Popovic, Zoya B., *see* Radišić, Vesna, *MWSYM 93 Vol. 2* 951-954
- Popovic, Zoya Basta, *see* Chen, Kuang Yi, *MWSYM 93 Vol. 1* 313-316
- Popovic, Zoya Basta, *see* Radisic, Vesna, *T-MTT Sep 93* 1524-1533
- Popovic, Zoya Basta, *see* Radišić, Vesna, *T-MTT Sep 93* 1645-1647
- Popovic, Zoya Basta, *see* Mader, Thomas, *T-MTT Oct 93* 1775-1781
- Pospieszalski, M. W., W. J. Lakatos, R. Lai, K. L. Tan, D. C. Streit, P. H. Liu, R. M. Dia, and J. Velebir. Millimeter-wave, cryogenically-coolable amplifiers using AlInAs/GaInAs/InP HEMT's; *MWSYM 93 Vol. 2* 515-518
- Pospieszalski, M. W., *see* Wang, H., *MWSYM 93 Vol. 2* 783-785
- Pospishil, A., M. Russo, and M. Singh. A MMIC subharmonically pumped SSB modulator; *MCS 93* 137-140
- Pospishil, A., M. Russo, and M. Singh. A MMIC subharmonically pumped SSB modulator; *MWSYM 93 Vol. 1* 399-402
- Pote, Adrian, *see* Mirshekar-Syahkal, D., *T-MTT Sep 93* 1494-1498
- Pothecary, N. M., and C. J. Railton. Finite difference time domain modelling of hyperthermia applicators for cancer therapy; *MWSYM 93 Vol. 2* 1151-1154
- Potter, C. M., and G. Hjipteris. A robust six- to four-port reduction algorithm; *MWSYM 93 Vol. 3* 1263-1266
- Pouysegur, M., *see* Parra, T., *T-MTT May 93* 876-879
- Prakash, S., *see* Zhang, Dawei, *T-MTT Jun/Jul 93* 1032-1036
- Pramanick, Protap. Compact 900 MHz hairpin-line filters using high dielectric constant microstrip line; *MWSYM 93 Vol. 2* 885-888
- Prasad, Sheila, *see* Bulutay, Ceyhan, *T-MTT Jun/Jul 93* 1119-1125
- Prediger, N., *see* Plattner, A., *MWSYM 93 Vol. 2* 853-856
- Preece, Alan W., Reg H. Johnson, Josephine L. Green, and Martin P. Robinson. Dielectric imaging for localisation and detection of breast tumours; *MWSYM 93 Vol. 2* 1145-1146
- Pregla, Reinhold, *see* Dreher, Achim, *T-MTT Aug 93* 1363-1368
- Price, John C., *see* Beall, James A., *MWSYM 93 Vol. 3* 1421-1423
- Prieto, Andrés, *see* Solano, Miguel A., *T-MTT May 93* 797-802
- Primiani, Valter Mariani, *see* Cerri, Graziano, *T-MTT Jun/Jul 93* 1135-1142
- Prince, J., *see* Ackerman, E., *MWSYM 93 Vol. 2* 723-726
- Prouty, Mark D., and S. E. Schwarz. Hybrid couplers in bilevel microstrip; *T-MTT Nov 93* 1939-1944
- Puri, M. P., *see* Mallavarpu, R., *MWSYM 93 Vol. 3* 1217-1220
- Puri, P., *see* Christensen, J. A., *MWSYM 93 Vol. 1* 115-118
- Pusl, Joe, *see* Yu, Ruai, *MWSYM 93 Vol. 3* 1339-1342

Q

- Qian, Yongxi, and Eikichi Yamashita. Characterization of picosecond pulse crosstalk between coupled microstrip lines with arbitrary conductor width; *T-MTT Jun/Jul 93* 1011-1016
- Qin, Xiao-Hui, *see* Sjogren, Lance B., *T-MTT Oct 93* 1782-1790
- Quérel, Raymond, Edouard Ngoya, Marc Camiade, Almudena Suarez, Mohammed Hessane, and Juan Obregon. Large signal design of broadband monolithic microwave frequency dividers and phase-locked oscillators; *T-MTT Nov 93* 1928-1938
- Quimby, Robert, *see* Raffaelli, Lamberto, *MCS 93* 63-66
- Quirarte, José Luis Ramos, and J. Piotr Starski. Novel Schiffman phase shifters; *T-MTT Jan 93* 9-14

R

- Ra, Jung-Woong, *see* Suh, Kyoung-Whoo, *MWSYM 93 Vol. 2* 1141-1144
- Radišić, Vesna, Dag R. Hjelme, Zoya B. Popovic, and Alan R. Mickelson. Analysis and measurements of coplanar waveguide discontinuities; *MWSYM 93 Vol. 2* 951-954
- Radisic, Vesna, Dag R. Hjelme, Aileen Horrigan, Zoya Basta Popovic, and Alan R. Mickelson. Experimentally verifiable modeling of coplanar waveguide discontinuities; *T-MTT Sep 93* 1524-1533
- Radišić, Vesna, Vladan Jevremovic, and Zoya Basta Popovic. CPW oscillator configuration for an electro-optic modulator (Short p.); *T-MTT Sep 93* 1645-1647
- Radmanesh, Matthew M., Chiao-Min Chu, and George I. Haddad. Numerical analysis and computer simulation of magnetostatic wave propagation in a YIG-loaded waveguide; *T-MTT Jan 93* 89-96
- Raffaelli, Lamberto, Earle Stewart, Robert Quimby, John Borelli, Art Geissberger, and Dan Palmieri. A low cost 77 GHz monolithic transmitter for automotive collision avoidance systems; *MCS 93* 63-66
- Raggi, Alessandro, *see* Macchiarella, Giuseppe, *T-MTT Aug 93* 1294-1298
- Rahal-Arabi, Tawfik, *see* Lape, Kristine M., *MWSYM 93 Vol. 3* 1235-1238
- Rahman, Khwaja M., and Cam Nguyen. On the analysis of single- and multi-step discontinuities for a shielded three-layer coplanar waveguide; *T-MTT Sep 93* 1484-1488
- Rahmat-Samii, Yahya, *see* Zhang, Dawei, *T-MTT Jun/Jul 93* 1032-1036
- Railton, C. J., *see* Meade, S. A., *MWSYM 93 Vol. 2* 991-994
- Railton, C. J., *see* Pothecary, N. M., *MWSYM 93 Vol. 2* 1151-1154
- Railton, C. J., Elizabeth M. Daniel, Dominique-Lynda Paul, and Joseph P. McGeehan. Optimized absorbing boundary conditions for the analysis of planar circuits using the finite difference time domain method; *T-MTT Feb 93* 290-297
- Railton, C. J. An algorithm for the treatment of curved metallic laminas in the finite difference time domain method; *T-MTT Aug 93* 1429-1438
- Räisänen, A., *see* Koistinen, O., *MWSYM 93 Vol. 2* 775-778
- Räisänen, Antti, *see* Koistinen, Olli P., *T-MTT Dec 93* 775-778

- Räisänen, Antti V., *see* Xu, Jie, *MWSYM 93 Vol. 1* 333-336
- Räisänen, Antti V., *see* Louhi, Jyrki T., *T-MTT Apr 93* 565-571
- Raleigh, G. G., and J. V. Bellantoni. Determination of Schottky diode sampling mixer frequency response from diode conductance waveforms (Short p.); *T-MTT Apr 93* 723-726
- Ramachandran, R., C. Woo, M. Nijjar, and D. Fisher. A fully integrated 35 GHz MMIC receiver with on-chip LO; *MCS 93* 93-95
- Rammo, F., *see* Mansour, R. R., *MWSYM 93 Vol. 3* 1281-1284
- Ranjithan, S., *see* Michielssen, Eric, *T-MTT Jun/Jul 93* 1024-1031
- Rayit, A. K., and N. J. McEwan. Coplanar waveguide filters; *MWSYM 93 Vol. 3* 1317-1320
- Razzoog, K. A. R., N. J. Gomes, and P. A. Davies. Physically based circuit model of GaAs MESFET as an optical port for microwave systems; *MWSYM 93 Vol. 3* 1553-1556
- Rebeiz, G. M., *see* Weller, T. M., *MWSYM 93 Vol. 2* 827-830
- Rebeiz, Gabriel M., *see* Gauthier, Gildas, *MWSYM 93 Vol. 1* 325-328
- Rebeiz, Gabriel M., *see* Ali-Ahmad, Walid Y., *MWSYM 93 Vol. 2* 527-530
- Rebeiz, Gabriel M., *see* Ali-Ahmad, Walid Y., *T-MTT Apr 93* 558-564
- Rebeiz, Gabriel M., *see* Eleftheriades, George V., *T-MTT Jun/Jul 93* 954-965
- Rebeiz, Gabriel M., *see* Acharya, Pranay R., *T-MTT Oct 93* 1715-1719
- Rebeiz, Gabriel M., *see* Kormanyos, Brian K., *T-MTT Oct 93* 1730-1737
- Rebeiz, Gabriel M., *see* Filipovic, Daniel F., *T-MTT Oct 93* 1738-1749
- Reddy, Madhukar, *see* Yu, Ruai, *MWSYM 93 Vol. 3* 1339-1342
- Reindl, L., *see* Machui, J., *MWSYM 93 Vol. 3* 1501-1504
- Reindl, Leonhard, *see* Müller, Gunter, *T-MTT Dec 93* 2147-2155
- Reinert, W., *see* Tasker, P. J., *MWSYM 93 Vol. 3* 1251-1254
- Ren, Jishi, *see* Fang, Jiayuan, *T-MTT May 93* 830-838
- Renaud, J. C., *see* Maricot, S., *MWSYM 93 Vol. 2* 1067-1070
- Rhodes, R. A., *see* Matloubian, M., *MWSYM 93 Vol. 2* 535-538
- Rhodes, R. A., *see* Matloubian, Mehran, *T-MTT Dec 93* 2206-2210
- Rhodes, Rick, *see* Nguyen, Loi, *MWSYM 93 Vol. 1* 345-347
- Riad, Sedki M., *see* He, Jianqing, *MWSYM 93 Vol. 2* 865-868
- Riblet, G. P. A compact ring-style 8-port comparator circuit using coupled lines (Short p.); *T-MTT Jun/Jul 93* 1224-1226
- Rice, P., *see* Ho, T., *MWSYM 93 Vol. 2* 531-534
- Rice, Paul, *see* Chen, Seng-Woon, *MCS 93* 89-92
- Rice, Paul D., *see* Chen, Seng-Woon, *T-MTT Dec 93* 2317-2322
- Rice, Paul G., *see* Ho, Thomas C., *T-MTT Dec 93* 2288-2294
- Richard, W. D., *see* Rosenbaum, F. J., *MCS 93* 163-166
- Richard, W. D., *see* Rosenbaum, F. J., *MWSYM 93 Vol. 1* 361-364
- Richardson, John R., *see* Walters, Peter C., *MWSYM 93 Vol. 3* 1173-1176
- Richardson, John R., *see* Atherton, John S., *MWSYM 93 Vol. 3* 1181-1184
- Riddle, A. N., *see* Bilbro, G. L., *MWSYM 93 Vol. 1* 305-308
- Rieckmann, C., *see* Jöstingmeier, A., *MWSYM 93 Vol. 2* 939-941
- Rieckmann, C., *see* Jöstingmeier, A., *MWSYM 93 Vol. 2* 995-996
- Riet, M., *see* Wang, H., *MWSYM 93 Vol. 2* 549-552
- Righi, M., M. Mongiardo, R. Sorrentino, and W. J. R. Hoefer. Efficient TLM diatoptics for separable structures; *MWSYM 93 Vol. 1* 425-428
- Rittweger, M., *see* Kunisch, J., *MWSYM 93 Vol. 2* 637-640
- Rizzoli, Vittorio, Franco Matri, and Diego Masotti. A general-purpose harmonic-balance approach to the computation of near-carrier noise in free-running microwave oscillators; *MWSYM 93 Vol. 1* 309-312
- Rizzoli, Vittorio, Alessandra Costanzo, and Claudio Cecchetti. Numerical optimization of microwave oscillators and VCOs; *MWSYM 93 Vol. 2* 629-632
- Robertson, I. D., *see* Karacaoglu, U., *MWSYM 93 Vol. 1* 189-192
- Robertson, Ian, *see* Lin, Quinan, *T-MTT May 93* 873-876
- Robertson, Ian D., *see* Gillick, Matthew, *MWSYM 93 Vol. 1* 145-148
- Robertson, Ian D., *see* Gillick, Matthew, *T-MTT Jan 93* 129-135
- Robertson, Ian D., *see* Gillick, Matthew, *T-MTT Feb 93* 346-349
- Robertson, Ian D., *see* Gillick, Matthew, *T-MTT Sep 93* 1606-1610
- Robinson, Martin P., *see* Preece, Alan W., *MWSYM 93 Vol. 2* 1145-1146
- Rodwell, Mark, *see* Yu, Ruai, *MWSYM 93 Vol. 3* 1339-1342
- Rodyonov, A. D., *see* Zaytsev, S. A., *MWSYM 93 Vol. 2* 1129
- Rogalla, Horst, *see* Klopman, Boele B. G., *T-MTT May 93* 781-791
- Rohrer, Norman J., George J. Valco, and Kul B. Bhasin. Hybrid high temperature superconductor/GaAs 10 GHz microwave oscillator: Temperature and bias effects; *T-MTT Nov 93* 1865-1871
- Romero, M. A., and P. R. Herczfeld. A study on the negative photoresponse of AlGaAs/GaAs MODFETs; *MWSYM 93 Vol. 3* 1403-1406
- Rondi, D., *see* Maricot, S., *MWSYM 93 Vol. 2* 1067-1070
- Rong, Ao Sheng, and Zhong Liang Sun. A novel quasi-TEM analysis of valley microstrip lines with slit for use in multilayered MMICs; *MWSYM 93 Vol. 2* 955-958
- Root, David E., Marco Pirola, Siqi Fan, and Alex Cognata. Measurement-based large-signal diode model, automated data acquisition system, and verification with on-wafer power and harmonic measurements; *MWSYM 93 Vol. 1* 261-264
- Root, David E., Marco Pirola, Siqi Fan, William J. Anklaam, and Alex Cognata. Measurement-based large-signal diode modeling system for circuit and device design; *T-MTT Dec 93* 2211-2217
- Rorsman, Niklas, *see* Zirath, Herbert, *MWSYM 93 Vol. 1* 341-344
- Rorsman, Niklas, *see* Angelov, Ilcho, *MWSYM 93 Vol. 2* 787-790
- Rosen, Arye, *see* Rosenbaum, Richard M., *MWSYM 93 Vol. 2* 1155-1158
- Rosenbaum, F. J., R. O. Gregory, W. D. Richard, Weiming Ou, F. G. Kuhns, and T. M. Trimble. An MMIC twin-tee active bandpass filter; *MCS 93* 163-166
- Rosenbaum, F. J., R. O. Gregory, W. D. Richard, Weiming Ou, F. G. Kuhns, and T. M. Trimble. An MMIC twin-tee active bandpass filter; *MWSYM 93 Vol. 1* 361-364
- Rosenbaum, Richard M., Arnold J. Greenspon, Steven Hsu, Paul Walinsky, and Arye Rosen. RF and microwave ablation for the treatment of ventricular tachycardia; *MWSYM 93 Vol. 2* 1155-1158
- Rosenbaum, Steven E., Chia S. Chou, Catherine M. Ngo, Lawrence E. Larson, Takyiu Liu, and Mark A. Thompson. A 7 to 11 GHz AlInAs/GaNAs/InP MMIC low noise amplifier; *MWSYM 93 Vol. 2* 1103-1104
- Rosenberg, James J., *see* Kim, Moonil, *MWSYM 93 Vol. 2* 615-618
- Rosenberg, James J., *see* Kim, Moonil, *T-MTT Oct 93* 1762-1771
- Rosenberg, James J., *see* Kim, Moonil, *T-MTT Oct 93* 1772-1774
- Rosenson, A. E., *see* Vyzulin, S. A., *T-MTT Jun/Jul 93* 1070-1073
- Roskos, H. G., *see* von Kamienski, E. Stein, *MWSYM 93 Vol. 1* 393-396
- Roskos, Hartmut G., *see* Gondermann, Jörg, *T-MTT Dec 93* 2087-2091
- Rossit, Carlos A., *see* Laura, Patricio A. A., *T-MTT May 93* 900-901
- Rossiter, B., *see* Kitayoshi, H., *MWSYM 93 Vol. 1* 241-244
- Rostamy, Zargham, *see* Verma, Anand K., *T-MTT Jan 93* 109-116
- Rostan, Friedhelm, *see* Hollmann, Detlev, *T-MTT May 93* 893-895
- Roths, C., *see* Mertin, W., *MWSYM 93 Vol. 3* 1351-1354
- Rottenkolber, M., W. Thomann, and P. Russer. Characterization and optimization of electrooptic sampling by volume-integral-method and application of space-harmonic potential; *MWSYM 93 Vol. 1* 265-268
- Rottenkolber, M., *see* Thomann, W., *T-MTT Dec 93* 2392-2399
- Roumeliotis, John A., Harilaos K. Manthopoulos, and Vassilios K. Manthopoulos. Electromagnetic scattering from an infinite circular metallic cylinder coated by an elliptic dielectric one; *T-MTT May 93* 862-869
- Rousset, J., *see* Carvalho, P., *MWSYM 93 Vol. 3* 1491-1494
- Row, Jeon-Sheen, *see* Wong, Kin-Lu, *T-MTT May 93* 814-819
- Row, Jeon-Sheen, *see* Wong, Kin-Lu, *T-MTT Apr 93* 698-701
- Row, Jeon-Sheen, and Kin-Lu Wong. Resonance in a superstrate-loaded rectangular microstrip structure; *T-MTT Aug 93* 1349-1355
- Roy, L., *see* Omar, A. A., *MWSYM 93 Vol. 2* 823-826
- Roy, Rajat, and O. Shanker. Calculation of intercavity coupling coefficient for side coupled standing wave linear accelerator (Short p.); *T-MTT Jun/Jul 93* 1233-1235
- Rozzi, Tullio, *see* Moglie, Franco, *MWSYM 93 Vol. 2* 967-970
- Rozzi, Tullio, *see* Morini, Antonio, *MWSYM 93 Vol. 2* 1077-1080
- Rozzi, Tullio, *see* Sewell, Phillip D., *T-MTT Feb 93* 282-289
- Rozzi, Tullio, *see* De Flaviis, Franco, *T-MTT May 93* 870-873
- Rozzi, Tullio, *see* Mongiardo, Mauro, *T-MTT Aug 93* 1329-1335
- Ruile, W., *see* Machui, J., *MWSYM 93 Vol. 3* 1501-1504
- Russell, Thomas J. Matched-line directional dividers; *T-MTT Jun/Jul 93* 1094-1104
- Russer, P., *see* Rottenkolber, M., *MWSYM 93 Vol. 1* 265-268
- Russer, P., *see* Güngerich, V., *MWSYM 93 Vol. 2* 561-564
- Russer, P., *see* Thomann, W., *MWSYM 93 Vol. 2* 835-838
- Russer, P., *see* Weigel, R., *MWSYM 93 Vol. 3* 1285-1288
- Russer, P., *see* Machui, J., *MWSYM 93 Vol. 3* 1501-1504
- Russer, P., *see* Weigel, R., *MWSYM 93 Vol. 3* 1505-1508
- Russer, P., *see* Thomann, W., *T-MTT Dec 93* 2392-2399
- Russer, Peter, *see* Sattler, Sebastian, *MCS 93* 57-60
- Russer, Peter, *see* Anzill, Werner, *MWSYM 93 Vol. 2* 655-658
- Russer, Peter, *see* Jin, Hang, *MWSYM 93 Vol. 2* 713-716
- Russer, Peter, *see* Sattler, Sebastian, *MWSYM 93 Vol. 3* 1531-1534
- Russer, Peter, *see* Filleböck, Marion, *T-MTT May 93* 809-813
- Russer, Peter, *see* Müller, Gunter, *T-MTT Dec 93* 2147-2155
- Russer, Peter, *see* Jin, Hang, *T-MTT Dec 93* 2248-2255
- Russer, Peter, *see* Anzill, Werner, *T-MTT Dec 93* 2256-2263
- Russo, M., *see* Pospishil, A., *MCS 93* 137-140
- Russo, M., *see* Pospishil, A., *MWSYM 93 Vol. 1* 399-402
- Rutledge, David B., *see* Kim, Moonil, *MWSYM 93 Vol. 2* 615-618
- Rutledge, David B., *see* Kim, Moonil, *T-MTT Oct 93* 1762-1771
- Rutledge, David B., *see* Kim, Moonil, *T-MTT Oct 93* 1772-1774
- Rutledge, Mink W., *Guest Ed.* Guest editor's overview (introduction to special issue on quasi-optical techniques); *T-MTT Oct 93* 1661-1662
- Rydborg, Anders, *see* Nilsen, Svein M., *T-MTT Apr 93* 572-580
- Ryzhik, E. I., *see* Zaytsev, S. A., *MWSYM 93 Vol. 2* 1129

S

- Sabetfakhri, Kazem, and Linda P. B. Katchi. A novel treatment of open dielectric waveguides; *MWSYM 93 Vol. 3* 1523-1526
- Sadr, G. Hassani, see Verma, A. K., *MWSYM 93 Vol. 2* 861-864
- Saed, Mohammad A. Measurement of the complex permittivity of low-loss planar microwave substrates using aperture-coupled microstrip resonators; *T-MTT Aug 93* 1343-1348
- Saedi, R., J. Wen, N. Samant, A. Daryoush, D. Sturzebecher, and P. Herczfeld. Comparison of CPU level data mixing to T/R level data mixing architectures in optically controlled phased arrays; *MWSYM 93 Vol. 2* 501-504
- Saha, Pradip Kumar, and Debatosh Guha. Impedance, attenuation and power-handling characteristics of double L-septa waveguides (Short p.); *T-MTT May 93* 881-884
- Sailor, W. C., F. M. Mueller, and B. E. Carlsten. Theory for a cylindrical pillbox accelerator cavity using layered structures for reducing skin-effect losses (Short p.); *T-MTT Aug 93* 1471-1474
- Saito, Y., see Meng, C. C., *MWSYM 93 Vol. 2* 539-542
- Sajer, Jean-Michel, see Michielssen, Eric, *T-MTT Jun/Jul 93* 1024-1031
- Sakagami, Iwata, and Akihiro Kaji. On the realization of resistively matched three-ports and the ramp-waveform responses of resistive, signal-split three-port transmission-line networks; *T-MTT Feb 93* 234-243
- Sakamoto, Yasuhiko, see Yoshida, Haruo, *MWSYM 93 Vol. 1* 389-392
- Sakamoto, Yasuhiko, see Yoshida, Haruo, *T-MTT Dec 93* 2353-2358
- Saledas, Pamela K., see Huang, John C., *T-MTT May 93* 752-759
- Salzman, Keith, see Bryant, Danny T., *MWSYM 93 Vol. 3* 1373-1376
- Salzman, Keith, see Yarborough, Ron, *MWSYM 93 Vol. 3* 1381-1383
- Samant, N., see Saedi, R., *MWSYM 93 Vol. 2* 501-504
- Samant, Naranjan R., see Ackerman, Edward, *T-MTT Aug 93* 1299-1306
- Sammur, C. V., N. J. Cronin, R. D. Schnell, and H. Tews. Accurate small-signal modelling of a double barrier resonant tunnelling diode (DBRTD); *MWSYM 93 Vol. 2* 1041-1044
- Sano, Eiichi, see Imai, Yuhki, *T-MTT May 93* 745-751
- Sardos, René, see Bretenoux, Alain, *T-MTT Nov 93* 1945-1949
- Sarhan, Ahmed, and Abbas S. Omar. Improved formulation of the singular integral equation technique for finlines; *MWSYM 93 Vol. 2* 905-908
- Sarkar, Tapan K., see Kahrizi, Masoud, *T-MTT Jan 93* 29-37
- Sato, H., see Hara, S., *MCS 93* 19-22
- Sattler, Sebastian, Tilman Felgentreff, and Peter Russer. A coplanar millimeterwave resonator on silicon; *MCS 93* 57-60
- Sattler, Sebastian, Tilman Felgentreff, and Peter Russer. CPW resonator modelling on GaAs using the mixed potential integral equation; *MWSYM 93 Vol. 3* 1531-1534
- Saunier, Paul, see Tserng, Hua Quen, *MCS 93* 105-108
- Saunier, Paul, see Tserng, Hua Quen, *MWSYM 93 Vol. 1* 87-90
- Saunier, Paul, see Yarborough, Ron, *MWSYM 93 Vol. 3* 1381-1383
- Sautereau, J., see Parra, T., *T-MTT May 93* 876-879
- Sautereau, J. F., see Llopis, O., *MWSYM 93 Vol. 2* 1033-1036
- Sauter, G., see Issogna, P., *MWSYM 93 Vol. 2* 497-500
- Savov, Sava V. Mutual coupling between two small circular apertures in a conducting screen (Short p.); *T-MTT Jan 93* 143-146
- Saw, John C. B., see Hunt, William D., *MWSYM 93 Vol. 3* 1509-1512
- Sazonov, B. V., see Pobedonostev, A. S., *MWSYM 93 Vol. 2* 1131-1134
- Sbuttoni, P. J., see Knox, M. E., *MWSYM 93 Vol. 3* 1225-1228
- Schaeffer, H. H. A., see Honingh, C. E., *T-MTT Apr 93* 616-623
- Schaff, W., see Litvin, K., *MWSYM 93 Vol. 2* 1063-1066
- Scheiner, Barry, see Paoletta, Arthur, *MWSYM 93 Vol. 2* 1059-1062
- Schellenberg, J. M., see Chen, C. H., *MWSYM 93 Vol. 3* 1377-1380
- Scherrer, D., see Laskar, J., *MWSYM 93 Vol. 2* 1095-1098
- Schiebl, Christian O., see Molisch, Andreas F., *T-MTT Feb 93* 318-324
- Schlechtweg, M., see Tasker, P. J., *MWSYM 93 Vol. 3* 1251-1254
- Schmidt, L. P., see Banerjee, S. K., *MWSYM 93 Vol. 2* 505-508
- Schmidt, L.-P., see Güttich, U., *MWSYM 93 Vol. 2* 667-670
- Schmückle, F. J. The method of lines for the analysis of rectangular spiral inductors; *T-MTT Jun/Jul 93* 1183-1186
- Schnell, R. D., see Sammur, C. V., *MWSYM 93 Vol. 2* 1041-1044
- Schöön, Martin. A semi-automatic 3-port network analyzer; *T-MTT Jun/Jul 93* 974-978
- Schrote, M. R., see Piatnacia, A. Y., *MWSYM 93 Vol. 3* 1417-1420
- Schuchinsky, Alexander G., see Lerer, Alexander M., *T-MTT Nov 93* 2002-2015
- Schuenemann, Klaus, see Abou-Elnour, Ali, *MWSYM 93 Vol. 3* 1177-1180
- Schutt-Ainé, José E., see Oh, Kyung S., *MWSYM 93 Vol. 1* 429-432
- Schutt-Ainé, José E., see Oh, Kyung S., *T-MTT Feb 93* 268-273
- Schwab, Martin, see Filleböck, Marion, *T-MTT May 93* 809-813
- Schwarz, S. E., see Prouty, Mark D., *T-MTT Nov 93* 1939-1944
- Schwerdt, Chris, see Niehenke, Edward C., *MWSYM 93 Vol. 1* 167-170
- Schwerling, F. K., see Mink, J. W., *T-MTT Oct 93* 1720-1729
- Schwerling, F. W., see Heron, Patrick L., *MWSYM 93 Vol. 1* 433-436
- Schwerling, Felix K., see Heron, Patrick L., *T-MTT Oct 93* 1816-1826
- Scucchia, L., see Giannini, F., *MWSYM 93 Vol. 1* 297-300
- Semenov, V., D. Anderson, and M. Lisak. Breakdown in the inhomogeneous electric field of a microwave transmit-receive switch (Short p.); *T-MTT May 93* 879-881
- Senju, T., see Kobayashi, Y., *MWSYM 93 Vol. 2* 913-916
- Senju, Tomohiro, see Kobayashi, Yoshio, *T-MTT Dec 93* 2198-2205
- Sercu, Jeannick, Niels Faché, Frank Libbrecht, and Daniël De Zutter. Study of gridding and cell-cell interactions in the method of moments analysis of arbitrarily shaped planar circuits; *MWSYM 93 Vol. 2* 753-756
- Sercu, Jeannick, Niels Faché, Frank Libbrecht, and Daniël De Zutter. Full-wave space-domain analysis of open microstrip discontinuities including the singular current-edge behavior; *T-MTT Sep 93* 1581-1588
- Setty, Radha, see Kaylie, Harvey, *MWSYM 93 Vol. 1* 121-122
- Sewell, Phillip D., and Tullio Rozzi. The continuous spectrum of the inset dielectric guide and its application to waveguide transitions; *T-MTT Feb 93* 282-289
- Sgreccia, Andrea, see De Flaviis, Franco, *T-MTT May 93* 870-873
- Shakouri, Mohammad S., Alistair Black, David M. Bloom, Julio Perdomo, Hiroshi Kondoh, and Hugo Vifian. Picosecond MODFET IC pulse shaper; *MCS 93* 79-81
- Shanfield, Stanley, see Huang, John C., *T-MTT May 93* 752-759
- Shanker, O., see Roy, Rajat, *T-MTT Jun/Jul 93* 1233-1235
- Sharma, A. K., G. S. Dow, M. Aust, J. Canyon, B. Allen, S. Pak, D. Yang, Y. Hwang, and K. Tan. Ka-band power PHEMT on-wafer characterization using prematched structures; *MWSYM 93 Vol. 3* 1343-1346
- Sharma, Arvind K., Guest Ed., and Tatsuo Itoh, Guest Ed. Guest editorial (introduction to special issue on modeling and design of coplanar monolithic microwave and millimeter-wave integrated circuits); *T-MTT Sep 93* 1481-1483
- Shekh, S. A., see Vyzulin, S. A., *T-MTT Jun/Jul 93* 1070-1073
- Shemesh, Yair, and Avi Breitbard. RF front end for portable satellite terminal; *MWSYM 93 Vol. 2* 801-804
- Shen, Ying, Kent Nickerson, and John Litva. Frequency-dependent FDTD modeling of optically controlled dielectric resonators; *T-MTT Jun/Jul 93* 1005-1010
- Shepherd, P. R., see Burchett, M. H., *MWSYM 93 Vol. 3* 1451-1454
- Shepherd, Peter R., see Burchett, M. Hugh, *T-MTT Dec 93* 2074-2080
- Shibata, Kiyoyasu, see Yoshinaga, Hiroyuki, *MWSYM 93 Vol. 2* 779-782
- Shigesawa, Hiroshi, see Tsuji, Mikio, *MWSYM 93 Vol. 3* 1295-1298
- Shigesawa, Hiroshi, see Tsuji, Mikio, *T-MTT Jun/Jul 93* 1017-1023
- Shih, C. F., see Liang, G.-C., *MWSYM 93 Vol. 3* 1413-1416
- Shih, C. G., see Wang, J. S., *MWSYM 93 Vol. 2* 1047-1050
- Shih, Chein-Fu, see Liang, Guo-chun, *T-MTT Dec 93* 2368-2375
- Shimizu, Masahiko, see Nagatomo, Kazuo, *T-MTT Feb 93* 199-205
- Shinozaki, S., see Matsumura, T., *MWSYM 93 Vol. 3* 1481-1484
- Shinozaki, T., see Hara, S., *MCS 93* 19-22
- Shu, Shianfeng, Paul M. Goggans, and Ahmed A. Kishk. Computation of cutoff wavenumbers for partially filled waveguides of arbitrary cross section using surface integral formulations and the method of moments; *T-MTT Jun/Jul 93* 1111-1118
- Shubair, Raed M., and Y. L. Chow. Efficient computation of the periodic Green's function in layered dielectric media; *T-MTT Mar 93* 498-502
- Siegel, Peter H., see Stimson, Philip A., *T-MTT Apr 93* 609-615
- Siegel, Peter H., Robert J. Dengler, Imran Mehdi, John E. Oswald, William L. Bishop, Thomas W. Crowe, and Robert J. Matlack. Measurements on a 215-GHz subharmonically pumped waveguide mixer using planar back-to-back air-bridge Schottky diodes; *T-MTT Nov 93* 1913-1921
- Sieverding, T., J. Bornemann, and F. Arndt. Rigorous design of sidewall aperture couplers; *MWSYM 93 Vol. 2* 761-764
- Sigourou, Y. D., see Capsalis, C. N., *T-MTT Mar 93* 520-523
- Silva, M. T. Camargo, M. A. G. Martinez, and P. R. Herczfeld. MCQW intensity optical modulator for InP based MMIC/photonics integrated circuits; *MWSYM 93 Vol. 1* 229-232
- Silvester, P. P., see Foo, S. L., *T-MTT Feb 93* 298-304
- Simonov, K. G., see Lopin, M. I., *MWSYM 93 Vol. 2* 1119-1121
- Simons, Neil R. S., see LoVetri, Joe, *T-MTT Aug 93* 1419-1428
- Simons, Rainee N., and Richard Q. Lee. Space power amplification with active linearly tapered slot antenna array; *MWSYM 93 Vol. 2* 623-626
- Singer, J., see Ho, T., *MWSYM 93 Vol. 2* 531-534
- Singer, Jack L., see Chen, Seng-Woon, *MCS 93* 89-92
- Singh, M., see Pospishil, A., *MCS 93* 137-140
- Singh, M., see Pospishil, A., *MWSYM 93 Vol. 1* 399-402
- Singh, Ritu, see Singh, Surendra, *T-MTT May 93* 884-886
- Singh, Surendra, and Ritu Singh. On the use of Levin's T-transform in accelerating the summation of series representing the free-space periodic Green's functions (Short p.); *T-MTT May 93* 884-886
- Sinha, A. P., see Biswas, B. N., *T-MTT Mar 93* 388-394

- Sjogren, Lance B., Hong-Xia L. Liu, Feng Wang, Tina Liu, Xiao-Hui Qin, Wenhsing Wu, Esther Chung, Calvin W. Domier, and N. C. Luhmann, Jr. A monolithic diode array millimeter-wave beam transmittance controller; *T-MTT Oct 93* 1782-1790
- Skaggs, Steven G., Jason Gerber, Griff Bilbro, and Michael B. Steer. Parameter extraction of microwave transistors using a hybrid gradient descent and tree annealing approach (Short p.); *T-MTT Apr 93* 726-729
- Skalare, A., see Dierichs, M. M. T. M., *T-MTT Apr 93* 605-608
- Skellern, David J., see Mahon, Simon J., *T-MTT Jun/Jul 93* 1065-1067
- Slade, G. W., see Carin, L., *MWSYM 93 Vol. 3* 1195-1198
- Sloan, George R. The modeling, analysis, and design of filter-based parametric frequency dividers; *T-MTT Feb 93* 224-228
- Sloan, R., see Davis, L. E., *MWSYM 93 Vol. 1* 483-486
- Sloan, Robin, see Davis, Lionel E., *T-MTT Dec 93* 2243-2247
- Smith, Bob, see Yarborough, Ron, *MWSYM 93 Vol. 3* 1381-1383
- Smith, Charles E., see He, Shidong, *T-MTT Jan 93* 53-61
- Smith, D. P., see Komiak, J. J., *MWSYM 93 Vol. 3* 1473-1476
- Smith, G. M., J. C. G. Lesurf, Y. Cui, and M. Dunn. Quasi-optical cavity dumping at millimetre wave frequencies; *MWSYM 93 Vol. 1* 155-158
- Smith, Glenn S., Guest Ed., and Inder Bahl, Guest Ed. Guest editors' overview (introduction to special issue on 1993 IEEE MTT-S International Microwave Symposium); *T-MTT Dec 93* 2051-2052
- Smith, P. M., see Fu, S. T., *MWSYM 93 Vol. 3* 1469-1472
- Smith, Stephen R., and Michael T. Murphy. Electrical characterization of packages for use with GaAs MMIC amplifiers; *MWSYM 93 Vol. 1* 131-134
- Snowden, C. M., see Vereseghyazy, R. K., *MWSYM 93 Vol. 2* 1001-1004
- Snowden, Christopher M., see Atherton, John S., *MWSYM 93 Vol. 3* 1181-1184
- So, Poman P. M., and Wolfgang J. R. Hoefer. A new look at the 3D condensed node TLM scattering; *MWSYM 93 Vol. 3* 1443-1446
- Sobol, Harold, see Tang, Yuqiang, *MWSYM 93 Vol. 2* 849-851
- Solano, Miguel A., Angel Vegas, and Andrés Prieto. Modelling multiple discontinuities in rectangular waveguide partially filled with non-reciprocal ferrites; *T-MTT May 93* 797-802
- Son, J., see Kim, J., *MWSYM 93 Vol. 3* 1359-1362
- Son, Joo-Hiuk, Hsi-Huai Wang, John F. Whitaker, and Gerard A. Mourou. Picosecond pulse propagation on coplanar striplines fabricated on lossy semiconductor substrates: Modeling and experiments; *T-MTT Sep 93* 1574-1580
- Song, Jian, see Wu, Xiaohua, *MWSYM 93 Vol. 1* 221-224
- Sorrentino, R., see Righi, M., *MWSYM 93 Vol. 1* 425-428
- Sorrentino, R., see Alessandri, F., *MWSYM 93 Vol. 2* 1089-1092
- Sorrentino, R., see Alessandri, F., *MWSYM 93 Vol. 3* 1447-1450
- Sorrentino, Roberto, and Giovanni B. Stracca. The status of microwave education in Italy; *T-MTT Jun/Jul 93* 937-942
- Sorrentino, Roberto, see Alessandri, Ferdinando, *T-MTT Sep 93* 1625-1629
- Souny, Bernard, see Aubert, Hervé, *T-MTT Mar 93* 450-456
- Souza, Rui Fragassi, see César, Amílcar Careli, *T-MTT Apr 93* 647-651
- Sovero, Emilio A., see Kim, Moonil, *MWSYM 93 Vol. 2* 615-618
- Sovero, Emilio A., see Kim, Moonil, *T-MTT Oct 93* 1762-1771
- Sovero, Emilio A., see Kim, Moonil, *T-MTT Oct 93* 1772-1774
- Spooner, Frank H., see Stephan, Karl D., *T-MTT Oct 93* 1791-1798
- Stangel, J. J., see Knox, M. E., *MWSYM 93 Vol. 3* 1225-1228
- Starski, J. Piotr, see Quirarte, José Luis Ramos, *T-MTT Jan 93* 9-14
- Steer, Michael B., see Heron, Patrick L., *MWSYM 93 Vol. 1* 433-436
- Steer, Michael B., see Skaggs, Steven G., *T-MTT Apr 93* 726-729
- Steer, Michael B., see Heron, Patrick L., *T-MTT Oct 93* 1816-1826
- Stenger, Pete, see Niehenke, Edward C., *MWSYM 93 Vol. 1* 167-170
- Stephan, Karl D., Frank H. Spooner, and Paul F. Goldsmith. Quasioptical millimeter-wave hybrid and monolithic PIN diode switches; *T-MTT Oct 93* 1791-1798
- Stewart, Earle, see Raffaelli, Lamberto, *MCS 93* 63-66
- Stewart, J. A. C., see Patterson, Andrew D., *T-MTT Mar 93* 395-405
- Stimson, Philip A., Robert J. Dengler, Henry G. LeDuc, Scott R. Cypher, and Peter H. Siegel. A planar quasi-optical SIS receiver; *T-MTT Apr 93* 609-615
- Stitzer, S. N., see Adam, J. D., *MWSYM 93 Vol. 1* 477-478
- Stitzer, Steven N., see Adam, J. Douglas, *T-MTT Dec 93* 2227-2231
- Stöckeler, F., see Thomann, W., *MWSYM 93 Vol. 2* 835-838
- Stokes, Robert B., and Jay D. Crawford. X-band thin film acoustic filters on GaAs; *T-MTT Jun/Jul 93* 1075-1080
- Stonking, D. E. Computer based methods for production tuning of microwave components; *MWSYM 93 Vol. 1* 127-130
- Stracca, Giovanni B., see Sorrentino, Roberto, *T-MTT Jun/Jul 93* 937-942
- Streit, D. C., see Kobayashi, K. W., *MCS 93* 151-154
- Streit, D. C., see Kwon, Y., *MCS 93* 49-52
- Streit, D. C., see Kobayashi, K. W., *MWSYM 93 Vol. 1* 349-352
- Streit, D. C., see Kobayashi, K. W., *MWSYM 93 Vol. 1* 377-380
- Streit, D. C., see Pospieszalski, M. W., *MWSYM 93 Vol. 2* 515-518
- Streit, D. C., see Wang, H., *MWSYM 93 Vol. 2* 519-522
- Streit, D. C., see Meng, C. C., *MWSYM 93 Vol. 2* 539-542
- Streit, D. C., see Wang, H., *MWSYM 93 Vol. 2* 783-785
- Streit, D. C., see Chen, C. H., *MWSYM 93 Vol. 3* 1377-1380
- Streit, Dwight C., see Kobayashi, Kevin W., *T-MTT Dec 93* 2295-2302
- Streit, Dwight C., see Kwon, Youngwoo, *T-MTT Dec 93* 2336-2344
- Struble, W., see Plá, J. A., *MWSYM 93 Vol. 2* 641-644
- Struble, Wayne, see Platzker, Aryeh, *MWSYM 93 Vol. 3* 1185-1188
- Stubbs, M. G., see Omar, A. A., *MWSYM 93 Vol. 2* 823-826
- Stuntebeck, Peter H. The dawn of knowledge networking; *MWSYM 93 Vol. 2* 567-568
- Sturzebecher, D., see Saedi, R., *MWSYM 93 Vol. 2* 501-504
- Sturzebecher, Dana, see Mizan, Muhammad, *MWSYM 93 Vol. 2* 813-816
- Sturzebecher, Dana J., Xiangdong Zhou, Xue-Song Zhang, and Afshin S. Daryoush. Optically controlled oscillators for millimeter-wave phased-array antennas; *T-MTT Jun/Jul 93* 998-1004
- Su, Ching-Chuan. An efficient numerical procedure using the shifted power method for analyzing dielectric waveguides without inverting matrices (Short p.); *T-MTT Mar 93* 539-542
- Suarez, Almudena, see Quéré, Raymond, *T-MTT Nov 93* 1928-1938
- Suarez-Gartner, Ricardo, see Arabi, Tawfik Rahal, *MWSYM 93 Vol. 2* 987-990
- Suematsu, Elji, see Ogawa, Hiroyo, *MWSYM 93 Vol. 1* 225-228
- Sueta, Tadas, see Berceci, Tibor, *MWSYM 93 Vol. 3* 1407-1410
- Suginoshita, F., see Suzuki, Katsumi, *MWSYM 93 Vol. 3* 1429-1432
- Suh, Kyoung-Whoan, Se-Yun Kim, and Jung-Woong Ra. An improved diffraction tomography for imaging of high-contrast dielectric objects; *MWSYM 93 Vol. 2* 1141-1144
- Summers, C. J., see Harris, H. M., *MWSYM 93 Vol. 1* 159-162
- Sun, Kunquan. MSSW and MSVW in a multilayered ferrimagnetic structure with an arbitrary orientation between two static magnetizations; *T-MTT Jun/Jul 93* 1143-1148
- Sun, Weimin, and Constantine A. Balanis. MFIE analysis and design of ridge waveguides; *T-MTT Nov 93* 1965-1971
- Sun, Zhong Liang, see Rong, Ao Sheng, *MWSYM 93 Vol. 2* 955-958
- Suppan, L. P., see Liang, G.-C., *MWSYM 93 Vol. 3* 1413-1416
- Suppan, Larry P., Jr., see Liang, Guo-chun, *T-MTT Dec 93* 2368-2375
- Sussman, Joseph M. Intelligent vehicle highway systems: Challenge for the future; *MWSYM 93 Vol. 1* 101-104
- Suthers, Mark S., see Hunt, William D., *MWSYM 93 Vol. 3* 1509-1512
- Suzuki, Katsumi, S. Yoshikawa, K. Yamaguchi, K. Hayashi, S. Fujino, T. Takenaka, T. Mitsuzuka, Y. Enomoto, K. Imai, F. Suginoshita, and N. Yazawa. Noise figure of HTS JJ MMIC downconverter at 12 GHz; *MWSYM 93 Vol. 3* 1429-1432
- Swanson, D. G., Jr., see Bandler, J. W., *MWSYM 93 Vol. 2* 889-892
- Sze, Y. C., see Chang, The-Nan, *MWSYM 93 Vol. 2* 921-922

T

- Taenzler, F., see Mertin, W., *MWSYM 93 Vol. 3* 1351-1354
- Taguchi, Yutaka, Katsuyuki Miyauchi, Kazuo Eda, and Toru Ishida. A GHz-band ceramic multi-layer substrate and its application to a hybrid IC; *MWSYM 93 Vol. 3* 1325-1328
- Tait, D., see Maas, S. A., *T-MTT Nov 93* 2038-2040
- Takagi, Shigenori, see Yoshinaga, Hiroyuki, *MWSYM 93 Vol. 2* 779-782
- Takagi, Tadashi, see Mochizuki, Mitsuru, *MWSYM 93 Vol. 3* 1365-1368
- Takenaka, T., see Suzuki, Katsumi, *MWSYM 93 Vol. 3* 1429-1432
- Takimoto, Yukio, and Toshio Ihara. Research activities on millimeter wave indoor communication systems in Japan; *MWSYM 93 Vol. 2* 673-676
- Talisa, S. H., see Piatnicia, A. Y., *MWSYM 93 Vol. 3* 1417-1420
- Talvacchio, J., see Piatnicia, A. Y., *MWSYM 93 Vol. 3* 1417-1420
- Tan, K., see Aust, M. V., *MCS 93* 45-48
- Tan, K., see Chang, K. W., *MCS 93* 41-44
- Tan, K., see Katz, R., *MCS 93* 131-134
- Tan, K., see Katz, R., *MWSYM 93 Vol. 1* 149-152
- Tan, K., see Dow, G. S., *MWSYM 93 Vol. 1* 163-166
- Tan, K., see Sharma, A. K., *MWSYM 93 Vol. 3* 1343-1346
- Tan, K., see Chen, C. H., *MWSYM 93 Vol. 3* 1377-1380
- Tan, K. L., see Wang, H., *MCS 93* 167-170
- Tan, K. L., see Wang, H., *MWSYM 93 Vol. 1* 365-368
- Tan, K. L., see Pospieszalski, M. W., *MWSYM 93 Vol. 2* 515-518
- Tan, K. L., see Wang, H., *MWSYM 93 Vol. 2* 519-522
- Tan, K. L., see Wang, H., *MWSYM 93 Vol. 2* 783-785
- Tan, Robert, and Ralph Levy. A limiting filter for application in a GPS receiver; *MWSYM 93 Vol. 2* 881-883
- Tanaka, Toshihide, see Bae, Jongsuck, *T-MTT Oct 93* 1851-1855
- Tanba, N., see Hara, S., *MCS 93* 19-22
- Tang, Yuqiang, and Harold Sobol. Measurements of PCS microwave propagation in buildings; *MWSYM 93 Vol. 2* 849-851

- Tang, Zhenyu, *see* Jiang, Xiao-hong, *T-MTT Jun/Jul 93* 1239-1240
- Taniguchi, Masatoshi, *see* Tsuji, Mikio, *T-MTT Jun/Jul 93* 1017-1023
- Tanino, N., *see* Nakahara, K., *MWSYM 93 Vol. 1* 369-372
- Tao, Jun-Wu, Gilbert Angéneux, and Bernard Fléchet. Fullwave description of propagation and losses in quasiplanar transmission lines by quasi-analytical solution; *MWSYM 93 Vol. 2* 935-938
- Tasker, P. J., W. Reinert, B. Hughes, J. Braunstein, and M. Schlechtweg. Transistor noise parameter extraction using a 50 Ω measurement system; *MWSYM 93 Vol. 3* 1251-1254
- Tassoudji, M. Ali, *see* Gu, Qizheng, *T-MTT Feb 93* 206-214
- Taysing-Lara, M., *see* Golob, L. P., *MWSYM 93 Vol. 3* 1395-1398
- Tedjini, Small, *see* Mazé-Merceur, Geneviève, *T-MTT Mar 93* 457-461
- Teeter, Douglas A., Jack R. East, and George I. Haddad. Large-signal HBT characterization and modeling at millimeter wave frequencies; *T-MTT Jun/Jul 93* 1087-1093
- Tefiku, Fatou, and Eikichi Yamashita. An efficient method for the determination of resonant frequencies of shielded circular disk and ring resonators (Short p.); *T-MTT Feb 93* 343-346
- Temnov, A. M., *see* Zaytsev, S. A., *MWSYM 93 Vol. 2* 1129
- Tews, H., *see* Sammut, C. V., *MWSYM 93 Vol. 2* 1041-1044
- Theron, B., *see* Guillot, P., *MWSYM 93 Vol. 1* 455-458
- Theron, Bernard, *see* Guillot, Philippe, *T-MTT Dec 93* 2156-2160
- Thomann, W., *see* Rottenkolber, M., *MWSYM 93 Vol. 1* 265-268
- Thomann, W., B. Isele, F. Stöckeler, R. Weigel, and P. Russer. Characterization and simulation of bi-quadratic coplanar waveguide tapers for time-domain applications; *MWSYM 93 Vol. 2* 835-838
- Thomann, W., M. Rottenkolber, and P. Russer. Optimization of electrooptic sampling by volume-integral method; *T-MTT Dec 93* 2392-2399
- Thompson, M. A., *see* Matloubian, M., *MWSYM 93 Vol. 2* 535-538
- Thompson, Mark, *see* Nguyen, Loi, *MWSYM 93 Vol. 1* 345-347
- Thompson, Mark A., *see* Rosenbaum, Steven E., *MWSYM 93 Vol. 2* 1103-1104
- Thompson, Mark A., *see* Matloubian, Mehran, *T-MTT Dec 93* 2206-2210
- Tian, Baiqiang, and Wayne R. Tinga. Single-frequency relative Q measurements using perturbation theory; *T-MTT Nov 93* 1922-1927
- Tien, Ching-Cheng, *see* Lo, Wen-Teng, *MWSYM 93 Vol. 3* 1199-1202
- Tien, Ching-Cheng, Ching-Kuang C. Tzuang, S. T. Peng, and Chung-Chi Chang. Transmission characteristics of finite-width conductor-backed coplanar waveguide; *T-MTT Sep 93* 1616-1624
- Tien, Ching-Cheng, *see* Lo, Wen-Teng, *T-MTT Dec 93* 2099-2108
- Tigges, C. P., *see* Martens, J. S., *MWSYM 93 Vol. 3* 1243-1246
- Tinga, Wayne R., *see* Tian, Baiqiang, *T-MTT Nov 93* 1922-1927
- Tkachenko, Y. A., *see* Wei, C. J., *MWSYM 93 Vol. 3* 1347-1350
- Tokaji, Isao, *see* Yoshinaga, Hiroyuki, *MWSYM 93 Vol. 2* 779-782
- Tokuda, Hirokuni, *see* Yoshinaga, Hiroyuki, *MWSYM 93 Vol. 2* 779-782
- Tokumitsu, Tsuneo, Ichihiko Toyoda, and Masayoshi Aikawa. Low voltage, high power T/R switch MMIC using LC resonators; *MCS 93* 27-30
- Toland, Brent, and Tatsuo Itoh. Boundary element analysis of a trapezoidal transmission line; *T-MTT Jun/Jul 93* 1052-1056
- Tomita, T., *see* Hara, S., *MCS 93* 19-22
- Ton, T. N., *see* Wang, H., *MCS 93* 167-170
- Ton, T. N., *see* Dow, G. S., *MWSYM 93 Vol. 1* 163-166
- Ton, T. N., *see* Wang, H., *MWSYM 93 Vol. 1* 365-368
- Ton, T. N., *see* Wang, H., *MWSYM 93 Vol. 2* 783-785
- Toncich, S. S., R. E. Collin, and K. B. Bhasin. Full wave characterization of microstrip open end discontinuities patterned on anisotropic substrates using potential theory; *MWSYM 93 Vol. 3* 1527-1530
- Toncich, Stanley S., R. E. Collin, and Kul B. Bhasin. Full wave characterization of microstrip open end discontinuities patterned on anisotropic substrates using potential theory; *T-MTT Dec 93* 2067-2073
- Torabi, A., *see* Harris, H. M., *MWSYM 93 Vol. 1* 159-162
- Toropainen, Anssi P. A new method for measuring properties of unhomogeneous materials using a two-polarization forward-scattering measurement; *MWSYM 93 Vol. 1* 257-260
- Toropainen, Anssi P. New method for measuring properties of nonhomogeneous materials by a two-polarization forward-scattering measurement; *T-MTT Dec 93* 2081-2086
- Toyoda, Ichihiko, *see* Tokumitsu, Tsuneo, *MCS 93* 27-30
- Toyoda, Sachihiko. High efficiency single and push-pull power amplifiers; *MWSYM 93 Vol. 1* 277-280
- Tran, Allen M., and Tatsuo Itoh. Analysis of microstrip lines coupled through an arbitrarily shaped aperture in a thick common ground plane; *MWSYM 93 Vol. 2* 819-822
- Tran, Allen M., and Tatsuo Itoh. Full-wave modeling of coplanar waveguide discontinuities with finite conductor thickness; *T-MTT Sep 93* 1611-1615
- Tran, L. T., *see* Kobayashi, K. W., *MCS 93* 85-88
- Tran, Michael, and Cam Nguyen. Modified broadside-coupled microstrip lines suitable for MIC and MMIC applications and a new class of broadside-coupled band-pass filters; *T-MTT Aug 93* 1336-1342
- Trew, R. J., *see* Bilbro, G. L., *MWSYM 93 Vol. 1* 305-308
- Trimble, T. M., *see* Rosenbaum, F. J., *MCS 93* 163-166
- Trimble, T. M., *see* Rosenbaum, F. J., *MWSYM 93 Vol. 1* 361-364
- Tripathi, Vijai K., *see* Hayden, Leonard A., *T-MTT Mar 93* 415-420
- Trott, K., *see* How, Hoton, *T-MTT Feb 93* 255-259
- Tsai, C. M., and K. C. Gupta. CAD procedures for planar re-entrant type couplers and three-line baluns; *MWSYM 93 Vol. 2* 1013-1016
- Tsai, M. C. A new compact wideband balun; *MCS 93* 123-125
- Tsai, M. C. A new compact wideband balun; *MWSYM 93 Vol. 1* 141-143
- Tsai, Yu-Yuan, and Abbas S. Omar. Field theoretical treatment of H -plane waveguide junctions with anisotropic medium; *T-MTT Feb 93* 274-281
- Tsalamengas, John L., Ioannis O. Vardiambasis, and John G. Fikioris. TE and TM modes in circularly shielded slot waveguides; *T-MTT Jun/Jul 93* 966-973
- Tserng, Hua Quen, and Paul Saunier. A highly-efficient 7-watt 16 GHz monolithic pseudomorphic HEMT amplifier; *MCS 93* 105-108
- Tserng, Hua Quen, and Paul Saunier. A highly-efficient 7-watt 16 GHz monolithic pseudomorphic HEMT amplifier; *MWSYM 93 Vol. 1* 87-90
- Tserng, Hua Quen, *see* Yarborough, Ron, *MWSYM 93 Vol. 3* 1381-1383
- Tsou, Benny P. C., *see* Jaeger, Nicolas A. F., *T-MTT Nov 93* 1907-1912
- Tsouli, M., *see* Wang, H., *MWSYM 93 Vol. 2* 549-552
- Tsuji, H., *see* Hara, S., *MCS 93* 19-22
- Tsuji, Mikio, Hiroshi Shigesawa, and Arthur A. Oliner. Simultaneous propagation of both bound and leaky dominant modes on conductor-backed coplanar strips; *MWSYM 93 Vol. 3* 1295-1298
- Tsuji, Mikio, Masatoshi Taniguchi, and Hiroshi Shigesawa. The feature of the narrow-pulse transmission on conventional coplanar waveguides when power leakage is present; *T-MTT Jun/Jul 93* 1017-1023
- Tsukao, Toshiya, *see* Hara, Shinji, *MCS 93* 67-70
- Tugulea, Alexandru A., and Ioan R. Ciric. A novel lossy microstrip dispersion model; *MWSYM 93 Vol. 2* 1025-1028
- Tuncer, Emre, *see* Islam, M. Saiful, *MWSYM 93 Vol. 2* 959-962
- Tutt, Marcel N., Roberto Menozzi, and Dimitris Pavlidis. Characterization of MESFET and MODFET microwave noise properties utilizing drain noise current; *MWSYM 93 Vol. 2* 1099-1102
- Twynam, J. K., *see* Hara, S., *MCS 93* 19-22
- Tzuang, Ching-Kuang C., *see* Lo, Wen-Teng, *MWSYM 93 Vol. 3* 1199-1202
- Tzuang, Ching-Kuang C., *see* Lo, Wen-Teng, *MWSYM 93 Vol. 3* 1539-1542
- Tzuang, Ching-Kuang C., *see* Lo, Wen-Teng, *T-MTT Feb 93* 215-223
- Tzuang, Ching-Kuang C., and Jinq-Min Lin. On the mode-coupling formation of complex modes in a nonreciprocal finline; *T-MTT Aug 93* 1400-1408
- Tzuang, Ching-Kuang C., *see* Tien, Ching-Cheng, *T-MTT Sep 93* 1616-1624
- Tzuang, Ching-Kuang C., *see* Lo, Wen-Teng, *T-MTT Dec 93* 2099-2108

U

- Uebayashi, Shinji, *see* Kobayashi, Takehiko, *T-MTT Jan 93* 136-140
- Uecker, D., *see* Bui, L. Q., *MWSYM 93 Vol. 2* 857-860
- Uher, J., *see* Alessandri, F., *MWSYM 93 Vol. 2* 1089-1092
- Umemoto, D. K., *see* Kobayashi, K. W., *MCS 93* 151-154
- Umemoto, D. K., *see* Kobayashi, K. W., *MWSYM 93 Vol. 1* 349-352
- Umemoto, Donald K., *see* Kobayashi, Kevin W., *T-MTT Dec 93* 2295-2302
- Usai, M., *see* Costamagna, E., *T-MTT Jan 93* 156-159
- Uwano, T., *see* Ishizaki, T., *MWSYM 93 Vol. 1* 177-180
- Uwano, Tomoki. A small dielectric TEM mode resonator with a crossing slot and its application to a cellular radio VCO; *T-MTT Apr 93* 639-646
- Uzunoglu, N. K., *see* Capsalis, C. N., *T-MTT Mar 93* 520-523

V

- v. d. Stadt, H., *see* Dierichs, M. M. T. M., *T-MTT Apr 93* 605-608
- Vahldieck, R., *see* Xiao, S., *MWSYM 93 Vol. 1* 421-424
- Vahldieck, R., *see* Hassin, D., *MWSYM 93 Vol. 2* 727-730
- Vahldieck, R., *see* Hassin, D., *T-MTT Dec 93* 2376-2382
- Vahldieck, Rüdiger, *see* Jin, Hang, *MWSYM 93 Vol. 2* 713-716
- Vahldieck, Rüdiger, *see* Jin, Hang, *T-MTT Mar 93* 472-477
- Vahldieck, Rüdiger, *see* Jin, Hang, *T-MTT Sep 93* 1538-1542
- Vahldieck, Rüdiger, *see* Yu, Ming, *T-MTT Sep 93* 1638-1640
- Vahldieck, Rüdiger L., *see* Wu, Ke, *T-MTT Mar 93* 421-430
- Vahldieck, Ruediger, *see* Huang, Jifu, *MWSYM 93 Vol. 1* 459-462
- Vahldieck, Ruediger, *see* Yu, Ming, *MWSYM 93 Vol. 2* 705-708
- Vahldieck, Ruediger, *see* Huang, Jifu, *MWSYM 93 Vol. 3* 1299-1302
- Vahldieck, Ruediger, *see* Jin, Hang, *T-MTT Dec 93* 2248-2255
- Valco, George J., *see* Rohrer, Norman J., *T-MTT Nov 93* 1865-1871
- Valentino, P., *see* Issogna, P., *MWSYM 93 Vol. 2* 497-500
- Valentino, P., *see* Knox, M. E., *MWSYM 93 Vol. 3* 1225-1228
- Valenzuela, A. A., *see* Weigel, R., *MWSYM 93 Vol. 3* 1285-1288
- Valmu, H., *see* Koistinen, O., *MWSYM 93 Vol. 2* 775-778
- Valmu, Heikki T., *see* Koistinen, Olli P., *T-MTT Dec 93* 775-778

- Vanbésien, O., *see* Bouregba, R., *T-MTT Nov 93* 2025-2027
- van der Keur, J. Michiel, *see* Bastiaansen, Harrie J. M., *T-MTT Nov 93* 1972-1980
- Vander Vorst, André. Microwave bioelectromagnetics in Europe; *MWSYM 93 Vol. 2* 1137-1140
- Vander Vorst, André. Microwave education in Belgium; *T-MTT Jun/Jul 93* 943-947
- Van Der Weide, D. W. A YIG-tuned nonlinear transmission line multiplier; *MWSYM 93 Vol. 2* 557-560
- van Raay, F., *see* Werthof, A., *MWSYM 93 Vol. 2* 645-648
- Vardiambasis, Ioannis O., *see* Tsalamengas, John L., *T-MTT Jun/Jul 93* 966-973
- Varian, Karl R., *see* Ikalainen, Pertti K., *MCS 93* 159-162
- Varian, Karl R., *see* Ikalainen, Pertti K., *MWSYM 93 Vol. 1* 357-360
- Vdovin, V., *see* Koistinen, O., *MWSYM 93 Vol. 2* 775-778
- Vdovin, Vjacheslav F., *see* Koistinen, Olli P., *T-MTT Dec 93* 775-778
- Vegas, Angel, *see* Solano, Miguel A., *T-MTT May 93* 797-802
- Velazco, Jose E., and Peter H. Ceperley. A discussion of rotating wave fields for microwave applications; *T-MTT Feb 93* 330-335
- Velebir, J., *see* Kobayashi, K. W., *MCS 93* 85-88
- Velebir, J., *see* Pospieszalski, M. W., *MWSYM 93 Vol. 2* 515-518
- Velebir, J., *see* Wang, H., *MWSYM 93 Vol. 2* 519-522
- Vereseghyazy, R. K., and C. M. Snowden. Fast and accurate process-oriented model for CAD of MODFETs; *MWSYM 93 Vol. 2* 1001-1004
- Verma, A. K., Raj Kumar, and G. Hassani Sadr. Pulse distortion on multilayer microstrip line; *MWSYM 93 Vol. 2* 861-864
- Verma, Anand K., and Zargham Rostamy. Resonant frequency of uncovered and covered rectangular microstrip patch using modified Wolff model; *T-MTT Jan 93* 109-116
- Viffian, Hugo, *see* Shakouri, Mohammad S., *MCS 93* 79-81
- Vilcot, J. P., *see* Elkadi, H., *MWSYM 93 Vol. 1* 217-220
- Vilcot, J. P., *see* Maricot, S., *MWSYM 93 Vol. 2* 1067-1070
- Villemazet, I. F., M. Camiade, and J. Obregon. Design of low conversion losses cold FET mixers by statistical optimization of high order sidebands loading; *MWSYM 93 Vol. 2* 1029-1032
- Villotte, J. P., *see* Coupat, J. M., *MWSYM 93 Vol. 1* 245-248
- Villotte, J. P., *see* Duvaud, C., *MWSYM 93 Vol. 1* 285-288
- Vinter, B., *see* Bouregba, R., *T-MTT Nov 93* 2025-2027
- Virga, Kathleen L., and Robert J. Engelhardt, Jr. Efficient statistical analysis of microwave circuit performance using design of experiments; *MWSYM 93 Vol. 1* 123-126
- Visan, S., O. Picon, and V. Fouad Hanna. 3D characterization of air bridges and via holes in conductor-backed coplanar waveguides for MMIC applications; *MWSYM 93 Vol. 2* 709-712
- Vittoria, C., *see* How, Hoton, *T-MTT Feb 93* 255-259
- Vittoria, C., *see* Kwan, P., *T-MTT Apr 93* 652-657
- von Kamienski, E. Stein, J. Gondermann, H. G. Roskos, and H. Kurz. Al-SiO₂-Al sandwich microstrip lines for on-chip interconnects up to 400 GHz; *MWSYM 93 Vol. 1* 393-396
- von Kamienski, Elard G. Stein, *see* Gondermann, Jörg, *T-MTT Dec 93* 2087-2091
- Vuye, S., *see* Wang, H., *MWSYM 93 Vol. 2* 549-552
- Vyzulin, S. A., A. E. Rosenson, and S. A. Shekh. The magnetostatic waves in ferrite film with losses (Short p.); *T-MTT Jun/Jul 93* 1070-1073
- W**
- Wada, Hiroshi, *see* Konno, Ken-ichi, *MWSYM 93 Vol. 2* 797-800
- Wada, Masaru, *see* Ohgihara, Takahiro, *MCS 93* 9-12
- Wakana, S., *see* Kim, J., *MWSYM 93 Vol. 3* 1359-1362
- Walinsky, Paul, *see* Rosenbaum, Richard M., *MWSYM 93 Vol. 2* 1155-1158
- Walker, J. L. B. A survey of European activity on coplanar waveguide; *MWSYM 93 Vol. 2* 693-696
- Walters, Peter C., Roger D. Pollard, John R. Richardson, and Giuliano Gatti. Millimetre-wave device modelling differences in microstrip and coplanar waveguide; *MWSYM 93 Vol. 3* 1173-1176
- Wang, Chua-Chin, *see* Homg, Tzyy-Sheng, *MWSYM 93 Vol. 1* 413-416
- Wang, Feng, *see* Sjogren, Lance B., *T-MTT Oct 93* 1782-1790
- Wang, Gaofeng, *see* Pan, George W., *T-MTT Mar 93* 531-535
- Wang, H., *see* Chang, K. W., *MCS 93* 41-44
- Wang, H., *see* Katz, R., *MCS 93* 131-134
- Wang, H., W. Lam, T. N. Ton, D. C. W. Lo, K. L. Tan, G. S. Dow, B. Allen, and J. Berenz. A monolithic W-band preamplified diode detector; *MCS 93* 167-170
- Wang, H., *see* Katz, R., *MWSYM 93 Vol. 1* 149-152
- Wang, H., *see* Dow, G. S., *MWSYM 93 Vol. 1* 163-166
- Wang, H., W. Lam, T. N. Ton, D. C. W. Lo, K. L. Tan, G. S. Dow, B. Allen, and J. Berenz. A monolithic W-band preamplified diode detector; *MWSYM 93 Vol. 1* 365-368
- Wang, H., R. Lai, T. H. Chen, P. D. Chow, J. Velebir, K. L. Tan, D. C. Streit, P. H. Liu, and G. Ponchak. A monolithic W-band three-stage LNA using 0.1 μ m InAlAs/InGaAs/InP HEMT technology; *MWSYM 93 Vol. 2* 519-522
- Wang, H., C. Pinatel, M. Tsouli, J. O. Plouchart, A. Konczykowska, M. Riet, S. Vuye, and P. Berdaguer. GaAs/GaAlAs power HBTs for mobile communications; *MWSYM 93 Vol. 2* 549-552
- Wang, H., K. L. Tan, T. N. Ton, G. S. Dow, P. H. Liu, D. C. Streit, J. Berenz, M. W. Pospieszalski, and S. K. Pan. A high gain low noise 110 GHz monolithic two-stage amplifier; *MWSYM 93 Vol. 2* 783-785
- Wang, Hsi-Huai, *see* Son, Joo-Hiuk, *T-MTT Sep 93* 1574-1580
- Wang, J. S., and Raj Mittra. Finite element analysis of MMIC structures using absorbing boundary conditions; *MWSYM 93 Vol. 2* 745-748
- Wang, J. S., C. G. Shih, W. H. Chang, J. Middleton, P. J. Apostolakis, and M. Feng. 11 GHz bandwidth GaAs MESFET/MSM OEIC receivers; *MWSYM 93 Vol. 2* 1047-1050
- Wang, S. C., *see* Duh, K. H. G., *MCS 93* 99-102
- Wanuga, S., *see* Ackerman, E., *MWSYM 93 Vol. 2* 723-726
- Wanuga, Stephen, *see* Ackerman, Edward, *T-MTT Aug 93* 1299-1306
- Waris, Vesa P., *see* Bialkowski, Marek E., *T-MTT Jun/Jul 93* 1126-1134
- Webb, D. C. Status of ferrite technology in the United States; *MWSYM 93 Vol. 1* 203-206
- Webb, Jon P., *see* Dillon, Bernice M., *T-MTT May 93* 803-808
- Webb, K. J., *see* Carin, L., *MWSYM 93 Vol. 3* 1195-1198
- Wehling, J., *see* Chang, K. W., *MCS 93* 41-44
- Wei, C. J., Y. A. Tkachenko, and J. C. M. Hwang. Non-invasive waveform probing for nonlinear network analysis; *MWSYM 93 Vol. 3* 1347-1350
- Weichert, Calvin, *see* Huang, John C., *T-MTT May 93* 752-759
- Weigel, R., *see* Thomann, W., *MWSYM 93 Vol. 2* 835-838
- Weigel, R., M. Nalezinski, A. A. Valenzuela, and P. Russer. Narrow-band YBCO superconducting parallel-coupled coplanar waveguide band-pass filters at 10 GHz; *MWSYM 93 Vol. 3* 1285-1288
- Weigel, R., *see* Machui, J., *MWSYM 93 Vol. 3* 1501-1504
- Weigel, R., B. Bader, G. Fischerauer, and P. Russer. Design and performance of wide-band IIDT-type SAW filters with low loss and improved sidelobe suppression; *MWSYM 93 Vol. 3* 1505-1508
- Weigel, Robert, *see* Müller, Gunter, *T-MTT Dec 93* 2147-2155
- Weikle, Robert M., II, *see* Angelov, Ilitcho, *MWSYM 93 Vol. 2* 787-790
- Weinberger, Martin, *see* Kees, Norbert, *MWSYM 93 Vol. 2* 805-808
- Weiner, M., *see* Kim, A., *MWSYM 93 Vol. 3* 1221-1224
- Weiner, Scott M., *see* Merenda, Joseph L., *MWSYM 93 Vol. 2* 1109-1112
- Weinreb, S., *see* Eskandarian, A., *T-MTT Jan 93* 159-162
- Weiss, J. A., *see* Lax, B., *MWSYM 93 Vol. 1* 479-482
- Weiss, Jerald A., *see* Lax, Benjamin, *T-MTT Dec 93* 2190-2197
- Weller, T. M., G. M. Rebeiz, and L. P. Katehi. Experimental results on microshield transmission line circuits; *MWSYM 93 Vol. 2* 827-830
- Wen, J., *see* Saedi, R., *MWSYM 93 Vol. 2* 501-504
- Wengler, Michael J., *see* Pance, Aleksandar, *T-MTT Jan 93* 20-28
- Werthof, A., F. van Raay, and G. Kompa. Direct nonlinear power MESFET parameter extraction and consistent modeling; *MWSYM 93 Vol. 2* 645-648
- Whitaker, J., *see* Kim, J., *MWSYM 93 Vol. 3* 1359-1362
- Whitaker, J. F., *see* Cheng, H., *MWSYM 93 Vol. 3* 1355-1358
- Whitaker, John F., *see* Son, Joo-Hiuk, *T-MTT Sep 93* 1574-1580
- White, J., *see* Kim, S., *MWSYM 93 Vol. 3* 1535-1538
- Wiesbeck, Werner, *see* Hollmann, Detlev, *T-MTT May 93* 893-895
- Wijnbergen, J. J., *see* Dierichs, M. M. T. M., *T-MTT Apr 93* 605-608
- Wilcock, B. A., *see* Helszajn, J., *T-MTT Nov 93* 1950-1958
- Wilkins, Gregory M., *see* Lee, Jin-FA, *T-MTT Nov 93* 1981-1987
- Willems, David, and Inder Bahl. A MMIC compatible coupled line structure that uses embedded microstrip to achieve extremely tight couplings; *MWSYM 93 Vol. 2* 581-584
- Willems, David, and Inder Bahl. An MMIC-compatible tightly coupled line structure using embedded microstrip; *T-MTT Dec 93* 2303-2310
- Williams, Albert E., *see* Yao, Shih-Jih, *T-MTT Dec 93* 2182-2189
- Williams, D. A. A frequency hopping microwave radio system for local area network communications; *MWSYM 93 Vol. 2* 685-690
- Williams, Dylan F., and Roger B. Marks. Reciprocity relations in waveguide junctions; *T-MTT Jun/Jul 93* 1105-1110
- Williams, Jeffery T., *see* Nghiem, David, *MWSYM 93 Vol. 3* 1291-1294
- Williams, R., *see* Garbe, G., *MWSYM 93 Vol. 3* 1329-1332
- Williamson, A. G., *see* Keam, R. B., *T-MTT Mar 93* 516-520
- Williamson, S., *see* Kim, J., *MWSYM 93 Vol. 3* 1359-1362
- Wiltse, J. C., *see* Harris, H. M., *MWSYM 93 Vol. 1* 159-162
- Wiltse, James C., *Guest Ed.* Microwave education in the U.S. and several other countries (special section intro.); *T-MTT Jun/Jul 93* 911-912
- Wise, Frank W., *see* Davidson, Andrew C., *T-MTT Oct 93* 1845-1850
- Withers, R., *see* Martens, J. S., *MWSYM 93 Vol. 3* 1243-1246
- Withers, R. S., *see* Lee, L. H., *MWSYM 93 Vol. 1* 385-388
- Withers, R. S., *see* Liang, G.-C., *MWSYM 93 Vol. 3* 1413-1416

- Withers, Richard S., *see* Lee, Laurence H., *T-MTT Dec 93* 2359-2367
- Withers, Richard S., *see* Liang, Guo-chun, *T-MTT Dec 93* 2368-2375
- Withington, Stafford, *see* Kerr, Anthony R., *T-MTT Apr 93* 590-594
- Withington, Stafford, *see* Murphy, J. Anthony, *T-MTT Oct 93* 1700-1702
- Witkowski, Larry C., *see* Ikalainen, Pertti K., *MCS 93* 159-162
- Witkowski, Larry C., *see* Ikalainen, Pertti K., *MWSYM 93 Vol. 1* 357-360
- Wolff, I., *see* Kunisch, J., *MWSYM 93 Vol. 2* 637-640
- Wolff, I., *see* Kunisch, J., *MWSYM 93 Vol. 2* 1037-1040
- Wolff, I., *see* Abdo-Tuko, M., *T-MTT Aug 93* 1307-1315
- Wolff, Ingo, *see* Becks, Thomas, *MWSYM 93 Vol. 2* 697-700
- Wolff, Ingo, *see* Becks, Thomas, *MWSYM 93 Vol. 2* 869-872
- Wong, Kin-Lu, Yuan-Tung Cheng, and Jeen-Sheen Row. Resonance in a superstrate-loaded cylindrical-rectangular microstrip structure; *T-MTT May 93* 814-819
- Wong, Kin-Lu, Jeen-Sheen Row, Chih-Wen Kuo, and Kuang-Chih Huang. Resonance of a rectangular microstrip patch on a uniaxial substrate; *T-MTT Apr 93* 698-701
- Wong, Kin-Lu, *see* Row, Jeen-Sheen, *T-MTT Aug 93* 1349-1355
- Wong, Kin-Lu, and Hong-Twu Chen. Resonance in a spherical-circular microstrip structure with an airgap (Short p.); *T-MTT Aug 93* 1466-1468
- Wong, Sam H., *see* Benet, James A., *MWSYM 93 Vol. 2* 619-622
- Woo, C., *see* Ramachandran, R., *MCS 93* 93-95
- Woodard, D., *see* Litvin, K., *MWSYM 93 Vol. 2* 1063-1066
- Wooldridge, John J., *see* Newberg, Irwin L., *MWSYM 93 Vol. 2* 509-512
- Wright, P., and L. E. Davis. The complex permittivity of aluminum nitride substrates; *MWSYM 93 Vol. 1* 269-272
- Wu, C. S., *see* Kurdoghlian, A., *MCS 93* 97-98
- Wu, Chen, *see* Chen, Ji, *MWSYM 93 Vol. 2* 749-752
- Wu, Chen, *see* Wu, Ke-Li, *MWSYM 93 Vol. 2* 975-978
- Wu, Ke, Yansheng Xu, and Renato G. Bosio. Space domain mode-matching method (SDM³)—An efficient technique for complex microwave integrated circuits; *MWSYM 93 Vol. 2* 983-986
- Wu, Ke, David Maurin, and Renato G. Bosio. An explicit design technique for wideband couplers and high quality filters using periodic topology; *MWSYM 93 Vol. 2* 1085-1088
- Wu, Ke, Rudiger L. Vahldieck, Josef L. Fikart, and H. Minkus. The influence of finite conductor thickness and conductivity on fundamental and higher-order modes in miniature hybrid MIC's (MHMIC's) and MMIC's; *T-MTT Mar 93* 421-430
- Wu, Ke, *see* Yu, Ming, *T-MTT Sep 93* 1638-1640
- Wu, Ke-Li, *see* Chen, Ji, *MWSYM 93 Vol. 2* 749-752
- Wu, Ke-Li, Chen Wu, and John Litva. A new schema for combining numerical and analytical methods for rigorous analysis of waveguide circuits; *MWSYM 93 Vol. 2* 975-978
- Wu, Lin-Kun, *see* Chung, Shyh-Jong, *T-MTT Aug 93* 1393-1399
- Wu, Ruey-Beel, *see* Chiu, Chien-Wen, *T-MTT Sep 93* 1511-1514
- Wu, S. M., *see* Ybarra, G. A., *MWSYM 93 Vol. 1* 249-252
- Wu, Wen, Quanrang Yang, and Tong Li. New design method for the distributed amplifier; *MWSYM 93 Vol. 1* 301-303
- Wu, Wenhsing, *see* Sjogren, Lance B., *T-MTT Oct 93* 1782-1790
- Wu, Xiao-Dong, *see* Leverich, W. Kent, *T-MTT Sep 93* 1515-1518
- Wu, Xiaohua, David Conn, Jian Song, and Kent Nickerson. Calibration of external electro-optic sampling using field simulation and system transfer function analysis; *MWSYM 93 Vol. 1* 221-224
- Wu, Zhiqiang, *see* Davidovitz, Marat, *T-MTT Apr 93* 680-686
- Wylde, Richard J., and Derek H. Martin. Gaussian beam-mode analysis and phase-centers of corrugated feed horns; *T-MTT Oct 93* 1691-1699
- X
- Xiao, S., and R. Vahldieck. An improved 2D-FDTD algorithm for hybrid mode analysis of quasi-planar transmission lines; *MWSYM 93 Vol. 1* 421-424
- Xu, Jie, and Antti V. Räisänen. Whisker embedding impedance for millimeter wave diode circuits; *MWSYM 93 Vol. 1* 333-336
- Xu, Shanjia, *see* Ma, Zhewang, *T-MTT Mar 93* 491-497
- Xu, Shanjia, *see* Ma, Zhewang, *T-MTT Jun/Jul 93* 1044-1051
- Xu, Wei, *see* Goel, Ashok K., *T-MTT Jun/Jul 93* 1230-1232
- Xu, Yansheng, *see* Wu, Ke, *MWSYM 93 Vol. 2* 983-986
- Xuan, Yongnan, *see* Fikart, Josef, *MCS 93* 145-148
- Xuan, Yongnan, *see* Fikart, Josef, *MWSYM 93 Vol. 1* 407-410
- Xuan, Yongnan, and Josef L. Fikart. Computer-aided design of microwave frequency doublers using a new circuit structure; *T-MTT Dec 93* 2264-2268
- Y
- Yadlowsky, Michael John, *see* Hjelle, Dag Roar, *T-MTT Jun/Jul 93* 1149-1158
- Yagura, M., *see* Hara, S., *MCS 93* 19-22
- Yamada, Atsushi, *see* Hara, Shinji, *MCS 93* 67-70
- Yamada, Kenji, *see* Kobayashi, Takehiko, *T-MTT Jan 93* 136-140
- Yamaguchi, K., *see* Suzuki, Katsumi, *MWSYM 93 Vol. 3* 1429-1432
- Yamashita, Eikichi, *see* Tefiku, Faton, *T-MTT Feb 93* 343-346
- Yamashita, Eikichi, *see* Zhu, Lei, *T-MTT Mar 93* 478-483
- Yamashita, Eikichi, *see* Ma, Zhewang, *T-MTT Mar 93* 491-497
- Yamashita, Eikichi, *see* Qian, Yongxi, *T-MTT Jun/Jul 93* 1011-1016
- Yamashita, Eikichi, *see* Ma, Zhewang, *T-MTT Jun/Jul 93* 1044-1051
- Yamashita, Sadao, *see* Ishikawa, Youhei, *MWSYM 93 Vol. 1* 193-196
- Yamashita, Sadao, *see* Ishikawa, Youhei, *T-MTT Dec 93* 2133-2138
- Yang, Andrew T., *see* Kipp, Robert, *T-MTT May 93* 848-854
- Yang, Cheng Chih, and Dee-Son Pan. Millimeter-wave simulation of a series-integrated resonant tunneling diode including transit time effect; *MWSYM 93 Vol. 1* 329-332
- Yang, Cheng Chih, Brad L. Nelson, Barry R. Allen, William L. Jones, and John B. Horton. Cryogenic characteristics of wide-band pseudomorphic HEMT MMIC low-noise amplifiers; *T-MTT Jun/Jul 93* 992-997
- Yang, D., *see* Sharma, A. K., *MWSYM 93 Vol. 3* 1343-1346
- Yang, Jian-Xun, Farid Agahi, Dong Dai, Charles F. Musante, Wes Grammer, Kei May Lau, and K. Sigfrid Yngvesson. Wide-bandwidth electron bolometric mixers: A 2DEG prototype and potential for low-noise THz receivers; *T-MTT Apr 93* 581-589
- Yang, L. W., *see* Komiak, J. J., *MWSYM 93 Vol. 3* 1473-1476
- Yang, Quanrang, *see* Wu, Wen, *MWSYM 93 Vol. 1* 301-303
- Yang, Ron, and A. S. Omar. Analysis of thin inclined rectangular aperture with arbitrary location in rectangular waveguide (Short p.); *T-MTT Aug 93* 1461-1463
- Yang, Rong, and A. S. Omar. Rigorous analysis of iris coupling problem in waveguide (Short p.); *T-MTT Feb 93* 349-352
- Yang, Rong, and A. S. Omar. Investigation of multiple rectangular aperture irises in rectangular waveguide using TE_{mn}-modes; *T-MTT Aug 93* 1369-1374
- Yang, Y. Eric, *see* Gu, Qizheng, *T-MTT Feb 93* 206-214
- Yao, Hui-Wen, Amr Abdelmonem, Ji-Fuh Liang, Xiao-Peng Liang, Kawthar A. Zaki, and Alain Martin. Waveguide and ridge waveguide T-junctions for wide band applications; *MWSYM 93 Vol. 2* 601-604
- Yao, Hui-Wen, Amr Abdelmonem, Ji-Fuh Liang, Xiao-Peng Liang, Kawthar A. Zaki, and Alain Martin. Wide-band waveguide and ridge waveguide T-junctions for diplexer applications; *T-MTT Dec 93* 2166-2173
- Yao, Jack Tzu-Wen, *see* Kipp, Robert, *T-MTT May 93* 848-854
- Yao, Shih-Jih, and René R. Bonetti. Dual-plane coupled-line microwave filter; *MWSYM 93 Vol. 1* 181-184
- Yao, Shih-Jih, René R. Bonetti, and Albert E. Williams. Generalized dual-plane multicoupled line microwave filters; *T-MTT Dec 93* 2182-2189
- Yarborough, Ron, Paul Saunier, Hua Quen Tsermg, Keith Salzman, Bob Smith, and David Heston. Four-watt 20-GHz partial monolithic amplifier; *MWSYM 93 Vol. 3* 1381-1383
- Yau, W., *see* Kurdoghlian, A., *MCS 93* 97-98
- Yazawa, N., *see* Suzuki, Katsumi, *MWSYM 93 Vol. 3* 1429-1432
- Ybarra, G. A., G. L. Bilbro, S. M. Wu, S. H. Ardalan, C. P. Hearn, and R. T. Neece. High resolution target range estimation using frequency-stepped CW radar; *MWSYM 93 Vol. 1* 249-252
- Ye, S., *see* Bandler, J. W., *MWSYM 93 Vol. 2* 889-892
- Ye, S., *see* Bandler, J. W., *MWSYM 93 Vol. 2* 1017-1020
- Ye, Shen, *see* Bandler, John W., *T-MTT Dec 93* 2269-2278
- Yen, H. C., *see* Chen, C. H., *MWSYM 93 Vol. 3* 1377-1380
- Yeung, Patrick S. Lossy transmission lines: Time domain formulation and simulation model; *T-MTT Aug 93* 1275-1279
- Yngvesson, K. Sigfrid, *see* Yang, Jian-Xun, *T-MTT Apr 93* 581-589
- Yngvesson, K. Sigfrid, *see* Grammer, Wes, *T-MTT Sep 93* 1653-1658
- Yoneyama, Tsukasa, *see* Niu, Dow-Chih, *MWSYM 93 Vol. 3* 1207-1210
- Yoneyama, Tsukasa, *see* Niu, Dow-Chih, *T-MTT Dec 93* 2126-2132
- York, R. A. Nonlinear analysis of phase relationships in quasi-optical oscillator arrays; *T-MTT Oct 93* 1799-1809
- York, R. A., *see* Liao, P., *T-MTT Oct 93* 1810-1815
- York, Robert A., and Richard C. Compton. Measurement and modelling of radiative coupling in oscillator arrays; *T-MTT Mar 93* 438-444
- Yoshida, Haruo, Yasuhiko Sakamoto, Udo Klein, and Tadashi Endo. Improvements in the millimeter-wave system for Josephson junction array voltage standard systems; *MWSYM 93 Vol. 1* 389-392
- Yoshida, Haruo, Yasuhiko Sakamoto, Udo Klein, and Tadashi Endo. Improvements in the millimeter-wave system for Josephson junction array voltage standard systems; *T-MTT Dec 93* 2353-2358
- Yoshida, N., *see* Katoh, T., *MWSYM 93 Vol. 1* 337-340
- Yoshikawa, K., *see* Hara, S., *MCS 93* 19-22
- Yoshikawa, S., *see* Suzuki, Katsumi, *MWSYM 93 Vol. 3* 1429-1432
- Yoshimasu, T., *see* Hara, S., *MCS 93* 19-22
- Yoshimasu, Toshihiko, *see* Hara, Shinji, *MCS 93* 67-70

SUBJECT INDEX

A

- Yoshinaga, Hiroyuki**, Kazutoshi Masuda, Shigenori Takagi, Bunichiro Abe, Kiyoyasu Shibata, Hisao Kawasaki, Hirokuni Tokuda, and Isao Tokaji. A 94 GHz-band low noise downconverter; *MWSYM 93 Vol. 2* 779-782
- Youmans, R.**, see Kim, A., *MWSYM 93 Vol. 3* 1221-1224
- Young, Alan C.**, see Batchelor, Robert A., *MWSYM 93 Vol. 2* 677-680
- Yu, H.**, see Bandler, J. W., *MWSYM 93 Vol. 2* 1009-1012
- Yu, Huanyu**, see Bandler, John W., *T-MTT Dec 93* 2279-2287
- Yu, Mark**, and Anand Gopinath. A slow-wave resonant electrode design for optical modulators; *MWSYM 93 Vol. 1* 237-239
- Yu, Ming**, Ruediger Vahldieck, and Jifu Huang. Comparing coax launcher and wafer probe excitation for 10 mil conductor backed CPW with via holes and airbridges; *MWSYM 93 Vol. 2* 705-708
- Yu, Ming**, Rüdiger Vahldieck, and Ke Wu. Theoretical and experimental characterization of coplanar waveguide discontinuities (Short p.); *T-MTT Sep 93* 1638-1640
- Yu, Ruai**, Madhukar Reddy, Joe Pusi, Scott Allen, Michael Case, and Mark Rodwell. Full two-port on-wafer vector network analysis to 120 GHz using active probes; *MWSYM 93 Vol. 3* 1339-1342
- Yu, T. H.**, see Fu, S. T., *MWSYM 93 Vol. 3* 1469-1472
- Yuan, Yi**, see Bagby, Jonathan S., *T-MTT Nov 93* 1887-1894
- Yujiri, L.**, see Dow, G. S., *MWSYM 93 Vol. 1* 163-166

Z

- Zaki, Kawthar A.**, see Liang, Ji-Fuh, *MWSYM 93 Vol. 1* 451-454
- Zaki, Kawthar A.**, see Liang, Xiao-Peng, *MWSYM 93 Vol. 2* 597-600
- Zaki, Kawthar A.**, see Yao, Hui-Wen, *MWSYM 93 Vol. 2* 601-604
- Zaki, Kawthar A.**, see Yao, Hui-Wen, *T-MTT Dec 93* 2166-2173
- Zaki, Kawthar A.**, see Liang, Xiao-Peng, *T-MTT Dec 93* 2174-2181
- Zakurdayev, A. D.**, see Lopin, M. I., *MWSYM 93 Vol. 2* 1119-1121
- Zakurdayev, Anatoli D.**, see Gelvich, Edward A., *T-MTT Jan 93* 15-19
- Zaman, Afroz**, see Benet, James A., *MWSYM 93 Vol. 2* 619-622
- Zaytsev, S. A.**, V. N. Lebedev, I. A. Ledov, A. S. Negirev, A. D. Rodyonov, E. I. Ryzhik, and A. M. Temnov. ISTOK achievements in solid-state microwave devices (Abstr.); *MWSYM 93 Vol. 2* 1129
- Zhang, D.**, see Martens, J. S., *MWSYM 93 Vol. 3* 1243-1246
- Zhang, Dawei**, Yahya Rahmat-Samii, Harold R. Fetterman, S. Prakash, R. F. Bunshah, M. Eddy, and J. L. Nilsson. Application of high T_c superconductors as frequency selective surfaces: Experiment and theory; *T-MTT Jun/Jul 93* 1032-1036
- Zhang, Xiaolei**. Design of conical corrugated feed horns for wide-band high-frequency applications; *T-MTT Aug 93* 1263-1274
- Zhang, Xue-Song**, see Sturzebecher, Dana J., *T-MTT Jun/Jul 93* 998-1004
- Zhary, Yevgeny V.**, see Gelvich, Edward A., *T-MTT Jan 93* 15-19
- Zheng, Dalian**, see Hsu, Chung-I G., *T-MTT Jan 93* 70-78
- Zhou, Xiangdong**, see Sturzebecher, Dana J., *T-MTT Jun/Jul 93* 998-1004
- Zhou, Xuesong**, and Afshin S. Daryoush. A push-pull self-oscillating mixer for optically fed phased array; *MWSYM 93 Vol. 1* 321-324
- Zhu, Lei**, and Eikichi Yamashita. Full-wave boundary integral equation method for suspended planar transmission lines with pedestals and finite metallization thickness; *T-MTT Mar 93* 478-483
- Zhu, Lizhong**, and Alfred Fettweis. A new result in the synthesis of incommensurate line networks; *MWSYM 93 Vol. 2* 1073-1076
- Zieniutycz, Włodzimierz**. Corrections to 'A new formulation of the boundary condition at infinity for a hybrid radiation mode and its application to the analysis of the radiation modes of microstrip lines' (Sep 90 1294-1299); *T-MTT May 93* 901-902
- Zimmer, G.**, see Banerjee, S. K., *MWSYM 93 Vol. 2* 505-508
- Zimmermann, David C.**, see Drury, Denis M., *T-MTT Feb 93* 183-189
- Zinkler, F.**, see Güngerich, V., *MWSYM 93 Vol. 2* 561-564
- Zirath, Herbert**, Ilcho Angelov, Niklas Rorsman, and Christer Karlsson. A W-band subharmonically pumped resistive mixer based on pseudomorphic heterostructure field effect transistor technology; *MWSYM 93 Vol. 1* 341-344
- Zirath, Herbert**, see Angelov, Ilcho, *MWSYM 93 Vol. 2* 787-790
- Zolper, J.**, see Martens, J. S., *MWSYM 93 Vol. 3* 1243-1246

Ablation

RF and microwave ablation for treatment of ventricular tachycardia. *Rosenbaum, Richard M.*, + , *MWSYM 93 Vol. 2* 1155-1158

Absorbing media; cf. Electromagnetic propagation, absorbing media; Electromagnetic scattering, absorbing media

Acceleration

acceleration sensitivity study for commercially available SAW oscillators. *McGowan, R.*, + , *MWSYM 93 Vol. 1* 381-384

Accelerator cavities

calculation of intercavity coupling coefficient for side coupled standing wave linear accelerator. *Roy, Rajat*, + , *T-MTT Jun/Jul 93* 1233-1235

theory for cylindrical pillbox accelerator cavity using layered structures for reducing skin-effect losses. *Sailor, W. C.*, + , *T-MTT Aug 93* 1471-1474

Accelerators; cf. Linear accelerators

Access control

2.45 GHz wireless IC card system for automatic gates. *Konno, Ken-ichi*, + , *MWSYM 93 Vol. 2* 797-800

Acoustic filters; cf. Acoustic resonator filters; Acoustic surface wave filters

Acoustic oscillators; cf. Acoustic surface wave oscillators

Acoustic resonator filters

X-band thin film acoustic filters on GaAs. *Stokes, Robert B.*, + , *T-MTT Jun/Jul 93* 1075-1080

Acoustic resonator filters; cf. Acoustic surface wave resonator filters

Acoustic resonators; cf. Acoustic surface wave resonators

Acoustic surface wave devices

physically-based small-signal circuit model for heterostructure acoustic charge transport devices. *Kenney, J. Stevenson*, + , *MWSYM 93 Vol. 3* 1513-1516

physically-based small-signal circuit model for heterostructure acoustic charge transport devices. *Kenney, J. Stevenson*, + , *T-MTT Dec 93* 2218-2226

Acoustic surface wave filters

design and performance of wideband IIDT-type SAW filters with low loss and improved sidelobe suppression. *Weigel, R.*, + , *MWSYM 93 Vol. 3* 1505-1508

high Q microwave acoustic resonators and filters. *Lakin, K. M.*, + , *MWSYM 93 Vol. 3* 1517-1520

high Q microwave acoustic resonators and filters. *Lakin, Kenneth M.*, + , *T-MTT Dec 93* 2139-2146

low loss SAW filter structure with extremely wide bandwidth for mobile communication systems. *Machui, J.*, + , *MWSYM 93 Vol. 3* 1501-1504

low loss SAW filter structure with extremely wide bandwidth for mobile communication systems. *Müller, Gunter*, + , *T-MTT Dec 93* 2147-2155

Acoustic surface wave filters; cf. Acoustic surface wave resonator filters

Acoustic surface wave oscillators

acceleration sensitivity study for commercially available SAW oscillators. *McGowan, R.*, + , *MWSYM 93 Vol. 1* 381-384

Acoustic surface wave resonator filters

high Q microwave acoustic resonators and filters. *Lakin, K. M.*, + , *MWSYM 93 Vol. 3* 1517-1520

high Q microwave acoustic resonators and filters. *Lakin, Kenneth M.*, + , *T-MTT Dec 93* 2139-2146

Acoustic surface wave resonators

high Q microwave acoustic resonators and filters. *Lakin, K. M.*, + , *MWSYM 93 Vol. 3* 1517-1520

high Q microwave acoustic resonators and filters. *Lakin, Kenneth M.*, + , *T-MTT Dec 93* 2139-2146

transverse and longitudinal modes in waveguide-coupled resonators. *Hunt, William D.*, + , *MWSYM 93 Vol. 3* 1509-1512

Acoustic surface wave signal processing; cf. Acoustic surface wave filters;

Acoustic surface wave resonator filters

Acoustic surface wave transducers

application of Wiener-Hopf technique to electrostatic field problems in interdigital transducers. *Molisch, Andreas F.*, + , *T-MTT Feb 93* 318-324

Acoustic transducers; cf. Acoustic surface wave transducers

Acoustooptic deflectors

acoustooptic control of MMIC T/R modules for phased array beamsteering. *Jemison, William D.*, + , *MWSYM 93 Vol. 2* 1051-1054

Active antennas

active inverted stripline circular patch antennas for spatial power combining. *Navarro, Julio A.*, + , *T-MTT Oct 93* 1856-1863

FET active slotline notch antennas for quasi-optical power combining. *Leverich, W. Kent*, + , *T-MTT Sep 93* 1515-1518

mode analysis of active microstrip antenna arrays with strongly coupled oscillators; method for power combining. *Nogi, Shigeji*, +, *T-MTT Oct 93* 1827-1837

quasi-optical planar arrays with FETs and slots. *Kawasaki, Shigeo*, +, *T-MTT Oct 93* 1838-1844

Active arrays

affordable low-profile multifunction structure for optoelectronic active array. *Newberg, Irwin L.*, +, *MWSYM 93 Vol. 2* 509-512

dielectric-waveguide measurement method for determining driving-point impedance of 2-D active grid arrays, based on microwave array models. *Pance, Aleksandar*, +, *T-MTT Jan 93* 20-28

spatial power amplification with active linearly tapered slot antenna array. *Simons, Rainee N.*, +, *MWSYM 93 Vol. 2* 623-626

Active circuits

ultra-wideband MMIC active power splitters with arbitrary phase relationships. *Kamitsuna, Hideki*, +, *T-MTT Sep 93* 1519-1523

Active filters

design of tunable recursive active filters using power dividers. *Billonnet, L.*, +, *MWSYM 93 Vol. 1* 185-188

dual-mode microstrip ring resonator filter with active devices for loss compensation. *Karacaoglu, U.*, +, *MWSYM 93 Vol. 1* 189-192

fully integrated narrowband tunable active MMIC bandpass and notch filters at X-band. *Katzin, P.*, +, *MCS 93* 141-144

MIC active bandstop filter using GaAs MESFETs with adjustable center frequency. *Arnold, R. G.*, +, *MWSYM 93 Vol. 3* 1313-1316

MMIC twin-tee active bandpass filter. *Rosenbaum, F. J.*, +, *MCS 93* 163-166

MMIC twin-tee active bandpass filter. *Rosenbaum, F. J.*, +, *MWSYM 93 Vol. 1* 361-364

narrow-band active X-band MMIC filters with automatic tuning and Q-factor control. *Katzin, P.*, +, *MWSYM 93 Vol. 1* 403-406

noise design of active feedback resonator band-elimination filter. *Ishikawa, Youhei*, +, *MWSYM 93 Vol. 1* 193-196

noise design of active feedback resonator band-elimination filter. *Ishikawa, Youhei*, +, *T-MTT Dec 93* 2133-2138

Admittance calculations

mutual coupling between two small circular apertures in conducting screen; analytical expression. *Savov, Sava V.*, *T-MTT Jan 93* 143-146

Admittance measurement

millimeter and submillimeter-wave quasi-optical oscillator with Gunn diodes. *Bae, Jongsuck*, +, *T-MTT Oct 93* 1851-1855

Aircraft landing guidance

experimental autonomous aircraft landing system utilizing 94-GHz FM-CW imaging radar. *Bui, L. Q.*, +, *MWSYM 93 Vol. 2* 857-860

Aircraft radar, onboard

experimental autonomous aircraft landing system utilizing 94-GHz FM-CW imaging radar. *Bui, L. Q.*, +, *MWSYM 93 Vol. 2* 857-860

Algebra; cf. Matrices; Polynomials; Vectors

Aluminum materials/devices

complex permittivity of aluminum nitride substrates. *Wright, P.*, +, *MWSYM 93 Vol. 1* 269-272

full-wave analysis of superconducting microstrip lines on sapphire substrates. *Lee, L. H.*, +, *MWSYM 93 Vol. 1* 385-388

full-wave analysis of superconducting microstrip lines on sapphire substrates. *Lee, Laurence H.*, +, *T-MTT Dec 93* 2359-2367

Aluminum materials/devices; cf. Gallium materials/devices

AM

MMIC subharmonically pumped SSB modulator. *Pospishil, A.*, +, *MCS 93* 137-140

AM communication

feedforward linearization of directly modulated laser diodes for AM CATV lightwave transmission systems. *Hassin, D.*, +, *MWSYM 93 Vol. 2* 727-730

feedforward linearization of directly modulated laser diodes for AM CATV lightwave transmission systems. *Hassin, D.*, +, *T-MTT Dec 93* 2376-2382

Amplifier noise

12-GHz low-noise MMIC amplifier designed with noise model that scales with MODFET size and bias. *Hughes, Brian*, +, *MCS 93* 31-34

12-GHz low-noise MMIC amplifier designed with noise model that scales with MODFET size and bias. *Hughes, Brian*, +, *T-MTT Dec 93* 2311-2316

7-11 GHz AlInAs/GaInAs/InP MMIC LNA. *Rosenbaum, Steven E.*, +, *MWSYM 93 Vol. 2* 1103-1104

94 GHz-band low noise downconverter combining InP-HEMT LNA, pseudomorphic HEMT mixer and DRO. *Yoshinaga, Hiroyuki*, +, *MWSYM 93 Vol. 2* 779-782

comments, with reply, on 'Optimum noise measure terminations for microwave transistor amplifiers' by C. R. Poole and D. K. Paul. *Liu,*

Ji-Chyun, +, *T-MTT Feb 93* 363-364 (Original paper, Nov 85 1254-1257)

cryogenic characteristics of wide-band pseudomorphic HEMT MMIC low-noise amplifiers. *Yang, Cheng Chih*, +, *T-MTT Jun/Jul 93* 992-997

electrostatic amplifiers. *Budzinsky, Y. A.*, +, *MWSYM 93 Vol. 2* 1123-1125

GaAs JFET front-end mixer and amplifier MMICs for L-band personal communications. *Ogihara, Takahiro*, +, *MCS 93* 9-12

high-gain low-noise 110 GHz monolithic two-stage amplifier. *Wang, H.*, +, *MWSYM 93 Vol. 2* 783-785

high performance 1.5-dB low-noise GaAs PHEMT MMIC amplifier for low cost 1.5-8 GHz commercial applications. *Morkner, H.*, +, *MCS 93* 13-16

high performance Q-band 0.15- μ m InGaAs HEMT MMIC LNA. *Duh, K. H. G.*, +, *MCS 93* 99-102

Ka-band MMIC power and LNAs fabricated on same PHEMT wafer. *Kurdoghlian, A.*, +, *MCS 93* 97-98

low-noise HEMT Ka-band amplifiers for deep space communication. *Laskar, J.*, +, *MWSYM 93 Vol. 2* 1095-1098

low-noise, low DC power linear amplifiers. *Ikalainen, Pertti K.*, +, *MWSYM 93 Vol. 1* 357-360

low-noise, low-DC-power linear amplifiers using high dynamic range GaAs FETs. *Ikalainen, Pertti K.*, +, *MCS 93* 159-162

low noise, phase linear distributed CPW amplifier. *Minot, K.*, +, *T-MTT Sep 93* 1650-1653

miniaturized low-noise variable gain GaAs MESFET MMIC amplifiers with low-power consumption for L-band portable communication applications. *Hara, Shinji*, +, *MCS 93* 67-70

monolithic W-band three-stage LNA using 0.1 μ m InAlAs/InGaAs/InP HEMT technology. *Wang, H.*, +, *MWSYM 93 Vol. 2* 519-522

Amplifiers; cf. Bipolar transistor amplifiers; Distributed amplifiers; Feedback amplifiers; FET amplifiers; Logarithmic amplifiers; Microwave amplifiers; Millimeter-wave amplifiers; Optical fiber amplifiers; Parametric amplifiers; Travelling-wave amplifiers; Tunable devices; UHF amplifiers

Analog integrated circuits; cf. Microwave FET integrated circuits; Millimeter-wave integrated circuits

Anisotropic media

analysis of millimeter waveguides on anisotropic substrates using 3-D TLM method. *Bulutay, Ceyhan*, +, *T-MTT Jun/Jul 93* 1119-1125

Anisotropic media; cf. Electromagnetic propagation, anisotropic media; Electromagnetic scattering, anisotropic media

Anisotropic transmission lines; cf. Dielectric waveguides; Electromagnetic propagation, anisotropic media

Antenna array mutual coupling

measurement and modelling of radiative coupling in oscillator arrays. *York, Robert A.*, +, *T-MTT Mar 93* 438-444

mutual coupling between two small circular apertures in conducting screen; analytical expression. *Savov, Sava V.*, *T-MTT Jan 93* 143-146

phase-shifterless beam-scanning technique using arrays of coupled oscillators. *Liao, P.*, +, *T-MTT Oct 93* 1810-1815

Antenna arrays

determination of impedance matrix of antenna array in quasi-optical resonator using Lorentz integral. *Heron, Patrick L.*, +, *T-MTT Oct 93* 1816-1826

FET active slotline notch antennas for quasi-optical power combining. *Leverich, W. Kent*, +, *T-MTT Sep 93* 1515-1518

microwave LANs using passive terminal stations acting as transponders and distributed antennas with no microwave power generation. *Meyer, S.*, +, *MWSYM 93 Vol. 3* 1549-1552

mode analysis of active microstrip antenna arrays with strongly coupled oscillators; method for power combining. *Nogi, Shigeji*, +, *T-MTT Oct 93* 1827-1837

thermal modelling of non-ideal interstitial microwave antenna array hyperthermia for treatment of cancer. *Clibbon, K. L.*, +, *MWSYM 93 Vol. 2* 1147-1150

Antenna arrays; cf. Active arrays; Log-periodic antennas; Monopole arrays; Phased arrays; Planar arrays; Radar antennas; Slot arrays

Antenna feeds

design of conical corrugated feed horns for wide-band high-frequency applications. *Zhang, Xiaolei*, *T-MTT Aug 93* 1263-1274

Antenna feeds; cf. Horn antennas; Slot antennas

Antenna measurements

dielectric-waveguide measurement method for determining driving-point impedance of 2-D active grid arrays, based on microwave array models. *Pance, Aleksandar*, +, *T-MTT Jan 93* 20-28

Antenna mutual coupling; cf. Antenna array mutual coupling

Antennas; cf. Active antennas; Antenna arrays; Aperture antennas; Dielectric-covered antennas; Helical antennas; Lens antennas; Loaded antennas; Microstrip antennas; Millimeter-wave antennas; Monopole antennas; Radar antennas; Spherical antennas; Spiral antennas; Stripline antennas; Submillimeter-wave antennas

Aperture antennas

mutual coupling between two small circular apertures in conducting screen; analytical expression. *Savov, Sava V.*, *T-MTT Jan 93* 143-146

Aperture antennas; cf. Horn antennas; Slot antennas

Apertures

broadband directional coupler using dielectric-loaded slit. *Oh-hash, Hideyuki*, +, *MWSYM 93 Vol. 2* 873-876

corrections to 'Moment method formulation of thick diaphragms in a rectangular waveguide' (Mar 92 592-595). *Datta, Amlan*, +, *T-MTT Apr 93* 738-739

equivalent circuit parameters of aperture coupled open resonator cavity. *Mongia, R. K.*, +, *T-MTT Aug 93* 1245-1250

equivalent networks with simple closed-form expressions for open and slit-coupled E-plane tee junctions. *Lampariello, Paolo*, +, *T-MTT May 93* 839-847

investigation of multiple rectangular aperture irises in rectangular waveguide using TE_{mn}^x -modes. *Yang, Rong*, +, *T-MTT Aug 93* 1369-1374

measurement of complex permittivity of low-loss planar microwave substrates using aperture-coupled microstrip resonators. *Saed, Mohammad A.*, *T-MTT Aug 93* 1343-1348

mode conversion at diffracting apertures in millimeter and submillimeter wave optical systems. *Murphy, J. Anthony*, +, *T-MTT Oct 93* 1700-1702

rigorous CAD design of rectangular waveguide sidewall aperture couplers. *Sieverding, T.*, +, *MWSYM 93 Vol. 2* 761-764

slot-coupled double-sided microstrip interconnects and couplers. *Ho, Chien-Hsun*, +, *MWSYM 93 Vol. 3* 1321-1324

slot-fed higher order mode Fabry-Perot filters. *McCleary, James*, +, *T-MTT Oct 93* 1703-1709

small dielectric TEM mode resonator with crossing slot; application to cellular radio VCO. *Uwano, Tomoki*, *T-MTT Apr 93* 639-646

spectral-domain analysis of microstrip lines coupled through arbitrarily shaped aperture in thick common ground plane. *Tran, Allen M.*, +, *MWSYM 93 Vol. 2* 819-822

thin inclined rectangular aperture with arbitrary location in rectangular waveguide. *Yang, Ron*, +, *T-MTT Aug 93* 1461-1463

TM-scattering from slit in thick conducting screen. *Kang, Soo H.*, +, *T-MTT May 93* 895-899

Approximation methods

embedding impedance approximations in analysis of SIS mixers. *Kerr, Anthony R.*, +, *T-MTT Apr 93* 590-594

multilevel multidimensional quadratic modeling for yield-driven electromagnetic optimization. *Bandler, J. W.*, +, *MWSYM 93 Vol. 2* 1017-1020

multilevel multidimensional quadratic modeling for yield-driven electromagnetic optimization. *Bandler, John W.*, +, *T-MTT Dec 93* 2269-2278

Approximation methods; cf. Curve fitting; Filters; Least-squares methods

Array processing

X-band phased array microwave/photonic beamforming network. *Banerjee, S. K.*, +, *MWSYM 93 Vol. 2* 505-508

Arrays

2×2 quasi-optical power combiner array at 20 GHz. *Kawasaki, Shigeo*, +, *T-MTT Apr 93* 717-719

4×4 spatial power-combining array with strongly coupled oscillators in multi-layer structure. *Lin, Jenshan*, +, *MWSYM 93 Vol. 2* 607-610

60-GHz IMPATT oscillator array using pulsed operation to prevent overheating. *Davidson, Andrew C.*, +, *T-MTT Oct 93* 1845-1850

electromagnetic scattering by finite strip array on dielectric slab. *Lu, Cai-Cheng*, +, *T-MTT Jan 93* 97-100

high-power amplification at millimeter-wave frequencies using spatial power combining. *Benet, James A.*, +, *MWSYM 93 Vol. 2* 619-622

monolithic diode array millimeter-wave beam transmittance controller. *Sjogren, Lance B.*, +, *T-MTT Oct 93* 1782-1790

nonlinear analysis of phase relationships in quasi-optical oscillator arrays. *York, R. A.*, *T-MTT Oct 93* 1799-1809

performance of two-junction array SIS mixer operating around 345 GHz. *Honingh, C. E.*, +, *T-MTT Apr 93* 616-623

quasi-optical VCOs consisting of MESFET oscillator array, variable capacitance array and mirror. *Mader, Thomas*, +, *T-MTT Oct 93* 1775-1781

Arrays; cf. Antenna arrays; Josephson arrays; Planar arrays

Attenuation calculations

rigorous analysis of higher-order modes and attenuation of stripline of arbitrary dimensions using transverse resonance diffraction technique. *Burchett, M. H.*, +, *MWSYM 93 Vol. 3* 1451-1454

rigorous analysis of higher-order modes and attenuation of stripline of arbitrary dimensions using transverse resonance diffraction technique. *Burchett, M. Hugh*, +, *T-MTT Dec 93* 2074-2080

Attenuators; cf. Microwave attenuators

Australia

Australian activities in microwave links for wireless LANs. *Batchelor, Robert A.*, +, *MWSYM 93 Vol. 2* 677-680

microwave engineering education in Australia. *Fourikis, N.*, *T-MTT Jun/Jul 93* 948-953

Automobiles; cf. Road vehicle radar

Autoregressive processes

combining AR model with FDTD algorithm for improved computational efficiency. *Chen, Ji*, +, *MWSYM 93 Vol. 2* 749-752

Avalanche diode oscillators; cf. IMPATT diode oscillators

Awards

1993 MTT-S awards presented at 1993 IEEE International Microwave Symposium. *T-MTT Dec 93* 2058-2066

B**Backward-wave oscillators**

multiple-beam microwave tubes developed at ISTOK. *Pobedonostsev, A. S.*, +, *MWSYM 93 Vol. 2* 1131-1134

Baluns

compact wideband balun for MMIC applications. *Tsai, M. C.*, *MCS 93* 123-125

compact wideband balun for MMIC applications. *Tsai, M. C.*, *MWSYM 93 Vol. 1* 141-143

CPW transitions to slotline; design and microprobe characterization. *Grammer, Wes*, +, *T-MTT Sep 93* 1653-1658

generalized network model for coupled multiconductor transmission lines; use in planar re-entrant type couplers and three-line Baluns. *Tsai, C. M.*, +, *MWSYM 93 Vol. 2* 1013-1016

star mixer using planar balun structure. *Basu, S.*, +, *T-MTT Nov 93* 2028-2030

Bandpass filters

CAD of circular ridge waveguide evanescent-mode bandpass filters using frequency-domain TLM method. *Huang, Jifu*, +, *MWSYM 93 Vol. 1* 459-462

compact 900-MHz hairpin-line filters using high-dielectric-constant microstrip line. *Pramanick, Protap*, *MWSYM 93 Vol. 2* 885-888

dual-mode microstrip ring resonator filter with active devices for loss compensation. *Karacaoglu, U.*, +, *MWSYM 93 Vol. 1* 189-192

dual-plane bandpass elliptic coupled-line filter suitable for high-temperature superconducting thin-film implementation. *Yao, Shih-Jih*, +, *MWSYM 93 Vol. 1* 181-184

dual-plane bandpass elliptic coupled-line filter suitable for high-temperature superconducting thin-film implementation. *Yao, Shih-Jih*, +, *T-MTT Dec 93* 2182-2189

fully integrated narrowband tunable active MMIC bandpass and notch filters at X-band. *Katzin, P.*, +, *MCS 93* 141-144

high-pass, low-pass and bandpass filters realized in CPW. *Rayit, A. K.*, +, *MWSYM 93 Vol. 3* 1317-1320

high performance direct-coupled bandpass filters on CPW. *Everard, Jeremy K. A.*, +, *T-MTT Sep 93* 1568-1573

high Q microwave acoustic resonators and filters. *Lakin, K. M.*, +, *MWSYM 93 Vol. 3* 1517-1520

high Q microwave acoustic resonators and filters. *Lakin, Kenneth M.*, +, *T-MTT Dec 93* 2139-2146

high temperature superconducting 8.45-GHz bandpass filter for Deep Space Network. *Mattaei, G. L.*, +, *MWSYM 93 Vol. 3* 1273-1276

high-temperature superconducting thin films in frequency selective surfaces (FSS) at millimeter-wave frequencies; superconducting FSS as quasi-optical millimeter-wave bandpass filters. *Zhang, Dawei*, +, *T-MTT Jun/Jul 93* 1032-1036

high temperature superconductor narrow bandpass X-band microstrip filters for multiplexing applications. *Fathy, A.*, +, *MWSYM 93 Vol. 3* 1277-1280

K-band quasi-planar tapped combline filter and diplexer. *Lo, Wen-Teng*, +, *T-MTT Feb 93* 215-223

method for electromagnetic coupling air-dielectric stripline interdigital or comb line bandpass filter to planar microwave circuit. *Johnson, Gerald E.*, +, *MWSYM 93 Vol. 3* 1309-1311

MMIC twin-tee active bandpass filter. *Rosenbaum, F. J.*, +, *MCS 93* 163-166

- MMIC twin-tee active bandpass filter. *Rosenbaum, F. J.*, +, *MWSYM 93 Vol. 1* 361-364
- modified broadside-coupled microstrip lines suitable for MIC and MMIC applications; use in bandpass filters. *Tran, Michael*, +, *T-MTT Aug 93* 1336-1342
- narrow-band active X-band MMIC filters with automatic tuning and Q-factor control. *Katzin, P.*, +, *MWSYM 93 Vol. 1* 403-406
- narrowband YBCO superconducting parallel-coupled CPW bandpass filters at 10 GHz. *Weigel, R.*, +, *MWSYM 93 Vol. 3* 1285-1288
- slot-fed higher order mode Fabry-Perot filters. *McCleary, James*, +, *T-MTT Oct 93* 1703-1709
- slotline annular ring elements; applications to resonator, filter and coupler design. *Ho, Chien-Hsun*, +, *T-MTT Sep 93* 1648-1650
- staggered resonator array superconducting 2.3-GHz bandpass filter. *Matthaei, G. L.*, +, *MWSYM 93 Vol. 3* 1269-1272
- staggered resonator array superconducting 2.3-GHz bandpass filter. *Matthaei, George L.*, +, *T-MTT Dec 93* 2345-2352
- technique for design of filter-based parametric frequency dividers combining basic divider analysis with nonlinear simulation. *Sloan, George R.*, *T-MTT Feb 93* 224-228
- Bandstop filters**
noise design of active feedback resonator band-elimination filter. *Ishikawa, Youhei*, +, *MWSYM 93 Vol. 1* 193-196
noise design of active feedback resonator band-elimination filter. *Ishikawa, Youhei*, +, *T-MTT Dec 93* 2133-2138
- Bandstop filters; cf.** Notch filters
- Beamforming; cf.** Array processing
- Beams; cf.** Gaussian beams
- Beam steering; cf.** Acoustooptic deflectors
- Belgium**
microwave education in Belgium. *Vander Vorst, André*, *T-MTT Jun/Jul 93* 943-947
- Bessel functions; cf.** Orthogonal functions
- Bioelectric phenomena; cf.** Biological radiation effects, electromagnetic
- Biological cells; cf.** Tumors
- Biological radiation effects, electromagnetic**
differential-equation-based frequency-dependent FDTD formulation for general dispersive media. *Gandhi, Om P.*, +, *T-MTT Apr 93* 658-665
dry phantom utilizing microwave ceramic powder for estimation of specific absorption rate in biological systems; application to irradiation at UHF. *Kobayashi, Takehiko*, +, *T-MTT Jan 93* 136-140
microwave bioelectromagnetics in Europe. *Vander Vorst, André*, *MWSYM 93 Vol. 2* 1137-1140
microwave LANs using passive terminal stations acting as transponders and distributed antennas with no microwave power generation. *Meyer, S.*, +, *MWSYM 93 Vol. 3* 1549-1552
overconstrained version of method of moments for specific absorption rate evaluation in biological bodies. *Caorsi, Salvatore*, +, *T-MTT Feb 93* 305-310
- Biological radiation effects, electromagnetic; cf.** Biomedical radiation applications, electromagnetic
- Biological systems; cf.** Head
- Biological thermal factors; cf.** Hyperthermia
- Biomedical imaging**
dielectric imaging for localization and detection of breast tumours. *Preece, Alan W.*, +, *MWSYM 93 Vol. 2* 1145-1146
- Biomedical imaging, electromagnetic**
microwave bioelectromagnetics in Europe. *Vander Vorst, André*, *MWSYM 93 Vol. 2* 1137-1140
- Biomedical imaging, electromagnetic; cf.** Tomography, electromagnetic
- Biomedical radiation applications, electromagnetic**
heating characteristics of thin helical antennas with conducting cores in lossy medium; noninsulated antennas. *Mirotnik, Mark S.*, +, *T-MTT Nov 93* 1878-1886
microwave bioelectromagnetics in Europe. *Vander Vorst, André*, *MWSYM 93 Vol. 2* 1137-1140
RF and microwave ablation for treatment of ventricular tachycardia. *Rosenbaum, Richard M.*, +, *MWSYM 93 Vol. 2* 1155-1158
- Biomedical radiation applications, electromagnetic; cf.** Biomedical imaging, electromagnetic; Hyperthermia
- Bipolar integrated circuits**
GaAs HBT PIN diode attenuators and switches. *Kobayashi, K. W.*, +, *MWSYM 93 Vol. 1* 349-352
GaAs HBT PIN diode variable-gain amplifiers, attenuators and switches. *Kobayashi, Kevin W.*, +, *T-MTT Dec 93* 2295-2302
- Bipolar integrated circuits; cf.** Bipolar transistors
- Bipolar transistor amplifiers; cf.** Microwave bipolar transistor amplifiers; Millimeter-wave bipolar transistor amplifiers
- Bipolar transistor circuits; cf.** Bipolar integrated circuits
- Bipolar transistor oscillators; cf.** Millimeter-wave bipolar transistor oscillators
- Bipolar transistors**
AlGaAs/GaAs HBT 1–10 GHz pin diode attenuator and X-band pin diode switch. *Kobayashi, K. W.*, +, *MCS 93* 151-154
comments, with reply, on 'Mechanisms determining third-order intermodulation distortion in AlGaAs/GaAs heterojunction bipolar transistors' by A. Samelis and D. Pavlidis. *Maas, S. A.*, +, *T-MTT Nov 93* 2038-2040 (Original paper, Dec 92 2374-2380)
- Bipolar transistors; cf.** Bipolar integrated circuits; Microwave bipolar transistors; Millimeter-wave bipolar transistors; Phototransistors; Power bipolar transistors
- Bolometers**
wide-bandwidth electron bolometric mixers; 2DEG prototype and potential for low-noise THz receivers. *Yang, Jian-Xun*, +, *T-MTT Apr 93* 581-589
- Boundary-element methods**
boundary-element analysis of trapezoidal transmission line. *Toland, Brent*, +, *T-MTT Jun/Jul 93* 1052-1056
Green's function for quasistatic analysis of shielded planar transmission lines by boundary-element method. *Chang, The-Nan*, +, *MWSYM 93 Vol. 2* 921-922
quasi-static analysis of shielded microstrip by modified boundary-element method. *Chang, T. N.*, +, *T-MTT Apr 93* 729-731
- Boundary integral equations**
efficient method for determining resonant frequencies of shielded circular disk and ring resonators. *Tefiku, Fatou*, +, *T-MTT Feb 93* 343-346
full-wave boundary integral equation method for suspended planar transmission lines with pedestals and finite metallization thickness. *Zhu, Lei*, +, *T-MTT Mar 93* 478-483
rigorous boundary integral equation solution for general isotropic and uniaxial anisotropic dielectric waveguides in multilayered media including losses, gain and leakage. *Olyslager, Frank*, +, *T-MTT Aug 93* 1385-1392
rigorous full-wave analysis of propagation characteristics of general lossless and lossy multiconductor transmission lines in multilayered media. *Olyslager, Frank*, +, *T-MTT Jan 93* 79-88
- Boundary integral equations; cf.** Boundary-element methods
- Breakdown; cf.** Dielectric breakdown; Semiconductor device breakdown
- Britain; cf.** United Kingdom
- Broadband communication; cf.** Cable TV
- Broadcasting; cf.** Satellite communication, broadcast; TV...
- Buildings; cf.** Land mobile radio propagation factors
- Bulk waves; cf.** Magnetostatic volume waves
- Buried-object detection**
numerical electromagnetic inverse-scattering solutions for 2-D infinite dielectric cylinders buried in lossy half-space. *Caorsi, S.*, +, *T-MTT Feb 93* 352-357

C

Cables; cf. Coaxial transmission lines

Cable TV

feedforward linearization of directly modulated laser diodes for AM CATV lightwave transmission systems. *Hassin, D.*, +, *MWSYM 93 Vol. 2* 727-730feedforward linearization of directly modulated laser diodes for AM CATV lightwave transmission systems. *Hassin, D.*, +, *T-MTT Dec 93* 2376-2382

CAD (computer-aided design); cf. Design automation; Optical fiber transmitters, lasers

Calibration; cf. Electrooptic measurements

Cameras; cf. TV image sensors

Canada

microwave engineering education in Canada. *Hofer, Wolfgang J. R.*, *T-MTT Jun/Jul 93* 932-936

Cancer; cf. Hyperthermia; Tumors

Capacitance

end-effects in quasi-TEM transmission lines. *Getsinger, William J.*, *T-MTT Apr 93* 666-672

Capacitance calculations

calculation of capacitance and inductance matrices of coupled lines from modal powers. *Amari, Smain*, *T-MTT Jan 93* 146-150capacitance computations in multilayered dielectric medium using closed-form spatial Green's functions. *Oh, Kyung S.*, +, *MWSYM 93 Vol. 1* 429-432

- impedances and charge distributions in slab lines and rectangularly shielded lines obtained by inverse Schwarz–Christoffel conformal transformation. *Costamagna, E.*, +, *T-MTT Jan 93* 156-159
- improved floating-random-walk algorithm for solving multidielectric Dirichlet problem. *Jere, Jayant N.*, +, *T-MTT Feb 93* 325-329
- semi-discrete finite element method analysis of arbitrary microstrip elements; static solution. *Davidovitz, Marat*, +, *T-MTT Apr 93* 680-686
- Capacitors**
rigorous 3-D electromagnetic simulation and efficient approximate model of MMIC overlay capacitors with multiple feedpoints. *Engels, M.*, +, *MWSYM 93 Vol. 2* 757-760
- Capacitors; cf. Varactors**
- Cardiovascular system**
RF and microwave ablation for treatment of ventricular tachycardia. *Rosenbaum, Richard M.*, +, *MWSYM 93 Vol. 2* 1155-1158
- Cascade circuits**
18–40 GHz semi-monolithic balanced cascade amplifiers using AlGaAs/InGaAs P-HEMT and GaAs MESFET. *Kimishima, Masayuki*, +, *MWSYM 93 Vol. 2* 523-526
- influence of metallization thickness on characteristics of cascaded junction discontinuities of shielded coplanar type transmission line. *Huang, Tian-Wei*, +, *T-MTT Apr 93* 693-697
- LiNbO₃ microwave-optoelectronic mixer with linear performance. *Gopalakrishnan, G. K.*, +, *MWSYM 93 Vol. 2* 1055-1058
- LiNbO₃ microwave-optoelectronic mixer with linear performance. *Gopalakrishnan, G. K.*, +, *T-MTT Dec 93* 2383-2391
- Cavities**
field-analysis model for predicting dispersion property of coupled-cavity circuits. *Dai, Fa*, +, *MWSYM 93 Vol. 2* 901-904
- inhomogeneously filled cavities coupled to waveguides using volume integral equation formulation. *Jöstingmeier, Andreas*, +, *T-MTT Jun/Jul 93* 1207-1214
- method for reduction of surface integral to contour integral; application to calculation of electromagnetic coupling of circular cavities by rectangular iris. *Guillot, P.*, +, *MWSYM 93 Vol. 1* 455-458
- method for reduction of surface integral to contour integral; application to calculation of electromagnetic coupling of circular cavities by rectangular iris. *Guillot, Philippe*, +, *T-MTT Dec 93* 2156-2160
- reciprocity formulation for EM scattering by obstacle within large open cavity. *Pathak, Prabhakar H.*, +, *T-MTT Apr 93* 702-707
- Cavity-resonator filters**
method for reduction of surface integral to contour integral; application to calculation of electromagnetic coupling of circular cavities by rectangular iris. *Guillot, P.*, +, *MWSYM 93 Vol. 1* 455-458
- method for reduction of surface integral to contour integral; application to calculation of electromagnetic coupling of circular cavities by rectangular iris. *Guillot, Philippe*, +, *T-MTT Dec 93* 2156-2160
- Cavity-resonator filters; cf. Waveguide filters**
- Cavity resonators**
cavity dumping power from millimeter-wave open cavity using laser-illuminated silicon quasi-optical switch; generation of short high-power pulses. *Smith, G. M.*, +, *MWSYM 93 Vol. 1* 155-158
- circuit level modeling of quasioptical power combining open cavities. *Heron, Patrick L.*, +, *MWSYM 93 Vol. 1* 433-436
- equivalent circuit parameters of aperture coupled open resonator cavity. *Mongia, R. K.*, +, *T-MTT Aug 93* 1245-1250
- finite-element analysis of axisymmetric cavity resonator using hybrid edge element technique. *Lee, Jin-FA*, +, *T-MTT Nov 93* 1981-1987
- modeling of cylindrical dielectric resonators in rectangular waveguides and cavities. *Liang, Xiao-Peng*, +, *MWSYM 93 Vol. 2* 597-600
- modeling of cylindrical dielectric resonators in rectangular waveguides and cavities. *Liang, Xiao-Peng*, +, *T-MTT Dec 93* 2174-2181
- nonreciprocal tunable waveguide directional filter using turnstile open gyromagnetic resonator. *Helszajn, J.*, +, *T-MTT Nov 93* 1950-1958
- rotating wave fields for microwave applications; analysis of rotating waves in cylindrical cavity resonators. *Velazco, Jose E.*, +, *T-MTT Feb 93* 330-335
- Cavity resonators; cf. Accelerator cavities**
- Cellular land mobile radio; cf. Land mobile radio cellular systems**
- Ceramic materials/devices**
dry phantom utilizing microwave ceramic powder for estimation of specific absorption rate in biological systems; application to irradiation at UHF. *Kobayashi, Takehiko*, +, *T-MTT Jan 93* 136-140
- Ceramic materials/devices; cf. Biological radiation effects, electromagnetic; Hybrid integrated circuits**
- Channel waveguides; cf. Optical strip waveguides**
- Charge-transfer devices**
physically-based small-signal circuit model for heterostructure acoustic charge transport devices. *Kenney, J. Stevenson*, +, *MWSYM 93 Vol. 3* 1513-1516
- physically-based small-signal circuit model for heterostructure acoustic charge transport devices. *Kenney, J. Stevenson*, +, *T-MTT Dec 93* 2218-2226
- Chebyshev filters**
graphical design method for traveling wave amplifier based on filter theory. *Paoloni, Claudio*, +, *MWSYM 93 Vol. 1* 273-276
- Chest imaging**
dielectric imaging for localization and detection of breast tumours. *Preece, Alan W.*, +, *MWSYM 93 Vol. 2* 1145-1146
- Chiral media; cf. Polarization**
- Chirp modulation**
VCO-based chirp generation for broad bandwidth compressive receiver applications. *Levy, J. S.*, +, *MWSYM 93 Vol. 2* 1113-1115
- Circuit analysis**
300-GHz-bandwidth network analysis using time-domain electro-optic sampling. *Cheng, H.*, +, *MWSYM 93 Vol. 3* 1355-1358
- object-oriented design of microwave circuit simulators. *Carvalho, P.*, +, *MWSYM 93 Vol. 3* 1491-1494
- systematic error analysis of HP8510 network analyzer time-domain gating techniques with experimental verification. *Lu, Ke*, +, *MWSYM 93 Vol. 3* 1259-1262
- time-domain network analysis of millimeter-wave circuits based on photoconductive-probe sampling technique. *Kim, J.*, +, *MWSYM 93 Vol. 3* 1359-1362
- Circuit analysis; cf. Circuit transient analysis; Microwave circuits; Scattering parameters measurement**
- Circuit boards; cf. Printed circuits**
- Circuit noise; cf. Amplifier noise; Distortion; Integrated circuit noise; Oscillator noise**
- Circuit optimization**
numerical optimization of microwave oscillators and VCOs. *Rizzoli, Vittorio*, +, *MWSYM 93 Vol. 2* 629-632
- robustizing circuit optimization using Huber functions. *Bandler, J. W.*, +, *MWSYM 93 Vol. 2* 1009-1012
- robustizing circuit optimization using Huber functions. *Bandler, John W.*, +, *T-MTT Dec 93* 2279-2287
- Circuit optimization; cf. Yield optimization**
- Circuits; cf. Cascade circuits; Distributed-parameter circuits; Feedback circuits; Filters; Integrated circuits; Impedance matching; Linear circuits; Logic circuits; Lossless circuits; Lossy circuits; Microstrip circuits; Microwave circuits; Millimeter-wave circuits; Multiport circuits; Nonlinear circuits; Nonreciprocal circuits; One-port circuits; Resistive circuits; Specific topic**
- Circuit simulation**
convolution-based black-box approach for incorporating linear circuit blocks described by frequency-domain data into nonlinear transient time-domain simulator. *Halloran, Patrick*, +, *MWSYM 93 Vol. 3* 1189-1192
- extraction of device noise sources from measured data using circuit simulator software. *Ikalainen, Pertti K.*, *T-MTT Feb 93* 340-343
- measurement-based large-signal diode model and associated automated data acquisition system and model generator system for simulation of diodes. *Root, David E.*, +, *MWSYM 93 Vol. 1* 261-264
- measurement-based large-signal diode model and associated automated data acquisition system and model generator system for simulation of diodes. *Root, David E.*, +, *T-MTT Dec 93* 2211-2217
- object-oriented design of microwave circuit simulators. *Carvalho, P.*, +, *MWSYM 93 Vol. 3* 1491-1494
- simulation of high-frequency ICs incorporating full-wave analysis of microstrip discontinuities. *Kipp, Robert*, +, *T-MTT May 93* 848-854
- technique for design of filter-based parametric frequency dividers combining basic divider analysis with nonlinear simulation. *Sloan, George R.*, *T-MTT Feb 93* 224-228
- Circuit stability**
instabilities diagnosis and role of K in microwave circuits. *Platzker, Aryeh*, +, *MWSYM 93 Vol. 3* 1185-1188
- stability analysis and numerical simulation of multidevice amplifiers. *Ohtomo, Motoharu*, *T-MTT Jun/Jul 93* 983-991
- technique for measuring small signal S-parameters of RF/microwave transistor power amplifying stage for use in power amplifier stability analysis. *Collinson, Glenn*, +, *MWSYM 93 Vol. 3* 1255-1258
- Circuit stability; cf. Oscillator stability**
- Circuit transient analysis**
lossy transmission lines; time domain formulation and simulation model. *Yeung, Patrick S.*, *T-MTT Aug 93* 1275-1279
- Circular waveguides**
asymptotic analysis of mode transition in general class of circular hollow waveguides at infrared frequency. *Kato, Yuji*, +, *T-MTT Apr 93* 733-736

- CAD of circular ridge waveguide evanescent-mode bandpass filters using frequency-domain TLM method. *Huang, Jifu*, +, *MWSYM 93 Vol. 1* 459-462
- circular waveguide tapers based on subdivision of structure and controlling field resolution. *Jöstingmeier, A.*, +, *MWSYM 93 Vol. 2* 995-996
- coupled-mode analysis of leaky waves in anisotropic circular channel waveguides. *Geshiro, Masahiro*, +, *T-MTT Jun/Jul 93* 1159-1163
- efficient TE_{0,n}-to-TE_{0,n} + _p-mode converter in circular waveguides. *Jöstingmeier, A.*, +, *MWSYM 93 Vol. 2* 939-941
- field theoretical CAD of rectangular and circular iris coupled rectangular or circular waveguide cavity filters. *Papziner, Uwe*, +, *T-MTT Mar 93* 462-471
- inhomogeneously filled cavities coupled to waveguides using volume integral equation formulation. *Jöstingmeier, Andreas*, +, *T-MTT Jun/Jul 93* 1207-1214
- recurrence modal analysis for multiple waveguide discontinuities and its application to circular structures. *Gesell, Glenn A.*, +, *T-MTT Mar 93* 484-490
- Circulators; cf. Ferrite circulators; Finline circulators; Microstrip circulators; Millimeter-wave circulators; Stripline circulators**
- Clock synchronization; cf. Synchronization**
- Coatings**
- effects of resistively coated upper dielectric layer on propagation characteristics of hybrid modes in waveguide-shielded microstrip; analysis using method of lines. *Chung, Shyh-Jong*, +, *T-MTT Aug 93* 1393-1399
- Coatings; cf. Films; Loaded scatterers**
- Coaxial transmission lines**
- finite element analysis of open-ended coaxial lines. *Blackham, Dave*, +, *MWSYM 93 Vol. 3* 1247-1250
- Coaxial waveguides**
- analysis of general coaxial-line/radial-line region junction. *Keam, R. B.*, +, *T-MTT Mar 93* 516-520
- broadband directional coupler using dielectric-loaded slit. *Oh-hashii, Hideyuki*, +, *MWSYM 93 Vol. 2* 873-876
- Comb filters**
- K-band quasi-planar tapped combline filter and diplexer. *Lo, Wen-Teng*, +, *T-MTT Feb 93* 215-223
- limiting filter for application in GPS receiver. *Tan, Robert*, +, *MWSYM 93 Vol. 2* 881-883
- method for electromagnetic coupling air-dielectric stripline interdigital or comb line bandpass filter to planar microwave circuit. *Johnson, Gerald E.*, +, *MWSYM 93 Vol. 3* 1309-1311
- Communication networks; cf. Networks**
- Communication systems**
- transmission technologies in global communications. *Henry, Paul S.*, *MWSYM 93 Vol. 2* 569
- Communication systems; cf. Land mobile radio...; Millimeter-wave radio communication; Optical communication; Satellite communication...; Space vehicle communication**
- Communication terminals; cf. Satellite communication, earth terminals**
- Comparators**
- compact ring-style 8-port comparator circuit using coupled lines. *Riblet, G. P.*, *T-MTT Jun/Jul 93* 1224-1226
- Component reliability**
- inexpensive mixers for high-reliability markets. *Kaylie, Harvey*, +, *MWSYM 93 Vol. 1* 121-122
- Computer-aided design; cf. Apertures; Baluns; Bandpass filters; Coupled transmission lines; Design automation; Diplexers; Microstrip couplers; MMICs; MODFETs; Multiplexers; Multiport circuits; Optical fiber transmitters, lasers; Two-port circuits; Waveguide filters**
- Computer applications; cf. Specific topic**
- Computer languages; cf. Hardware design languages**
- Computer networks; cf. Local area networks**
- Conducting bodies; cf. Cylinders; Electromagnetic scattering...; Spheres; Wedges**
- Conducting films**
- algorithm for treatment of curved metallic laminas in FDTD method. *Railton, C. J.*, *T-MTT Aug 93* 1429-1438
- Conducting media; cf. Electromagnetic propagation, absorbing media**
- Conducting screens; cf. Apertures**
- Conducting strips; cf. Strip conductors**
- Conical antennas; cf. Horn antennas, corrugated**
- Convolution**
- convolution-based black-box approach for incorporating linear circuit blocks described by frequency-domain data into nonlinear transient time-domain simulator. *Halloran, Patrick*, +, *MWSYM 93 Vol. 3* 1189-1192
- Coplanar strip...; cf. Coplanar transmission lines; Coplanar waveguides**
- Coplanar transmission lines**
- full-wave integral equation method for analysis of coplanar strip circuit using mixed-potentials eigenfunction expansion technique. *Lo, Wen-Teng*, +, *MWSYM 93 Vol. 3* 1539-1542
- improved quasi-TEM spectral domain analysis of boxed coplanar multiconductor microstrip lines. *Drake, Enrique*, +, *T-MTT Feb 93* 260-267
- influence of metallization thickness on characteristics of cascaded junction discontinuities of shielded coplanar type transmission line. *Huang, Tian-Wei*, +, *T-MTT Apr 93* 693-697
- picosecond photoconductive switches designed for on-wafer characterization of high frequency interconnects. *Golob, L. P.*, +, *MWSYM 93 Vol. 3* 1395-1398
- picosecond pulse propagation on coplanar striplines fabricated on lossy semiconductor substrates; modeling and experiments. *Son, Joo-Hiuk*, +, *T-MTT Sep 93* 1574-1580
- resistance of strip conductors embedded in 2-D field distribution. *Heinrich, Wolfgang*, *MWSYM 93 Vol. 1* 417-420
- simultaneous propagation of both bound and leaky dominant modes on conductor-backed coplanar strips. *Tsuji, Mikio*, +, *MWSYM 93 Vol. 3* 1295-1298
- Coplanar transmission lines; cf. Coplanar waveguides**
- Coplanar waveguides**
- 18/36 GHz (M)MIC GaAs FET frequency doublers fabricated in CPW taking into consideration effects of coplanar discontinuities. *Abdo-Tuko, M.*, +, *T-MTT Aug 93* 1307-1315
- 3-D characterization of air bridges and via holes in conductor-backed CPWs for MMIC applications. *Visan, S.*, +, *MWSYM 93 Vol. 2* 709-712
- 3-D mode matching technique for efficient analysis of coplanar MMIC discontinuities with finite metallization thickness. *Alessandri, Ferdinando*, +, *T-MTT Sep 93* 1625-1629
- accurate quasi-state model for conductor loss in CPW. *Islam, M. Saiful*, +, *MWSYM 93 Vol. 2* 959-962
- analysis and measurements of CPW discontinuities. *Radišić, Vesna*, +, *MWSYM 93 Vol. 2* 951-954
- analysis of LiNbO₃ optical modulator using coplanar-type electrodes. *Kitazawa, Toshihide*, +, *MWSYM 93 Vol. 1* 213-216
- analysis of single-step and multistep discontinuities for shielded three-layer CPW. *Rahman, Khwaja M.*, +, *T-MTT Sep 93* 1484-1488
- analytical method for direct calculation of E & H-field patterns of conductor-backed CPWs. *Gillick, Matthew*, +, *T-MTT Sep 93* 1606-1610
- broadband uniplanar slotline hybrid ring and branchline couplers with over one octave bandwidth. *Ho, Chien-Hsun*, +, *T-MTT Dec 93* 2116-2125
- broadband uniplanar slotline hybrid ring coupler with over one octave bandwidth. *Ho, Chien-Hsun*, +, *MWSYM 93 Vol. 2* 585-588
- CAD-oriented analytical model for losses of general asymmetric coplanar lines in hybrid and monolithic MICs. *Ghione, Giovanni*, *T-MTT Sep 93* 1499-1510
- characteristics of CPW HEMT mount on GaAs substrate. *Mirshekar-Syahkal, D.*, +, *T-MTT Sep 93* 1494-1498
- characterization and simulation of biquadratic CPW tapers for time-domain applications. *Thomann, W.*, +, *MWSYM 93 Vol. 2* 835-838
- characterization of asymmetric CPW discontinuities. *Dib, Nihad I.*, +, *T-MTT Sep 93* 1549-1558
- circuit model for substrate resonance coupling in grounded CPW circuits. *Jackson, Robert W.*, *T-MTT Sep 93* 1641-1645
- comparing coax launcher and wafer probe excitation for 10-mil conductor backed CPW with via holes and airbridges. *Yu, Ming*, +, *MWSYM 93 Vol. 2* 705-708
- coplanar millimeter-wave resonator on grounded silicon substrate. *Sattler, Sebastian*, +, *MCS 93* 57-60
- coupling effects in conductor-backed CPW MICs with lateral sidewalls. *Magerko, Mark A.*, +, *MWSYM 93 Vol. 2* 947-950
- CPW 2 GHz three-port MESFET oscillator for electrooptic modulator. *Radišić, Vesna*, +, *T-MTT Sep 93* 1645-1647
- CPW resonator; on GaAs modelling using mixed potential integral equation. *Sattler, Sebastian*, +, *MWSYM 93 Vol. 3* 1531-1534
- CPW-slotline transitions for uniplanar MICs. *Ho, Chien-Hsun*, +, *MWSYM 93 Vol. 2* 877-880
- CPW transitions to slotline; design and microprobe characterization. *Grammer, Wes*, +, *T-MTT Sep 93* 1653-1658
- CPW with top and bottom shields in place of air-bridges. *Omar, A. A.*, +, *T-MTT Sep 93* 1559-1563
- direct analytical solution for electric field distribution at conductor surfaces of CPWs. *Gillick, Matthew*, +, *T-MTT Jan 93* 129-135
- dispersion characteristics of broadside-coupled CPW; analysis using spectral-domain method. *Nguyen, Cam*, *T-MTT Sep 93* 1630-1633

- effects of air-bridges and mitering on CPW 90° bends; theory and experiment. *Omar, A. A.*, +, *MWSYM 93 Vol. 2* 823-826
- effects of ground equalization on electrical performance of asymmetric CPW shunt stubs. *Dib, Nihad*, +, *MWSYM 93 Vol. 2* 701-704
- end-effects in quasi-TEM transmission lines. *Getsinger, William J.*, *T-MTT Apr 93* 666-672
- enhanced dominant mode operation of shielded multilayer CPW. *Lyons, Michael R.*, +, *MWSYM 93 Vol. 2* 943-946
- enhanced dominant mode operation of shielded multilayer CPW via substrate compensation. *Lyons, Michael R.*, +, *T-MTT Sep 93* 1564-1567
- finite-difference analysis of open and short circuits in coplanar MMICs. *Beilenhoff, Klaus*, +, *T-MTT Sep 93* 1534-1537
- full-wave analysis of CPW discontinuities using frequency domain TLM method. *Jin, Hang*, +, *T-MTT Sep 93* 1538-1542
- full-wave analysis of CPW discontinuities with finite conductor thickness using extended version of spectral-domain approach. *Tran, Allen M.*, +, *T-MTT Sep 93* 1611-1615
- full-wave analysis of discontinuities in conductor-backed CPW using method of lines. *Chung, Shyh-Jong*, +, *T-MTT Sep 93* 1601-1605
- full-wave analysis of various coplanar bends and T-junctions with respect to different types of air-bridges. *Becks, Thomas*, +, *MWSYM 93 Vol. 2* 697-700
- full-wave description of propagation and losses in quasiplanar transmission lines by quasi-analytical solution. *Tao, Jun-Wu*, +, *MWSYM 93 Vol. 2* 935-938
- generation and observation of surface waves on dielectric slabs and coplanar structures. *Godshalk, Edward M.*, *MWSYM 93 Vol. 2* 923-926
- high-pass, low-pass and bandpass filters realized in CPW. *Rayit, A. K.*, +, *MWSYM 93 Vol. 3* 1317-1320
- high performance direct-coupled bandpass filters on CPW. *Everard, Jeremy K. A.*, +, *T-MTT Sep 93* 1568-1573
- hybrid-mode analysis of planar transmission lines with arbitrary metallization cross sections. *Ma, Zhewang*, +, *T-MTT Mar 93* 491-497
- influence of finite conductor thickness and conductivity on fundamental and higher-order modes in miniature hybrid MICs (MHMICs) and MMICs. *Wu, Ke*, +, *T-MTT Mar 93* 421-430
- influence of metallization thickness on characteristics of cascaded junction discontinuities of shielded coplanar type transmission line. *Huang, Tian-Wei*, +, *T-MTT Apr 93* 693-697
- investigations on reduction of package densities in coplanar circuits. *Becks, Thomas*, +, *MWSYM 93 Vol. 2* 869-872
- low-noise 86-90 GHz uniplanar Schottky-receiver based on CPW double-slot antenna. *Gauthier, Gildas*, +, *MWSYM 93 Vol. 1* 325-328
- low noise, phase linear distributed CPW amplifier. *Minot, K.*, +, *T-MTT Sep 93* 1650-1653
- method for electromagnetic coupling air-dielectric stripline interdigital or comb line bandpass filter to planar microwave circuit. *Johnson, Gerald E.*, +, *MWSYM 93 Vol. 3* 1309-1311
- millimeter-wave device model differences in microstrip and CPW. *Walters, Peter C.*, +, *MWSYM 93 Vol. 3* 1173-1176
- model for CPW transmission line structures on semiconductor substrates. *Nary, Kevin R.*, +, *T-MTT Nov 93* 2034-2037
- modeling and design of coplanar monolithic microwave and millimeter-wave integrated circuits (special issue). *T-MTT Sep 93* 1481-1658
- moment method analysis for CPW discontinuity inductances. *Chiu, Chien-Wen*, +, *T-MTT Sep 93* 1511-1514
- narrowband YBCO superconducting parallel-coupled CPW bandpass filters at 10 GHz. *Weigel, R.*, +, *MWSYM 93 Vol. 3* 1285-1288
- propagation characteristics of waveguiding structures with very thin superconductors; application to CPW $\text{YBa}_2\text{Cu}_3\text{O}_{7-x}$ resonators. *Klopman, Boele B. G.*, +, *T-MTT May 93* 781-791
- pulse-shape degradation during narrow-pulse transmission on conventional CPWs when power leakage is present. *Tsuji, Mikio*, +, *T-MTT Jun/Jul 93* 1017-1023
- quasistatic technique for analysis of coplanar and microstrip transmission-line discontinuities. *Yu, Ming*, +, *T-MTT Sep 93* 1638-1640
- quasi-TEM description of MMIC coplanar lines including conductor-loss effects. *Heinrich, Wolfgang*, *T-MTT Jan 93* 45-52
- resistance of strip conductors embedded in 2-D field distribution. *Heinrich, Wolfgang*, *MWSYM 93 Vol. 1* 417-420
- resonant phenomena in conductor-backed CPW. *Lo, Wen-Teng*, +, *MWSYM 93 Vol. 3* 1199-1202
- resonant phenomena in conductor-backed CPW. *Lo, Wen-Teng*, +, *T-MTT Dec 93* 2099-2108
- spectral-domain analysis of bilateral CPWs printed on anisotropic substrates for use in monolithic MICs. *Chen, Yinchao*, +, *T-MTT Sep 93* 1489-1493
- spectral domain technique formulation for analysis of general case of uniaxial/biaxial electric magnetic anisotropic multilayer planar structures; application to shielded CPW structures. *Mazé-Merceur, Geneviève*, +, *T-MTT Mar 93* 457-461
- survey of European activity on CPW. *Walker, J. L. B.*, *MWSYM 93 Vol. 2* 693-696
- technique for obtaining frequency dependent scattering parameters of CPW discontinuities. *Radisic, Vesna*, +, *T-MTT Sep 93* 1524-1533
- technique for quasi-TEM analysis of conductor-backed CPW structures based on spectral-domain method. *Cheng, Kwok K. M.*, +, *T-MTT Sep 93* 1589-1592
- theoretical and experimental study of straight and bent CPW shunt stubs. *Dib, Nihad I.*, +, *T-MTT Jan 93* 38-44
- transmission characteristics of finite-width conductor-backed CPW; theoretical and experimental results. *Tien, Ching-Cheng*, +, *T-MTT Sep 93* 1616-1624
- treatment of field singularities at metallic edges in finite-difference approximation. *Beilenhoff, Klaus*, +, *MWSYM 93 Vol. 2* 979-982
- tunable uniplanar ring resonators consisting of slotline and CPW ring resonators integrated with varactor diodes. *Navarro, Julio A.*, +, *T-MTT May 93* 760-766
- ultra-low-impedance CPW transmission lines for multilayer MMICs. *Gillick, Matthew*, *MCS 93* 127-130
- ultra low impedance CPW transmission lines for multilayer MMICs. *Gillick, Matthew*, +, *MWSYM 93 Vol. 1* 145-148
- versatile moment method solution of conventional and modified CPW T-junctions. *Omar, Anjad A.*, +, *T-MTT Apr 93* 687-692
- W-band wafer probe using ridge-trough waveguide to transition from rectangular waveguide input to CPW. *Godshalk, Edward M.*, *MWSYM 93 Vol. 1* 171-174
- Correlators**
calibration and applications of polarization-correlating radiometers. *Gasiewski, A. J.*, +, *T-MTT May 93* 767-773
- Corrugated antennas; cf. Horn antennas, corrugated**
- Corrugated waveguides**
field theory design of corrugated septum orthomode transducers. *Ihmels, R.*, +, *MWSYM 93 Vol. 2* 909-912
- Costs; cf. Integrated circuit economics**
- Coupled-mode analysis**
coupled-mode analysis of leaky waves in anisotropic circular channel waveguides. *Geshiro, Masahiro*, +, *T-MTT Jun/Jul 93* 1159-1163
- mode-coupling formation of complex modes in nonreciprocal finline. *Tzuang, Ching-Kuang C.*, +, *T-MTT Aug 93* 1400-1408
- packaged printed transmission lines; modal phenomena and relation to leakage. *Carin, L.*, +, *MWSYM 93 Vol. 3* 1195-1198
- Coupled transmission lines**
analysis of broadside coupled strip inset dielectric guide. *Fan, Z.*, +, *MWSYM 93 Vol. 2* 839-842
- analysis of single and coupled microstrip lines for millimeter-wave ICs on anisotropic substrates using differential matrix operators and spectral-domain method. *Chen, Yinchao*, +, *T-MTT Jan 93* 123-128
- CAD technique for wideband couplers and high-quality filters using periodic topology. *Wu, Ke*, +, *MWSYM 93 Vol. 2* 1085-1088
- calculation of capacitance and inductance matrices of coupled lines from modal powers. *Amari, Smain*, *T-MTT Jan 93* 146-150
- characterization of picosecond pulse crosstalk between coupled microstrip lines with arbitrary conductor width. *Qian, Yongxi*, +, *T-MTT Jun/Jul 93* 1011-1016
- compact ring-style 8-port comparator circuit using coupled lines. *Riblet, G. P.*, *T-MTT Jun/Jul 93* 1224-1226
- decoupling between two-conductor microstrip transmission line. *He, Shidong*, +, *T-MTT Jan 93* 53-61
- design analysis of coupling structures for multilayer MMICs. *Gillick, Matthew*, +, *T-MTT Feb 93* 346-349
- dispersion characteristics of broadside-coupled CPW; analysis using spectral-domain method. *Nguyen, Cam*, *T-MTT Sep 93* 1630-1633
- dispersion characteristics of open and shielded microstrip lines under combined principal axes rotation of electrically and magnetically anisotropic substrates. *Chen, Yinchao*, +, *T-MTT Apr 93* 673-679
- efficient algorithm for calculation of parasitic coupling between lines in MICs. *Dunn, John M.*, +, *T-MTT Aug 93* 1287-1293
- field theory CAD of L-shaped iris coupled-mode launchers and dual-mode filters. *Ihmels, R.*, +, *MWSYM 93 Vol. 2* 765-768
- generalized network model for coupled multiconductor transmission lines; use in planar re-entrant type couplers and three-line Baluns. *Tsai, C. M.*, +, *MWSYM 93 Vol. 2* 1013-1016
- microstrip quarter-wave high voltage DC block. *Koscica, Thomas E.*, *T-MTT Jan 93* 162-164
- modified broadside-coupled microstrip lines suitable for MIC and MMIC applications; use in bandpass filters. *Tran, Michael*, +, *T-MTT Aug 93* 1336-1342

- nonlinear termination networks for coupled lossy and dispersive transmission lines. *Pan, George W.*, + , *T-MTT Mar 93* 531-535
- packaged printed transmission lines; modal phenomena and relation to leakage. *Carin, L.*, + , *MWSYM 93 Vol. 3* 1195-1198
- packaging and interconnection mutual coupling effects in planar structures and discontinuities. *Amrani, C.*, + , *MWSYM 93 Vol. 2* 843-846
- scattering parameters measurement of nonreciprocal coupling structure. *Kwan, P.*, + , *T-MTT Apr 93* 652-657
- Schiffman phase shifter design with loosely coupled lines. *Quirarte, José Luis Ramos*, + , *T-MTT Jan 93* 9-14
- spectral-domain analysis of microstrip lines coupled through arbitrarily shaped aperture in thick common ground plane. *Tran, Allen M.*, + , *MWSYM 93 Vol. 2* 819-822
- transient analysis of coupled, tapered transmission lines with arbitrary nonlinear terminations. *Oh, Kyung S.*, + , *T-MTT Feb 93* 268-273
- Couplers; cf.** Apertures; Directional couplers; Microstrip couplers; Slotline couplers; Stripline couplers
- Coupling; cf.** Electromagnetic coupling
- CPW; cf.** Coplanar waveguides
- Crosstalk**
- characterization of picosecond pulse crosstalk between coupled microstrip lines with arbitrary conductor width. *Qian, Yongxi*, + , *T-MTT Jun/Jul 93* 1011-1016
- Cryogenic electronics**
- 110-GHz ozone radiometer with cryogenically cooled planar Schottky mixer. *Koistinen, O.*, + , *MWSYM 93 Vol. 2* 775-778
- 110-GHz ozone radiometer with cryogenically cooled planar Schottky mixer. *Koistinen, Olli P.*, + , *T-MTT Dec 93* 775-778
- cooled Schottky varactor frequency multipliers at submillimeter wavelengths. *Louhi, Jyrki T.*, + , *T-MTT Apr 93* 565-571
- cryogenic characteristics of wide-band pseudomorphic HEMT MMIC low-noise amplifiers. *Yang, Cheng Chih*, + , *T-MTT Jun/Jul 93* 992-997
- cryogenic GaAs HBT microwave amplifier; application to superconductor digital IC; integration of amplifier with HTS superconductor logic gate. *Kobayashi, K. W.*, + , *MWSYM 93 Vol. 1* 377-380
- low-noise HEMT Ka-band amplifiers for deep space communication. *Laskar, J.*, + , *MWSYM 93 Vol. 2* 1095-1098
- millimeter-wave, cryogenically-coolable amplifiers using AlInAs/GaInAs/InP HEMTs. *Pospieszalski, M. W.*, + , *MWSYM 93 Vol. 2* 515-518
- phase noise in cryogenic microwave HEMT and MESFET oscillators. *Llopis, Olivier*, + , *T-MTT Mar 93* 369-374
- Curved waveguides; cf.** Waveguide bends
- Curve fitting**
- CAD of microwave junctions by polynomial curve fitting. *Liang, Ji-Fuh*, + , *MWSYM 93 Vol. 1* 451-454
- CW radar**
- high resolution target range estimation using frequency-stepped CW radar. *Ybarra, G. A.*, + , *MWSYM 93 Vol. 1* 249-252
- CW radar; cf.** FM radar
- Cylinders**
- electromagnetic scattering from infinite circular metallic cylinder coated by elliptic dielectric one. *Roumeliotis, John A.*, + , *T-MTT May 93* 862-869
- modeling of cylindrical dielectric resonators in rectangular waveguides and cavities. *Liang, Xiao-Peng*, + , *MWSYM 93 Vol. 2* 597-600
- modeling of cylindrical dielectric resonators in rectangular waveguides and cavities. *Liang, Xiao-Peng*, + , *T-MTT Dec 93* 2174-2181
- multiple microstrip lines on multilayered cylindrical dielectric substrate on perfectly conducting wedge. *Auda, Hesham A.*, + , *T-MTT Jun/Jul 93* 1037-1043
- numerical electromagnetic inverse-scattering solutions for 2-D infinite dielectric cylinders buried in lossy half-space. *Caorsi, S.*, + , *T-MTT Feb 93* 352-357
- rotating wave fields for microwave applications; analysis of rotating waves in cylindrical cavity resonators. *Velazco, Jose E.*, + , *T-MTT Feb 93* 330-335
- solid state 6 × 6 transfer switch for cylindrical array radar. *Knox, M. E.*, + , *MWSYM 93 Vol. 3* 1225-1228
- S-parameter analysis of microstrip discontinuities on cylindrical dielectric surfaces using full-wave frequency domain TLM method. *Huang, Jifu*, + , *MWSYM 93 Vol. 3* 1299-1302
- theory for cylindrical pillbox accelerator cavity using layered structures for reducing skin-effect losses. *Sailor, W. C.*, + , *T-MTT Aug 93* 1471-1474

Cylindrical waveguides; cf. Waveguides**D**

- Data communication; cf.** Local area networks
- DBS; cf.** Satellite communication, broadcast
- DC-DC power conversion; cf.** Power conversion, DC-DC
- Delay effects**
- modeling of transverse propagation delays in GaAs/AlGaAs modulation doped HFETs. *Goel, Ashok K.*, + , *T-MTT Jun/Jul 93* 1230-1232
- Delay effects; cf.** Phase distortion
- Delay lines**
- 3-5 GHz compact microwave delay line. *Merenda, Joseph L.*, + , *MWSYM 93 Vol. 2* 1109-1112
- Design automation**
- CAD of circuit structure for microwave frequency doublers featuring effective suppression of fundamental and odd harmonics, conversion gain and simplicity; use in MMIC frequency doubler. *Xuan, Yongnan*, + , *T-MTT Dec 93* 2264-2268
- computation of dielectric losses in multilayer, multiconductor microstrip for CAD of MIC and MMIC structures. *Gilb, James P. K.*, + , *T-MTT Mar 93* 527-530
- efficient algorithm for calculation of parasitic coupling between lines in MICs. *Dunn, John M.*, + , *T-MTT Aug 93* 1287-1293
- electromagnetic simulator interfacing to general CAD framework; automatic electromagnetic-based mesh generation. *Draxler, Paul J.*, *MWSYM 93 Vol. 3* 1495-1498
- fast and accurate process-oriented model for CAD of MODFETs. *Vereseghazy, R. K.*, + , *MWSYM 93 Vol. 2* 1001-1004
- field theoretical CAD of rectangular and circular iris coupled rectangular or circular waveguide cavity filters. *Papziner, Uwe*, + , *T-MTT Mar 93* 462-471
- optimum CAD procedure for manifold diplexers. *Guglielmi, M.*, *MWSYM 93 Vol. 2* 1081-1084
- rigorous CAD design of rectangular waveguide sidewall aperture couplers. *Sieverding, T.*, + , *MWSYM 93 Vol. 2* 761-764
- Design automation software; cf.** Hardware design languages
- Device reliability; cf.** Component reliability
- DFT; cf.** Discrete Fourier transforms
- Diakoptics**
- concurrent network diakoptics for electromagnetic field problems. *Merugu, L. N.*, + , *T-MTT Apr 93* 708-716
- efficient TLM diakoptics for separable structures. *Righi, M.*, + , *MWSYM 93 Vol. 1* 425-428
- FDTD diakoptics method. *Huang, Tian-Wei*, + , *MWSYM 93 Vol. 3* 1435-1438
- Diathermy; cf.** Hyperthermia
- Dielectric antennas; cf.** Lens antennas
- Dielectric bodies; cf.** Cylinders; Disks; Electromagnetic scattering...
- Dielectric breakdown**
- breakdown in inhomogeneous electric field of microwave transmit-receive switch. *Semenov, V.*, + , *T-MTT May 93* 879-881
- Dielectric-covered antennas**
- calculating input impedance of electrically small insulated antennas for microwave hyperthermia. *Debicki, Piotr S.*, + , *T-MTT Feb 93* 357-360
- Dielectric films**
- effects of resistively coated upper dielectric layer on propagation characteristics of hybrid modes in waveguide-shielded microstrip; analysis using method of lines. *Chung, Shyh-Jong*, + , *T-MTT Aug 93* 1393-1399
- electromagnetic scattering from infinite circular metallic cylinder coated by elliptic dielectric one. *Roumeliotis, John A.*, + , *T-MTT May 93* 862-869
- Dielectric heating**
- heating characteristics of thin helical antennas with conducting cores in lossy medium; noninsulated antennas. *Mirotnik, Mark S.*, + , *T-MTT Nov 93* 1878-1886
- Dielectric heating; cf.** Hyperthermia
- Dielectric-loaded waveguides**
- asymptotic analysis of mode transition in general class of circular hollow waveguides at infrared frequency. *Kato, Yuji*, + , *T-MTT Apr 93* 733-736
- broadband directional coupler using dielectric-loaded slit. *Oh-hashii, Hideyuki*, + , *MWSYM 93 Vol. 2* 873-876
- computation of cutoff wavenumbers for partially filled waveguides of arbitrary cross section using surface integral formulations and method of moments. *Shu, Shianfeng*, + , *T-MTT Jun/Jul 93* 1111-1118
- double ridged waveguide phase shifters for broadband applications. *El-Sharaway, El-Badawy*, *MWSYM 93 Vol. 1* 473-475
- double ridged waveguide phase shifters for broadband applications. *El-Sharaway, El-Badawy*, *T-MTT Dec 93* 2161-2165

- effects of resistively coated upper dielectric layer on propagation characteristics of hybrid modes in waveguide-shielded microstrip; analysis using method of lines. *Chung, Shyh-Jong, +*, *T-MTT Aug 93* 1393-1399
- field analysis of dielectric-loaded lens applicator for microwave hyperthermia. *Alexander, Philip H., +*, *T-MTT May 93* 792-796
- reflection and transmission of guided electromagnetic waves at air-chiral interface and at chiral slab in parallel-plate waveguide. *Mariotte, Frédéric, +*, *T-MTT Nov 93* 1895-1906
- theoretical modeling of whisker mounted in rectangular waveguide. *Xu, Jie, +*, *MWSYM 93 Vol. 1* 333-336
- Dielectric-loaded waveguides; cf.** Nonhomogeneously loaded waveguides
- Dielectric losses**
losses in Y-junction stripline and microstrip ferrite circulators. *Neidert, Robert E., +*, *T-MTT Jun/Jul 93* 1081-1086
- Dielectric materials/devices**
capacitance computations in multilayered dielectric medium using closed-form spatial Green's functions. *Oh, Kyung S., +*, *MWSYM 93 Vol. 1* 429-432
- efficient computation of periodic Green's function in layered dielectric media. *Shubair, Raed M., +*, *T-MTT Mar 93* 498-502
- electromagnetic scattering by finite strip array on dielectric slab. *Lu, Cai-Cheng, +*, *T-MTT Jan 93* 97-100
- nonlinear response to picosecond pulse excitations in magneto-dielectric media. *How, Hoton, +*, *T-MTT Feb 93* 255-259
- Dielectric materials/devices; cf.** Capacitors; Dielectric films
- Dielectric materials/devices, thermal factors**
measuring temperature sensitivity of coaxial-probe complex permittivity measurements from 100 MHz to 26.5 GHz. *Colpitts, Bruce G., T-MTT Feb 93* 229-233
- turnstile reflecto-polarimeter using principal incidence method; application to determination of permittivities up to 1200°C. *Bretenoux, Alain, +*, *T-MTT Nov 93* 1945-1949
- Dielectric measurements; cf.** Biomedical imaging; Permittivity measurement
- Dielectric-resonator filters**
characterization of resonant and coupling parameters of dielectric resonators for NRD-guide filtering devices. *Frezza, Fabrizio, +*, *MWSYM 93 Vol. 2* 893-896
- Comments, with reply, on 'Analysis and realization of L-band dielectric resonator microwave filters' by V. Mandrangeas et al. *Bialas, Slawomir, +*, *T-MTT Nov 93* 2044-2046 (Original item, Jan 92 120-127)
- comments, with reply, on 'Finite elements for microwave device simulation: Application to microwave dielectric resonator filter' by J. P. Cousty et al. *Abramowicz, Adam, T-MTT Apr 93* 737-738 (Original paper, May 92 925-932)
- dual-mode dielectric resonator filters with improved spurious performance. *Mansour, R. R., MWSYM 93 Vol. 1* 439-442
- very small dielectric planar filter for portable telephones. *Ishizaki, T., +*, *MWSYM 93 Vol. 1* 177-180
- Dielectric-resonator oscillators**
94 GHz-band low noise downconverter combining InP-HEMT LNA, pseudomorphic HEMT mixer and DRO. *Yoshinaga, Hiroyuki, +*, *MWSYM 93 Vol. 2* 779-782
- monolithic dielectrically stabilized VCO for millimeter-wave range. *Güttich, U., +*, *MWSYM 93 Vol. 2* 667-670
- Dielectric resonators**
4-GHz dielectric contiguous output multiplexer for communications satellite transponders. *Holme, C. J., +*, *MWSYM 93 Vol. 1* 443-446
- accurate conductor *Q*-factor of dielectric resonator placed in MIC environment. *Mongia, R. K., +*, *T-MTT Mar 93* 445-449
- approximate approach to design of shielded dielectric disk resonators with whispering-gallery modes. *Ivanov, Eugene N., +*, *T-MTT Apr 93* 632-638
- circular polarization of magnetic field in whispering-gallery resonant modes of dielectric disk at microwave frequencies. *Longo, Iginio, +*, *T-MTT Jan 93* 117-122
- field analysis of shielded uniaxial-anisotropic dielectric rod resonators. *Kobayashi, Yoshio, +*, *T-MTT Dec 93* 2198-2205
- field analysis of shielded uniaxial-dielectric rod resonators. *Kobayashi, Y., +*, *MWSYM 93 Vol. 2* 913-916
- frequency-dependent FDTD modeling of optically controlled dielectric resonators. *Shen, Ying, +*, *T-MTT Jun/Jul 93* 1005-1010
- modeling of cylindrical dielectric resonators in rectangular waveguides and cavities. *Liang, Xiao-Peng, +*, *MWSYM 93 Vol. 2* 597-600
- modeling of cylindrical dielectric resonators in rectangular waveguides and cavities. *Liang, Xiao-Peng, +*, *T-MTT Dec 93* 2174-2181
- small dielectric TEM mode resonator with crossing slot; application to cellular radio VCO. *Uwano, Tomoki, T-MTT Apr 93* 639-646
- Dielectric waveguide; cf.** Optical planar waveguides
- Dielectric waveguides**
analysis of general class of open dielectric waveguides by spectral-domain technique. *Sabetfakhri, Kazem, +*, *MWSYM 93 Vol. 3* 1523-1526
- characterization of resonant and coupling parameters of dielectric resonators for NRD-guide filtering devices. *Frezza, Fabrizio, +*, *MWSYM 93 Vol. 2* 893-896
- continuous spectrum of inset dielectric guide and its application to waveguide transitions. *Sewell, Phillip D., +*, *T-MTT Feb 93* 282-289
- dielectric-waveguide measurement method for determining driving-point impedance of 2-D active grid arrays, based on microwave array models. *Pance, Aleksandar, +*, *T-MTT Jan 93* 20-28
- efficient finite-element solution of inhomogeneous anisotropic and lossy dielectric waveguides. *Lu, Yilong, +*, *T-MTT Jun/Jul 93* 1215-1223
- efficient numerical procedure using shifted power method for analyzing dielectric waveguides without inverting matrices. *Su, Ching-Chuan, T-MTT Mar 93* 539-542
- full-wave analysis of transversely magnetized ferrite nonradiative dielectric waveguide. *César, Amílcar Careli, +*, *T-MTT Apr 93* 647-651
- hybrid dielectric slab-beam waveguide for submillimeter wave region. *Mink, J. W., +*, *T-MTT Oct 93* 1720-1729
- rigorous boundary integral equation solution for general isotropic and uniaxial anisotropic dielectric waveguides in multilayered media including losses, gain and leakage. *Olyslager, Frank, +*, *T-MTT Aug 93* 1385-1392
- role of higher-order modes in characterization of shielded transition to dielectric waveguide. *Engel, A. G., Jr., +*, *MWSYM 93 Vol. 2* 831-834
- Difference methods; cf.** Finite-difference methods
- Differential equations**
differential-equation-based frequency-dependent FDTD formulation for general dispersive media. *Gandhi, Om P., +*, *T-MTT Apr 93* 658-665
- Digital filters; cf.** FIR digital filters
- Digital integrated circuits; cf.** Bipolar integrated circuits; FET integrated circuits
- Diode lasers; cf.** Semiconductor lasers
- Diodes; cf.** Semiconductor diodes
- Diplexers**
high temperature superconducting hybrid-coupled multiplexers and diplexers using asymmetrical superconducting filters. *Mansour, R. R., +*, *MWSYM 93 Vol. 3* 1281-1284
- integrated T-septum waveguide diplexer for compact front-end applications. *Labay, Vladimir A., +*, *MWSYM 93 Vol. 1* 463-466
- K-band quasi-planar tapped combline filter and diplexer. *Lo, Wen-Teng, +*, *T-MTT Feb 93* 215-223
- matched diplexer configuration in E-plane technology. *Morini, Antonio, +*, *MWSYM 93 Vol. 2* 1077-1080
- optimum CAD procedure for manifold diplexers. *Guglielmi, M., MWSYM 93 Vol. 2* 1081-1084
- waveguide and ridge waveguide T-junctions for wide band applications. *Yao, Hui-Wen, +*, *MWSYM 93 Vol. 2* 601-604
- waveguide and ridge waveguide T-junctions for wide band applications. *Yao, Hui-Wen, +*, *T-MTT Dec 93* 2166-2173
- Direct Broadcast Satellites; cf.** Satellite communication, broadcast
- Directional couplers**
branch-line directional couplers in which shunt transmission line branches are replaced by shorted coupled transmission line parts. *Gipprich, J. W., MWSYM 93 Vol. 2* 589-592
- broadband directional coupler using dielectric-loaded slit. *Oh-hashii, Hideyuki, +*, *MWSYM 93 Vol. 2* 873-876
- NRD-guide leaky-wave directional coupler at Ka band. *Niu, Dow-Chih, +*, *MWSYM 93 Vol. 3* 1207-1210
- NRD-guide leaky-wave directional coupler at Ka band. *Niu, Dow-Chih, +*, *T-MTT Dec 93* 2126-2132
- Directional couplers; cf.** Optical directional couplers
- Directional filters**
nonreciprocal tunable waveguide directional filter using turnstile open gyromagnetic resonator. *Helszajn, J., +*, *T-MTT Nov 93* 1950-1958
- Discontinuities; cf.** Transmission-line discontinuities; Waveguide discontinuities
- Discrete Fourier transforms**
scattering by dielectric body with large permittivity; 3-D algorithm for solving electric field integral equation using face-centered node points, conjugate gradient method, and FFT. *Ching-Chuan, Su, T-MTT Mar 93* 510-515
- Disks**
approximate approach to design of shielded dielectric disk resonators with whispering-gallery modes. *Ivanov, Eugene N., +*, *T-MTT Apr 93* 632-638

- circular polarization of magnetic field in whispering-gallery resonant modes of dielectric disk at microwave frequencies. *Longo, Iginio*, + , *T-MTT Jan 93* 117-122
- efficient method for determining resonant frequencies of shielded circular disk and ring resonators. *Tefiku, Fatou*, + , *T-MTT Feb 93* 343-346
- Dispersive media**
differential-equation-based frequency-dependent FDTD formulation for general dispersive media. *Gandhi, Om P.*, + , *T-MTT Apr 93* 658-665
- Dispersive media; cf.** Electromagnetic propagation, dispersive media
- Dissipative circuits; cf.** Lossy circuits
- Distortion**
pulse distortion on multilayer microstrip line. *Verma, A. K.*, + , *MWSYM 93 Vol. 2* 861-864
- Distortion; cf.** Crosstalk; Nonlinear distortion; Phase distortion
- Distributed amplifiers**
design method for microwave distributed amplifier based on relations between FIR digital filter and distributed amplifier. *Wu, Wen*, + , *MWSYM 93 Vol. 1* 301-303
- low-noise, low DC power linear amplifiers. *Ikalainen, Pertti K.*, + , *MWSYM 93 Vol. 1* 357-360
- low-noise, low-DC-power linear amplifiers using high dynamic range GaAs FETs. *Ikalainen, Pertti K.*, + , *MCS 93* 159-162
- low noise, phase linear distributed CPW amplifier. *Minot, K.*, + , *T-MTT Sep 93* 1650-1653
- Distributed antennas; cf.** Antenna arrays
- Distributed-parameter circuits**
shunt-mounted harmonically-tuned power rectifier for distributed power converters. *Garrison, D. P.*, + , *MWSYM 93 Vol. 3* 1229-1232
- YIG-tuned nonlinear transmission line multiplier. *Van Der Weide, D. W.*, *MWSYM 93 Vol. 2* 557-560
- Distributed-parameter circuits; cf.** Coupled transmission lines; Distributed amplifiers
- Doppler radar**
Doppler measurement of lateral and longitudinal velocity for automobiles at millimeter waves. *Kees, Norbert*, + , *MWSYM 93 Vol. 2* 805-808
- DRO; cf.** Dielectric-resonator oscillators
- Dyadic analysis; cf.** Green's functions

E

- ECM (electronic countermeasures); cf.** Electronic warfare
- Economics; cf.** Integrated circuit economics
- Educational technology**
computer-based electromagnetic education; activities of US NSF/IEEE Center for Computer Applications in Electromagnetic Education. *Iskander, Magdy F.*, *T-MTT Jun/Jul 93* 920-931
- microwave education (special section). *T-MTT Jun/Jul 93* 911-953
- Eigenvalues/eigenfunctions**
complete eigenvalue analysis of inhomogeneously dielectric-loaded two-conductor guiding structures. *Mohamed, Magdy Z.*, + , *T-MTT Mar 93* 536-539
- efficient full-wave 3-D and 2-D waveguide eigenvalue analysis and S-matrix computation using direct FDTD wave equation formulation. *Krupezevic, Dragan V.*, + , *T-MTT Dec 93* 997-1000
- efficient full-wave 3-D and 2-D waveguide eigenvalue analysis by using direct FDTD wave equation formulation. *Brankovic, V. J.*, + , *MWSYM 93 Vol. 2* 897-900
- efficient numerical procedure using shifted power method for analyzing dielectric waveguides without inverting matrices. *Su, Ching-Chuan*, *T-MTT Mar 93* 539-542
- full-wave integral equation method for analysis of coplanar strip circuit using mixed-potentials eigenfunction expansion technique. *Lo, Wen-Teng*, + , *MWSYM 93 Vol. 3* 1539-1542
- transverse scattering matrix formulation for class of waveguide eigenvalue problems. *Ma, Zhewang*, + , *T-MTT Jun/Jul 93* 1044-1051
- Electrical engineering education; cf.** Electromagnetic engineering education
- Electric variables calculations; cf.** Admittance calculations; Attenuation calculations; Capacitance calculations; Impedance calculations; Inductance calculations
- Electric variables measurement; cf.** Admittance measurement; Impedance measurement; Inductance measurement; Voltage measurement
- Electromagnetic analysis**
choices of expansion and testing functions for method of moments applied to class of electromagnetic problems. *Aksun, M. I.*, + , *T-MTT Mar 93* 503-509
- combining autoregressive (AR) model with FDTD algorithm for improved computational efficiency. *Chen, Ji*, + , *MWSYM 93 Vol. 2* 749-752
- concurrent network diakoptics for electromagnetic field problems. *Merugu, L. N.*, + , *T-MTT Apr 93* 708-716
- Electromagnetic analysis; cf. Specific topic**
- Electromagnetic coupling**
4 × 4 spatial power-combining array with strongly coupled oscillators in multi-layer structure. *Lin, Jenshan*, + , *MWSYM 93 Vol. 2* 607-610
- calculation of intercavity coupling coefficient for side coupled standing wave linear accelerator. *Roy, Rajat*, + , *T-MTT Jun/Jul 93* 1233-1235
- circuit model for substrate resonance coupling in grounded CPW circuits. *Jackson, Robert W.*, *T-MTT Sep 93* 1641-1645
- coupling effects in conductor-backed CPW MICs with lateral sidewalls. *Magerko, Mark A.*, + , *MWSYM 93 Vol. 2* 947-950
- Gaussian-beam open resonator with highly reflective circular coupling regions. *Matsui, Toshiaki*, + , *T-MTT Oct 93* 1710-1714
- high performance direct-coupled bandpass filters on CPW. *Everard, Jeremy K. A.*, + , *T-MTT Sep 93* 1568-1573
- method for electromagnetic coupling air-dielectric stripline interdigital or comb line bandpass filter to planar microwave circuit. *Johnson, Gerald E.*, + , *MWSYM 93 Vol. 3* 1309-1311
- mode analysis of active microstrip antenna arrays with strongly coupled oscillators; method for power combining. *Nogi, Shigeji*, + , *T-MTT Oct 93* 1827-1837
- pulse-shape degradation during narrow-pulse transmission on conventional CPWs when power leakage is present. *Tsuji, Mikio*, + , *T-MTT Jun/Jul 93* 1017-1023
- rigorous analysis of iris coupling problem in waveguide. *Yang, Rong*, + , *T-MTT Feb 93* 349-352
- Electromagnetic coupling; cf.** Antenna array mutual coupling; Apertures; Cavities; Coupled transmission lines
- Electromagnetic diffraction; cf.** Apertures
- Electromagnetic engineering education**
computer-based electromagnetic education; activities of US NSF/IEEE Center for Computer Applications in Electromagnetic Education. *Iskander, Magdy F.*, *T-MTT Jun/Jul 93* 920-931
- educating microwave engineers in United States. *Henning, Rudolf E.*, + , *T-MTT Jun/Jul 93* 913-919
- microwave education in Belgium. *Vander Vorst, André*, *T-MTT Jun/Jul 93* 943-947
- microwave education (special section). *T-MTT Jun/Jul 93* 911-953
- microwave engineering education in Australia. *Fourikis, N.*, *T-MTT Jun/Jul 93* 948-953
- microwave engineering education in Canada. *Hoefer, Wolfgang J. R.*, *T-MTT Jun/Jul 93* 932-936
- status of microwave education in Italy. *Sorrentino, Roberto*, + , *T-MTT Jun/Jul 93* 937-942
- Electromagnetic heating; cf.** Dielectric heating; Hyperthermia
- Electromagnetic induction**
end-effects in quasi-TEM transmission lines. *Getsinger, William J.*, *T-MTT Apr 93* 666-672
- inductive connection effects of mounted spot in plastic SO8 package. *Ndagijimana, F.*, + , *MWSYM 93 Vol. 1* 91-94
- inductive connection effects on electrical performance of mounted SPDT in plastic SO8 package. *Ndagijimana, F.*, + , *MCS 93* 109-112
- Electromagnetic induction; cf.** Electromagnetic coupling
- Electromagnetic interference, radiated; cf.** Electromagnetic shielding
- Electromagnetic measurements; cf.** Antenna measurements; Microwave measurements; Millimeter-wave measurements; Optical measurements; Polarimetry; UHF measurements
- Electromagnetic propagation**
analysis of wave propagation effects on microwave field-effect transistors; studies on conventional MESFET and inverted gated FET (INGFET). *Hakim, Mohammed S.*, + , *MWSYM 93 Vol. 3* 1303-1306
- reflection and transmission of guided electromagnetic waves at air-chiral interface and at chiral slab in parallel-plate waveguide. *Mariotte, Frédéric*, + , *T-MTT Nov 93* 1895-1906
- Electromagnetic propagation; cf.** Coplanar transmission lines; Coplanar waveguides; Electromagnetic reflection; Electromagnetic surface waves; Electromagnetic transient propagation; Leaky waves; Magnetostatic waves; Microwave propagation; Multiconductor transmission lines
- Electromagnetic propagation, absorbing media**
accurate quasi-state model for conductor loss in CPW. *Islam, M. Saiful*, + , *MWSYM 93 Vol. 2* 959-962
- CAD-oriented analytical model for losses of general asymmetric coplanar lines in hybrid and monolithic MICs. *Ghione, Giovanni*, *T-MTT Sep 93* 1499-1510
- computation of dielectric losses in multilayer, multiconductor microstrip for CAD of MIC and MMIC structures. *Gilb, James P. K.*, + , *T-MTT Mar 93* 527-530
- full-wave analysis of multiple lossy microstrip lines on multilayered bi-anisotropic substrates and imperfect ground metallization. *Cai, Zhenglian*, + , *MWSYM 93 Vol. 2* 927-930

- full-wave description of propagation and losses in quasiplanar transmission lines by quasi-analytical solution. *Tao, Jun-Wu, + , MWSYM 93 Vol. 2 935-938*
- heating characteristics of thin helical antennas with conducting cores in lossy medium; noninsulated antennas. *Mirotznik, Mark S., + , T-MTT Nov 93 1878-1886*
- losses in Y-junction stripline and microstrip ferrite circulators. *Neider, Robert E., + , T-MTT Jun/Jul 93 1081-1086*
- metallization effects on GaAs microstrip line attenuation. *Carroll, Jim, + , T-MTT Jun/Jul 93 1227-1229*
- nonlinear termination networks for coupled lossy and dispersive transmission lines. *Pan, George W., + , T-MTT Mar 93 531-535*
- picosecond pulse propagation on coplanar striplines fabricated on lossy semiconductor substrates; modeling and experiments. *Son, Joo-Hiuk, + , T-MTT Sep 93 1574-1580*
- quasi-TEM analysis of valley microstrip lines with slit for use in multilayered MMICs. *Rong, Ao Sheng, + , MWSYM 93 Vol. 2 955-958*
- time-domain analysis of lossy multi-conductor transmission lines using Hilbert transform. *Arabi, Tawfik Rahal, + , MWSYM 93 Vol. 2 987-990*
- transformed symmetrical condensed node for effective TLM analysis of guided wave problems. *Celuch-Marcysiak, Malgorzata, + , T-MTT May 93 820-823*
- Electromagnetic propagation, absorbing media; cf. Biological radiation effects, electromagnetic; Electromagnetic scattering, absorbing media**
- Electromagnetic propagation, anisotropic media**
- analysis of single and coupled microstrip lines for millimeter-wave ICs on anisotropic substrates using differential matrix operators and spectral-domain method. *Chen, Yinchao, + , T-MTT Jan 93 123-128*
- dispersion characteristics of open and shielded microstrip lines under combined principal axes rotation of electrically and magnetically anisotropic substrates. *Chen, Yinchao, + , T-MTT Apr 93 673-679*
- field analysis of shielded uniaxial-anisotropic dielectric rod resonators. *Kobayashi, Yoshio, + , T-MTT Dec 93 2198-2205*
- full-wave analysis of multiple lossy microstrip lines on multilayered bi-anisotropic substrates and imperfect ground metallization. *Cai, Zhenglian, + , MWSYM 93 Vol. 2 927-930*
- full-wave characterization of microstrip open end discontinuities patterned on anisotropic substrates using potential theory. *Toncich, S. S., + , MWSYM 93 Vol. 3 1527-1530*
- full-wave characterization of microstrip open end discontinuities patterned on anisotropic substrates using potential theory. *Toncich, Stanley S., + , T-MTT Dec 93 2067-2073*
- integral-equation formulation for analysis of complex resonant frequency of rectangular microstrip patch on uniaxial substrate. *Wong, Kin-Lu, + , T-MTT Apr 93 698-701*
- nonreciprocal and reciprocal complex and backward waves in parallel plate waveguides loaded with ferrite slab arbitrarily magnetized. *Marqués, Ricardo, + , T-MTT Aug 93 1409-1418*
- spectral-domain analysis of bilateral CPWs printed on anisotropic substrates for use in monolithic MICs. *Chen, Yinchao, + , T-MTT Sep 93 1489-1493*
- spectral-domain analysis of open and shielded slotlines printed on various anisotropic substrates. *Chen, Yinchao, + , T-MTT Nov 93 1872-1877*
- spectral domain technique formulation for analysis of general case of uniaxial/biaxial electric magnetic anisotropic multilayer planar structures; application to shielded CPW structures. *Mazé-Merceur, Geneviève, + , T-MTT Mar 93 457-461*
- surface integral representations; validity of Huygens' principle and equivalence principle in nonhomogeneous bi-anisotropic media. *Monzon, J. Cesar, T-MTT Nov 93 1995-2001*
- transformed symmetrical condensed node for effective TLM analysis of guided wave problems. *Celuch-Marcysiak, Malgorzata, + , T-MTT May 93 820-823*
- Electromagnetic propagation, anisotropic media; cf. Electromagnetic propagation, magnetic media**
- Electromagnetic propagation, dispersive media**
- dispersion characteristics of broadside-coupled CPW; analysis using spectral-domain method. *Nguyen, Cam, T-MTT Sep 93 1630-1633*
- dispersion characteristics of open and shielded microstrip lines under combined principal axes rotation of electrically and magnetically anisotropic substrates. *Chen, Yinchao, + , T-MTT Apr 93 673-679*
- field-analysis model for predicting dispersion property of coupled-cavity circuits. *Dai, Fa, + , MWSYM 93 Vol. 2 901-904*
- nonlinear termination networks for coupled lossy and dispersive transmission lines. *Pan, George W., + , T-MTT Mar 93 531-535*
- pulse-shape degradation during narrow-pulse transmission on conventional CPWs when power leakage is present. *Tsuji, Mikio, + , T-MTT Jun/Jul 93 1017-1023*
- transformed symmetrical condensed node for effective TLM analysis of guided wave problems. *Celuch-Marcysiak, Malgorzata, + , T-MTT May 93 820-823*
- ultrawideband characterization of lossy materials; short-pulse microwave measurements. *Kralj, David, + , MWSYM 93 Vol. 3 1239-1242*
- Electromagnetic propagation, dispersive media; cf. Finline...; Microstrip...**
- Electromagnetic propagation, magnetic media**
- field-theoretical treatment of H-plane waveguide junctions with anisotropic ferrite and composite ferrite posts. *Tsai, Yu-Yuan, + , T-MTT Feb 93 274-281*
- Electromagnetic propagation, magnetic media; cf. Ferrite-loaded waveguides**
- Electromagnetic propagation, nonhomogeneous media**
- capacitance computations in multilayered dielectric medium using closed-form spatial Green's functions. *Oh, Kyung S., + , MWSYM 93 Vol. 1 429-432*
- computation of dielectric losses in multilayer, multiconductor microstrip for CAD of MIC and MMIC structures. *Gilb, James P. K., + , T-MTT Mar 93 527-530*
- corrections to 'A linear-operator formalism for the analysis of inhomogeneous biisotropic planar waveguides' (Apr 92 672-678). *Paiva, Carlos R., + , T-MTT Jun/Jul 93 1240*
- efficient finite-element solution of inhomogeneous anisotropic and lossy dielectric waveguides. *Lu, Yilong, + , T-MTT Jun/Jul 93 1215-1223*
- enhanced dominant mode operation of shielded multilayer CPW. *Lyons, Michael R., + , MWSYM 93 Vol. 2 943-946*
- enhanced dominant mode operation of shielded multilayer CPW via substrate compensation. *Lyons, Michael R., + , T-MTT Sep 93 1564-1567*
- full-wave analysis of multiple lossy microstrip lines on multilayered bi-anisotropic substrates and imperfect ground metallization. *Cai, Zhenglian, + , MWSYM 93 Vol. 2 927-930*
- generalized multiport reciprocity analysis of surface-to-surface transitions between multiple printed transmission lines. *Das, Nirod K., T-MTT Jun/Jul 93 1164-1177*
- improved quasi-TEM spectral domain analysis of boxed coplanar multiconductor microstrip lines. *Drake, Enrique, + , T-MTT Feb 93 260-267*
- inhomogeneously filled cavities coupled to waveguides using volume integral equation formulation. *Jöstingmeier, Andreas, + , T-MTT Jun/Jul 93 1207-1214*
- magnetostatic surface wave and magnetostatic volume wave in multilayered ferrimagnetic structure with arbitrary orientation between two static magnetizations. *Sun, Kunquan, T-MTT Jun/Jul 93 1143-1148*
- multiconductor transmission lines of arbitrary cross section in multilayered uniaxial media; analysis using mixed-potential EFIE formulation. *Hsu, Chung-I G., + , T-MTT Jan 93 70-78*
- nonreciprocal and reciprocal complex and backward waves in parallel plate waveguides loaded with ferrite slab arbitrarily magnetized. *Marqués, Ricardo, + , T-MTT Aug 93 1409-1418*
- pulse distortion on multilayer microstrip line. *Verma, A. K., + , MWSYM 93 Vol. 2 861-864*
- quasi-TEM analysis of valley microstrip lines with slit for use in multilayered MMICs. *Rong, Ao Sheng, + , MWSYM 93 Vol. 2 955-958*
- rigorous boundary integral equation solution for general isotropic and uniaxial anisotropic dielectric waveguides in multilayered media including losses, gain and leakage. *Olyslager, Frank, + , T-MTT Aug 93 1385-1392*
- rigorous full-wave analysis of propagation characteristics of general lossless and lossy multiconductor transmission lines in multilayered media. *Olyslager, Frank, + , T-MTT Jan 93 79-88*
- surface integral representations; validity of Huygens' principle and equivalence principle in nonhomogeneous bi-anisotropic media. *Monzon, J. Cesar, T-MTT Nov 93 1995-2001*
- theory for cylindrical pillbox accelerator cavity using layered structures for reducing skin-effect losses. *Sailor, W. C., + , T-MTT Aug 93 1471-1474*
- Electromagnetic propagation, nonhomogeneous media; cf. Nonhomogeneously loaded waveguides**
- Electromagnetic propagation, nonlinear media**
- determination of stationary traveling waves on nonlinear transmission lines. *Kunisch, J., + , MWSYM 93 Vol. 2 1037-1040*
- Electromagnetic propagation, nonreciprocal media**
- mode-coupling formation of complex modes in nonreciprocal finline. *Tzuang, Ching-Kuang C., + , T-MTT Aug 93 1400-1408*
- modeling multiple discontinuities in rectangular waveguide partially filled with nonreciprocal ferrites. *Solano, Miguel A., + , T-MTT May 93 797-802*
- nonreciprocal and reciprocal complex and backward waves in parallel plate waveguides loaded with ferrite slab arbitrarily magnetized. *Marqués, Ricardo, + , T-MTT Aug 93 1409-1418*

- nonreciprocal tunable waveguide directional filter using turnstile open gyromagnetic resonator. *Helsajn, J.*, + , *T-MTT Nov 93* 1950-1958
- Electromagnetic radiation**
 corrections to 'A new formulation of the boundary condition at infinity for a hybrid radiation mode and its application to the analysis of the radiation modes of microstrip lines' (Sep 90 1294-1299). *Zienitycz, Włodzimierz*, *T-MTT May 93* 901-902
 rotating wave fields for microwave applications; analysis of rotating waves in cylindrical cavity resonators. *Velazco, Jose E.*, + , *T-MTT Feb 93* 330-335
- Electromagnetic radiation effects; cf.** Biological radiation effects, electromagnetic; Biomedical radiation applications, electromagnetic; Electromagnetic shielding
- Electromagnetic reflection**
 performance study of one-way absorbing boundary equations in 3-D TLM for dispersive guiding structures. *Eswarappa, Channabasappa*, + , *MWSYM 93 Vol. 3* 1439-1442
 reflection and transmission of guided electromagnetic waves at air-chiral interface and at chiral slab in parallel-plate waveguide. *Mariotte, Frédéric*, + , *T-MTT Nov 93* 1895-1906
- Electromagnetic refraction; cf.** Optical refraction
- Electromagnetic scattering**
 reciprocity formulation for EM scattering by obstacle within large open cavity. *Pathak, Prabhakar H.*, + , *T-MTT Apr 93* 702-707
 TM-scattering from slit in thick conducting screen. *Kang, Soo H.*, + , *T-MTT May 93* 895-899
 transverse scattering matrix formulation for class of waveguide eigenvalue problems. *Ma, Zhewang*, + , *T-MTT Jun/Jul 93* 1044-1051
- Electromagnetic scattering; cf.** Cylinders; Electromagnetic reflection; Electromagnetic transient scattering; Spheres; Strip scatterers; Waveguide discontinuities; Wedges
- Electromagnetic scattering, absorbing media**
 nonlinear response to picosecond pulse excitations in magneto-dielectric media. *How, Hoton*, + , *T-MTT Feb 93* 255-259
- Electromagnetic scattering, absorbing media; cf.** Biological radiation effects, electromagnetic; Loaded scatterers
- Electromagnetic scattering, anisotropic media**
 scattering by dielectric body with large permittivity; 3-D algorithm for solving electric field integral equation using face-centered node points, conjugate gradient method, and FFT. *Ching-Chuan, Su*, *T-MTT Mar 93* 510-515
- Electromagnetic scattering, anisotropic media; cf.** Electromagnetic scattering, magnetic media
- Electromagnetic scattering, inverse problem**
 bistatic frequency-swept microwave imaging; principle, methodology and experimental results. *Lin, Ding-Bing*, + , *T-MTT May 93* 855-861
 numerical electromagnetic inverse-scattering solutions for 2-D infinite dielectric cylinders buried in lossy half-space. *Caorsi, S.*, + , *T-MTT Feb 93* 352-357
- Electromagnetic scattering, magnetic media**
 nonlinear response to picosecond pulse excitations in magneto-dielectric media. *How, Hoton*, + , *T-MTT Feb 93* 255-259
- Electromagnetic scattering, nonhomogeneous media**
 method for measuring properties of nonhomogeneous materials using two-polarization forward-scattering measurement. *Toropainen, Anssi P.*, *MWSYM 93 Vol. 1* 257-260
 method for measuring properties of nonhomogeneous materials using two-polarization forward-scattering measurement. *Toropainen, Anssi P.*, *T-MTT Dec 93* 2081-2086
 numerical electromagnetic inverse-scattering solutions for 2-D infinite dielectric cylinders buried in lossy half-space. *Caorsi, S.*, + , *T-MTT Feb 93* 352-357
- Electromagnetic scattering, nonhomogeneous media; cf.** Loaded scatterers
- Electromagnetic scattering, periodic structures**
 electromagnetic scattering by finite strip array on dielectric slab. *Lu, Cai-Cheng*, + , *T-MTT Jan 93* 97-100
- Electromagnetic scattering, random media; cf.** Electromagnetic scattering, rough surfaces
- Electromagnetic scattering, rough surfaces**
 surface roughness measurement of metals using microwave. *Ding, Zhan*, + , *MWSYM 93 Vol. 1* 253-256
- Electromagnetic shielding**
 analysis of single-step and multistep discontinuities for shielded three-layer CPW. *Rahman, Khwaja M.*, + , *T-MTT Sep 93* 1484-1488
 CPW with top and bottom shields in place of air-bridges. *Omar, A. A.*, + , *T-MTT Sep 93* 1559-1563
 effects of resistively coated upper dielectric layer on propagation characteristics of hybrid modes in waveguide-shielded microstrip; analysis using method of lines. *Chung, Shyh-Jong*, + , *T-MTT Aug 93* 1393-1399
- enhanced dominant mode operation of shielded multilayer CPW via substrate compensation. *Lyons, Michael R.*, + , *T-MTT Sep 93* 1564-1567
- field analysis of shielded uniaxial-anisotropic dielectric rod resonators. *Kobayashi, Yoshio*, + , *T-MTT Dec 93* 2198-2205
- field analysis of shielded uniaxial-dielectric rod resonators. *Kobayashi, Y.*, + , *MWSYM 93 Vol. 2* 913-916
- finite difference approach that employs asymptotic boundary condition on rectangular outer boundary for modeling 2-D transmission line structures. *Gordon, Richard K.*, + , *T-MTT Aug 93* 1280-1286
- impedances and charge distributions in slab lines and rectangularly shielded lines obtained by inverse Schwarz-Christoffel conformal transformation. *Costamagna, E.*, + , *T-MTT Jan 93* 156-159
- TE and TM modes in circularly shielded slot waveguides. *Tsalamengas, John L.*, + , *T-MTT Jun/Jul 93* 966-973
- Electromagnetic surface waves**
 generation and observation of surface waves on dielectric slabs and coplanar structures. *Godshalk, Edward M.*, *MWSYM 93 Vol. 2* 923-926
- Electromagnetic tomography; cf.** Tomography, electromagnetic
- Electromagnetic transient analysis**
 3-D condensed node TLM scattering. *So, Poman P. M.*, + , *MWSYM 93 Vol. 3* 1443-1446
 transients on lossless exponential transmission lines using Allen's method. *Bouchard, Pierre*, + , *T-MTT Jun/Jul 93* 1178-1182
- Electromagnetic transient analysis; cf.** Transmission-line-matrix methods
- Electromagnetic transient propagation**
 characterization and simulation of biquadratic CPW tapers for time-domain applications. *Thomann, W.*, + , *MWSYM 93 Vol. 2* 835-838
 characterization of picosecond pulse crosstalk between coupled microstrip lines with arbitrary conductor width. *Qian, Yongxi*, + , *T-MTT Jun/Jul 93* 1011-1016
 equivalent circuits for multiconductor microstrip bend discontinuities. *Harms, Paul H.*, + , *T-MTT Jan 93* 62-69
 picosecond pulse propagation on coplanar striplines fabricated on lossy semiconductor substrates; modeling and experiments. *Son, Joo-Hiuk*, + , *T-MTT Sep 93* 1574-1580
 pulse distortion on multilayer microstrip line. *Verma, A. K.*, + , *MWSYM 93 Vol. 2* 861-864
 pulse-shape degradation during narrow-pulse transmission on conventional CPWs when power leakage is present. *Tsuji, Mikio*, + , *T-MTT Jun/Jul 93* 1017-1023
- Electromagnetic transient scattering**
 nonlinear response to picosecond pulse excitations in magneto-dielectric media. *How, Hoton*, + , *T-MTT Feb 93* 255-259
 transient analysis of coupled, tapered transmission lines with arbitrary nonlinear terminations. *Oh, Kyung S.*, + , *T-MTT Feb 93* 268-273
 ultrawideband transient microwave scattering measurements using optoelectronically switched antennas. *Carin, Lawrence*, + , *T-MTT Feb 93* 250-254
- Electronic countermeasures; cf.** Electronic warfare
- Electronics; cf.** Ultrafast electronics
- Electronic warfare**
 dual 6.8–10.7 GHz T/R module using 72 MMICs for EW system. *Garbe, G.*, + , *MWSYM 93 Vol. 3* 1329-1332
- Electrooptic materials/devices; cf.** Integrated optoelectronics
- Electrooptic measurements**
 2-D mapping of microwave potential on MMICs using electrooptic sampling. *Hjelme, Dag Roar*, + , *T-MTT Jun/Jul 93* 1149-1158
 300-GHz-bandwidth network analysis using time-domain electro-optic sampling. *Cheng, H.*, + , *MWSYM 93 Vol. 3* 1355-1358
 calibration of external electrooptic sampling using field simulation and system transfer function analysis. *Wu, Xiaohua*, + , *MWSYM 93 Vol. 1* 221-224
 characterization and optimization of electrooptic sampling by volume-integral-method; application to evaluation of space-harmonic potential. *Rottenkolber, M.*, + , *MWSYM 93 Vol. 1* 265-268
 characterization and optimization of electrooptic sampling by volume-integral method; application to evaluation of space-harmonic potential. *Thomann, W.*, + , *T-MTT Dec 93* 2392-2399
 electrooptic sampling measurements of microwave grid oscillator power combiners. *Chen, Kuang Yi*, + , *MWSYM 93 Vol. 1* 313-316
 physically based circuit model of GaAs MESFET as optical port for microwave systems. *Razzooqi, K. A. R.*, + , *MWSYM 93 Vol. 3* 1553-1556
 probe tip invasiveness at indirect electro-optic sampling of MMIC. *Mertin, W.*, + , *MWSYM 93 Vol. 3* 1351-1354
 real-time broadband waveform sampling using optic-microwave phase-locking. *Huang, S. L.*, + , *MWSYM 93 Vol. 3* 1387-1390
- Electrooptic modulation**
 balanced receiver external modulation fiber-optic link architecture with reduced noise figure. *Ackerman, E.*, + , *MWSYM 93 Vol. 2* 723-726

- CPW 2 GHz three-port MESFET oscillator for electrooptic modulator. *Radišić, Vesna*, +, *T-MTT Sep 93* 1645-1647
- design and on-wafer testing of millimeter-wave external optical modulators. *Polifko, David*, +, *MWSYM 93 Vol. 3* 1391-1394
- low noise wideband fiberoptic MMIC-based receiver. *Khairandish, R.*, +, *MCS 93* 71-73
- maximum dynamic range operation of microwave external modulation fiber-optic link. *Ackerman, Edward*, +, *T-MTT Aug 93* 1299-1306
- multicoupled quantum well intensity optical modulator for InP-based MMIC/photonic ICs. *Silva, M. T. Camargo*, +, *MWSYM 93 Vol. 1* 229-232
- slow-wave resonant electrode design for optical modulators. *Yu, Mark*, +, *MWSYM 93 Vol. 1* 237-239
- technique for velocity-matched traveling-wave electrooptic modulator in AlGaAs/GaAs. *Khan, M. Nisa*, +, *T-MTT Feb 93* 244-249
- Electrostatic analysis; cf.** Acoustic surface wave transducers
- Ellipsoids**
- double-slot antennas on extended hemispherical and elliptical silicon dielectric lenses. *Filipovic, Daniel F.*, +, *T-MTT Oct 93* 1738-1749
- Elliptic filters**
- dual-plane bandpass elliptic coupled-line filter suitable for high-temperature superconducting thin-film implementation. *Yao, Shih-Jih*, +, *MWSYM 93 Vol. 1* 181-184
- dual-plane bandpass elliptic coupled-line filter suitable for high-temperature superconducting thin-film implementation. *Yao, Shih-Jih*, +, *T-MTT Dec 93* 2182-2189
- Endfire antennas**
- tapered slotline antennas at 802 GHz. *Acharya, Pranay R.*, +, *T-MTT Oct 93* 1715-1719
- thermic end-fire interstitial applicator for microwave hyperthermia. *Cerri, Graziano*, +, *T-MTT Jun/Jul 93* 1135-1142
- Equalizers**
- CAD of singly-matched multiplexer with common junction. *Gong, Ji-An*, +, *T-MTT May 93* 886-890
- Equiripple filters; cf.** Chebyshev filters; Elliptic filters
- Equivalence principle; cf.** Electromagnetic propagation, anisotropic media
- Europe**
- microwave bioelectromagnetics in Europe. *Vander Vorst, André*, *MWSYM 93 Vol. 2* 1137-1140
- survey of European activity on CPW. *Walker, J. L. B.*, *MWSYM 93 Vol. 2* 693-696
- F**
- Fabrication; cf.** Semiconductor device fabrication
- Fabry-Perot resonators**
- Gaussian-beam open resonator with highly reflective circular coupling regions. *Matsui, Toshiaki*, +, *T-MTT Oct 93* 1710-1714
- millimeter and submillimeter-wave quasi-optical oscillator with Gunn diodes. *Bae, Jongsuck*, +, *T-MTT Oct 93* 1851-1855
- slot-fed higher order mode Fabry-Perot filters. *McCleary, James*, +, *T-MTT Oct 93* 1703-1709
- Faraday effect**
- analysis of reflection and transmission configurations of quasi-optical Faraday rotation millimeter-wave ferrite circulator. *Lax, B.*, +, *MWSYM 93 Vol. 1* 479-482
- analysis of reflection and transmission configurations of quasi-optical Faraday rotation millimeter-wave ferrite circulator. *Lax, Benjamin*, +, *T-MTT Dec 93* 2190-2197
- Fast Fourier transforms; cf.** Discrete Fourier transforms
- FDTD (finite-difference-time-domain) methods; cf.** Finite-difference methods
- Feedback amplifiers**
- L-band tuned MMIC linearized amplifier using active feedback. *Pedro, José Carlos*, +, *MCS 93* 113-116
- L-band tuned MMIC linearized amplifier using active feedback. *Pedro, José Carlos*, +, *MWSYM 93 Vol. 1* 95-98
- Feedback circuits**
- noise design of active feedback resonator band-elimination filter. *Ishikawa, Youhei*, +, *MWSYM 93 Vol. 1* 193-196
- noise design of active feedback resonator band-elimination filter. *Ishikawa, Youhei*, +, *T-MTT Dec 93* 2133-2138
- Feedback systems**
- 6.5 GHz–11.5 GHz source using grid amplifier with twist reflector. *Kim, Moonil*, +, *T-MTT Oct 93* 1772-1774
- Feedforward systems**
- feedforward linearization of directly modulated laser diodes for AM CATV lightwave transmission systems. *Hassin, D.*, +, *MWSYM 93 Vol. 2* 727-730
- feedforward linearization of directly modulated laser diodes for AM CATV lightwave transmission systems. *Hassin, D.*, +, *T-MTT Dec 93* 2376-2382
- Feeds; cf.** Antenna feeds
- Ferrimagnetic materials/devices; cf.** Ferrite materials/devices
- Ferrite circulators**
- analysis of reflection and transmission configurations of quasi-optical Faraday rotation millimeter-wave ferrite circulator. *Lax, B.*, +, *MWSYM 93 Vol. 1* 479-482
- analysis of reflection and transmission configurations of quasi-optical Faraday rotation millimeter-wave ferrite circulator. *Lax, Benjamin*, +, *T-MTT Dec 93* 2190-2197
- field-theoretical treatment of *H*-plane waveguide junctions with anisotropic ferrite and composite ferrite posts. *Tsai, Yu-Yuan*, +, *T-MTT Feb 93* 274-281
- losses in Y-junction stripline and microstrip ferrite circulators. *Neider, Robert E.*, +, *T-MTT Jun/Jul 93* 1081-1086
- Ferrite-loaded waveguides**
- cut-off and phase constants of partially filled axially magnetized gyromagnetic waveguides using finite elements. *Dillon, Bernice M.*, +, *T-MTT May 93* 803-808
- full-wave analysis of transversely magnetized ferrite nonradiative dielectric waveguide. *César, Amílcar Careli*, +, *T-MTT Apr 93* 647-651
- modeling multiple discontinuities in rectangular waveguide partially filled with nonreciprocal ferrites. *Solano, Miguel A.*, +, *T-MTT May 93* 797-802
- nonreciprocal and reciprocal complex and backward waves in parallel plate waveguides loaded with ferrite slab arbitrarily magnetized. *Marqués, Ricardo*, +, *T-MTT Aug 93* 1409-1418
- numerical analysis and computer simulation of magnetostatic wave propagation in YIG-loaded waveguide. *Radmanesh, Matthew M.*, +, *T-MTT Jan 93* 89-96
- Ferrite-loaded waveguides; cf.** Ferrite phase shifters
- Ferrite materials/devices**
- magnetostatic waves in ferrite film with losses. *Vyzulin, S. A.*, +, *T-MTT Jun/Jul 93* 1070-1073
- microwave ferrite technology in Japan; current status and future expectations. *Murakami, Yoshikazu*, *MWSYM 93 Vol. 1* 207-210
- overview of microwave ferrite-related activity in France, Germany, Spain, Poland and UK. *Davis, Lionel E.*, *MWSYM 93 Vol. 1* 199-202
- scattering parameters measurement of nonreciprocal coupling structure. *Kwan, P.*, +, *T-MTT Apr 93* 652-657
- status of ferrite technology for microwave applications in United States. *Webb, D. C.*, *MWSYM 93 Vol. 1* 203-206
- Ferrite materials/devices; cf.** YIG materials/devices
- Ferrite phase shifters**
- double ridged waveguide phase shifters for broadband applications. *El-Sharaway, El-Badawy*, *MWSYM 93 Vol. 1* 473-475
- double ridged waveguide phase shifters for broadband applications. *El-Sharaway, El-Badawy*, *T-MTT Dec 93* 2161-2165
- phase shift calculations in axially-magnetized ferrites using finite-element method. *Dillon, B. M.*, +, *MWSYM 93 Vol. 1* 469-472
- phase shift calculations in axially-magnetized ferrites using finite-element method. *Dillon, B. M.*, +, *T-MTT Dec 93* 2092-2098
- Ferroresonance**
- low voltage high power T/R switch MMIC using LC resonators. *Tokumitsu, Tsuneo*, +, *MCS 93* 27-30
- nonlinear synchronized LC oscillators; theory and simulation. *Odyniec, Michal*, *T-MTT May 93* 774-780
- FET amplifiers**
- stability analysis and numerical simulation of multidevice amplifiers. *Ohtomo, Motoharu*, *T-MTT Jun/Jul 93* 983-991
- FET amplifiers; cf.** MESFET amplifiers; Microwave FET amplifiers; MODFET amplifiers
- FET circuits; cf.** FET integrated circuits
- FET integrated circuits**
- F-band (90–140 GHz) resistive mixer based on HFET technology. *Angelov, Ilcho*, +, *MWSYM 93 Vol. 2* 787-790
- FET integrated circuits; cf.** FETs; JFET integrated circuits; Millimeter-wave FET integrated circuits
- FET oscillators**
- FET active slotline notch antennas for quasi-optical power combining. *Leverich, W. Kent*, +, *T-MTT Sep 93* 1515-1518
- quasi-optical planar arrays with FETs and slots. *Kawasaki, Shigeo*, +, *T-MTT Oct 93* 1838-1844
- FET oscillators; cf.** MESFET oscillators; MODFET oscillators
- FETs**
- designing FETs for broad noise circles. *Hughes, Brian*, *T-MTT Feb 93* 190-198

- efficient FET model parameter extraction using multi-plane data-fitting and bidirectional search technique. *Lin, Fujiang, +, MWSYM 93 Vol. 2 1021-1024*
- linear dependence of minimum noise figure on frequency for FETs. *Hughes, Brian, T-MTT Jun/Jul 93 979-982*
- FETs; cf. FET...; Gallium FETs; MESFETs; Microwave FETs; Millimeter-wave FETs; MODFETs; MOSFETs; Power FETs
- FET switches**
nonlinear model for predicting intermodulation distortion in GaAs FET RF switch devices. *Plá, J. A., +, MWSYM 93 Vol. 2 641-644*
- FET switches; cf. MESFET switches**
- FFT (fast Fourier transform); cf. Discrete Fourier transforms**
- Films; cf. Conducting films; Dielectric films**
- Filters**
signal-to-noise enhancer using two magnetostatic surface wave filters; application to noise reduction in DBS reception. *Nomoto, Toshihiro, +, T-MTT Aug 93 1316-1322*
- Filters; cf. Active filters; Bandpass filters; Bandstop filters; Chebyshev filters; Comb filters; Directional filters; Equalizers; Frequency selective surfaces; High-pass filters; Impedance matching; Ladder filters; Low-pass filters; Microstrip filters; Microwave filters; Resonator filters; Superconducting filters; Tunable devices; UHF filters; Waveguide filters**
- Finite-difference methods**
3-D characterization of air bridges and via holes in conductor-backed CPWs for MMIC applications. *Visan, S., +, MWSYM 93 Vol. 2 709-712*
algorithm for treatment of curved metallic laminas in FDTD method. *Railton, C. J., T-MTT Aug 93 1429-1438*
calibration of external electrooptic sampling using field simulation and system transfer function analysis. *Wu, Xiaohua, +, MWSYM 93 Vol. 1 221-224*
characterization of cylindrical via discontinuity using FDTD method. *Harms, Paul H., +, T-MTT Jan 93 153-156*
combining autoregressive (AR) model with FDTD algorithm for improved computational efficiency. *Chen, Ji, +, MWSYM 93 Vol. 2 749-752*
comments, with reply, on 'A new finite-difference time-domain formulation and its equivalence with the TLM symmetrical condensed node' by Z. Chen et al. *Celuch-Marcysiak, M., +, T-MTT Jan 93 168-172 (Original paper, Dec 91 2160-2169)*
differential-equation-based frequency-dependent FDTD formulation for general dispersive media. *Gandhi, Om P., +, T-MTT Apr 93 658-665*
efficient full-wave 3-D and 2-D waveguide eigenvalue analysis and S-matrix computation using direct FDTD wave equation formulation. *Krupezevic, Dragan V., +, T-MTT Dec 93 997-1000*
efficient full-wave 3-D and 2-D waveguide eigenvalue analysis by using direct FDTD wave equation formulation. *Brankovic, V. J., +, MWSYM 93 Vol. 2 897-900*
efficient numerical procedure using shifted power method for analyzing dielectric waveguides without inverting matrices. *Su, Ching-Chuan, T-MTT Mar 93 539-542*
FDTD diakoptics method. *Huang, Tian-Wei, +, MWSYM 93 Vol. 3 1435-1438*
FDTD method applied to analysis of circuits described by 2-D vector wave equation. *Gwarek, Wojciech K., +, T-MTT Feb 93 311-317*
FDTD modeling of hyperthermia applicators for cancer therapy. *Pothecary, N. M., +, MWSYM 93 Vol. 2 1151-1154*
finite-difference analysis of open and short circuits in coplanar MMICs. *Beilenhoff, Klaus, +, T-MTT Sep 93 1534-1537*
finite-difference approach for rigorous full-wave analysis of superconducting microwave structures. *Megahed, Mohamed A., +, MWSYM 93 Vol. 2 963-966*
finite difference approach that employs asymptotic boundary condition on rectangular outer boundary for modeling 2-D transmission line structures. *Gordon, Richard K., +, T-MTT Aug 93 1280-1286*
frequency-dependent FDTD modeling of optically controlled dielectric resonators. *Shen, Ying, +, T-MTT Jun/Jul 93 1005-1010*
hybrid Yee/FDTD scalar-wave algorithm approach. *Aoyagi, Paul H., +, T-MTT Sep 93 1593-1600*
improved 2D-FDTD algorithm for hybrid mode analysis of quasi-planar transmission lines. *Xiao, S., +, MWSYM 93 Vol. 1 421-424*
introduction of surface resistance in 3-D finite-difference method in frequency domain. *Hollmann, Detlev, +, T-MTT May 93 893-895*
locally conformed FDTD algorithm of modeling arbitrary shape planar metal strips. *Fang, Jiayuan, +, T-MTT May 93 830-838*
modeling of discontinuities in microwave and millimeter-wave ICs using curvilinear FDTD approach. *Kosanovich, Stevan, +, MWSYM 93 Vol. 2 741-744*
optimized absorbing boundary conditions for analysis of planar circuits using FDTD method. *Railton, C. J., +, T-MTT Feb 93 290-297*
treatment of field singularities at metallic edges in finite-difference approximation. *Beilenhoff, Klaus, +, MWSYM 93 Vol. 2 979-982*
wideband circuit modelling of waveguide discontinuities by FDTD methods. *Moglie, Franco, +, MWSYM 93 Vol. 2 967-970*
- Finite-duration impulse-response digital filters; cf. FIR digital filters**
- Finite-element methods**
3-D finite-element analysis of inductive strips in unilateral finlines. *Foo, S. L., +, T-MTT Feb 93 298-304*
analysis of microstrip discontinuities based on edge-element 3-D FEM formulation and absorbing boundary conditions. *Wang, J. S., +, MWSYM 93 Vol. 2 745-748*
comments, with reply, on 'Finite elements for microwave device simulation: Application to microwave dielectric resonator filter' by J. P. Cousty et al. *Abramowicz, Adam, T-MTT Apr 93 737-738 (Original paper, May 92 925-932)*
cut-off and phase constants of partially filled axially magnetized gyromagnetic waveguides using finite elements. *Dillon, Bernice M., +, T-MTT May 93 803-808*
efficient finite-element solution of inhomogeneous anisotropic and lossy dielectric waveguides. *Lu, Yilong, +, T-MTT Jun/Jul 93 1215-1223*
finite-element analysis of axisymmetric cavity resonator using hybrid edge element technique. *Lee, Jin-FA, +, T-MTT Nov 93 1981-1987*
finite element analysis of open-ended coaxial lines. *Blackham, Dave, +, MWSYM 93 Vol. 3 1247-1250*
phase shift calculations in axially-magnetized ferrites using finite-element method. *Dillon, B. M., +, MWSYM 93 Vol. 1 469-472*
phase shift calculations in axially-magnetized ferrites using finite-element method. *Dillon, B. M., +, T-MTT Dec 93 2092-2098*
semi-discrete finite-element analysis of zero-thickness inductive strips in rectangular waveguide. *Crawford, Devin, +, T-MTT Mar 93 523-526*
semi-discrete finite element method analysis of arbitrary microstrip elements; static solution. *Davidovitz, Marat, +, T-MTT Apr 93 680-686*
shape function optimization in finite-element analysis of waveguides. *Hernández-Figueroa, H. E., +, T-MTT Jun/Jul 93 1235-1238*
simplified 2-D graded mesh FDTD algorithm for calculating characteristic impedance of shielded or open planar waveguides with finite metallization thickness. *Krupezevic, D. V., +, MWSYM 93 Vol. 2 997-1000*
synthesis of vector parasites in finite-element Maxwell solutions. *Lynch, Daniel R., +, T-MTT Aug 93 1439-1448*
- Finline**
hybrid-mode analysis of planar transmission lines with arbitrary metallization cross sections. *Ma, Zhewang, +, T-MTT Mar 93 491-497*
improved formulation of singular integral equation technique for finlines. *Sarhan, Ahmed, +, MWSYM 93 Vol. 2 905-908*
mode-coupling formation of complex modes in nonreciprocal finline. *Tzuang, Ching-Kuang C., +, T-MTT Aug 93 1400-1408*
performance study of one-way absorbing boundary equations in 3-D TLM for dispersive guiding structures. *Eswarappa, Channabasappa, +, MWSYM 93 Vol. 3 1439-1442*
- Finline circulators**
millimeter-wave three-port finline circulator using distributed coupling effect. *Mazur, Jerzy, T-MTT Jun/Jul 93 1067-1070*
- Finline discontinuities**
3-D finite-element analysis of inductive strips in unilateral finlines. *Foo, S. L., +, T-MTT Feb 93 298-304*
full-wave boundary integral equation method for suspended planar transmission lines with pedestals and finite metallization thickness. *Zhu, Lei, +, T-MTT Mar 93 478-483*
- Finline transitions**
influence of metallization thickness on characteristics of cascaded junction discontinuities of shielded coplanar type transmission line. *Huang, Tian-Wei, +, T-MTT Apr 93 693-697*
parametric interactions in high- T_c superconducting step edge junctions at X band; 60-GHz microstrip based parametric amplifier using antipodal finline transitions. *Kain, Aron Z., +, MWSYM 93 Vol. 3 1425-1428*
- FIR digital filters**
design method for microwave distributed amplifier based on relations between FIR digital filter and distributed amplifier. *Wu, Wen, +, MWSYM 93 Vol. 1 301-303*
- FM**
GaAs FET direct frequency-modulators for 42-GHz-band HDTV radio cameras and 7-GHz-band field pick-up transmitters. *Mitsumoto, Hideo, +, MWSYM 93 Vol. 2 663-666*
- FM pulse compression; cf. Chirp modulation**
- FM radar**
experimental autonomous aircraft landing system utilizing 94-GHz FM-CW imaging radar. *Bui, L. Q., +, MWSYM 93 Vol. 2 857-860*
narrow band FM-CW system for measurement of ice thickness. *Adler, D., +, MWSYM 93 Vol. 2 809-812*

W-band single-chip MMIC transceiver for FM/CW radar. *Chang, K. W.*, +, *MCS* 93 41-44

Forecasting; cf. Technology forecasting

Fourier transforms

characterization of microstrip-ridge structures in frequency domain by integral equation-mode matching technique and in time domain by Fourier transforms. *Engel, Andrew G., Jr.*, +, *T-MTT Aug* 93 1251-1262
mutual coupling between two small circular apertures in conducting screen; analytical expression. *Savov, Sava V.*, *T-MTT Jan* 93 143-146
scattering and reception by flanged parallel-plate waveguide; TE-mode analysis. *Park, Tah J.*, +, *T-MTT Aug* 93 1458-1460

Fourier transforms; cf. Discrete Fourier transforms

France

overview of microwave ferrite-related activity in France, Germany, Spain, Poland and UK. *Davis, Lionel E.*, *MWSYM* 93 Vol. 1 199-202

Frequency calculations

calculating resonant frequency of uncovered and covered rectangular microstrip patches using modified Wolff model. *Verma, Anand K.*, +, *T-MTT Jan* 93 109-116
efficient method for determining resonant frequencies of shielded circular disk and ring resonators. *Tefiku, Fatou*, +, *T-MTT Feb* 93 343-346
integral-equation formulation for analysis of complex resonant frequency of rectangular microstrip patch on uniaxial substrate. *Wong, Kin-Lu*, +, *T-MTT Apr* 93 698-701
resonance in superstrate-loaded cylindrical-rectangular microstrip structure. *Wong, Kin-Lu*, +, *T-MTT May* 93 814-819
resonant frequency of superstrate-loaded rectangular microstrip structure. *Row, Jeon-Sheen*, +, *T-MTT Aug* 93 1349-1355

Frequency conversion; cf. Josephson mixers/frequency converters; Microwave frequency conversion; Microwave mixers; Millimeter-wave frequency conversion; Millimeter-wave mixers; Optical mixers; Schottky diode frequency converters; Submillimeter-wave frequency conversion; UHF frequency conversion

Frequency division; cf. Microwave frequency conversion

Frequency-hop communication

frequency hopping microwave radio system for LAN communications. *Williams, D. A.*, *MWSYM* 93 Vol. 2 685-690

Frequency-independent antennas; cf. Log-periodic antennas

Frequency measurement

superconductive digital instantaneous frequency-measurement subsystem. *Liang, G.-C.*, +, *MWSYM* 93 Vol. 3 1413-1416
superconductive digital instantaneous frequency-measurement subsystem. *Liang, Guo-chun*, +, *T-MTT Dec* 93 2368-2375

Frequency modulation; cf. FM...

Frequency multiplication; cf. Millimeter-wave frequency conversion; Submillimeter-wave frequency conversion

Frequency selective surfaces

high-temperature superconducting thin films in frequency selective surfaces (FSS) at millimeter-wave frequencies; superconducting FSS as quasi-optical millimeter-wave bandpass filters. *Zhang, Dawei*, +, *T-MTT Jun/Jul* 93 1032-1036

G

Galerkin's method; cf. Moment methods

Gallium FETs

design of low-conversion-loss cold FET mixers by statistical optimization of high order sidebands loading. *Villemazet, I. F.*, +, *MWSYM* 93 Vol. 2 1029-1032
noninvasive waveform probing for nonlinear network analysis; application to GaAs power FET. *Wei, C. J.*, +, *MWSYM* 93 Vol. 3 1347-1350
nonlinear model for predicting intermodulation distortion in GaAs FET RF switch devices. *Plid, J. A.*, +, *MWSYM* 93 Vol. 2 641-644

Gallium FETs; cf. JFET...; MESFET...; Microwave FET...; Millimeter-wave FET...; MODFET...; UHF FET...

Gallium materials/devices

monolithic, photoconductive ultra-wideband RF radiating device. *Kim, A.*, +, *MWSYM* 93 Vol. 3 1221-1224
physically-based small-signal circuit model for heterostructure acoustic charge transport devices. *Kenney, J. Stevenson*, +, *MWSYM* 93 Vol. 3 1513-1516
physically-based small-signal circuit model for heterostructure acoustic charge transport devices. *Kenney, J. Stevenson*, +, *T-MTT Dec* 93 2218-2226
wide-bandwidth electron bolometric mixers; 2DEG prototype and potential for low-noise THz receivers. *Yang, Jian-Xun*, +, *T-MTT Apr* 93 581-589

Gallium materials/devices; cf. Bipolar transistor...; Coplanar waveguides; Electrooptic modulation; IMPATT diode oscillators; Microstrip; Microwave bipolar transistors, power; Microwave filters; Millimeter-wave resonators; p-i-n diodes; Schottky diode...; Varactors

Gallium materials/lasers; cf. Optical fiber transmitters, lasers

Garnet films/devices

magnetostatic surface wave and magnetostatic volume wave in multilayered ferrimagnetic structure with arbitrary orientation between two static magnetizations. *Sun, Kunquan*, *T-MTT Jun/Jul* 93 1143-1148

Garnet films/devices; cf. YIG...

Gaussian beams

Gaussian beam-mode analysis and phase-centers of corrugated feed horns. *Wylde, Richard J.*, +, *T-MTT Oct* 93 1691-1699
Gaussian-beam open resonator with highly reflective circular coupling regions. *Matsui, Toshiaki*, +, *T-MTT Oct* 93 1710-1714

Germany

overview of microwave ferrite-related activity in France, Germany, Spain, Poland and UK. *Davis, Lionel E.*, *MWSYM* 93 Vol. 1 199-202

Global Positioning System

limiting filter for application in GPS receiver. *Tan, Robert*, +, *MWSYM* 93 Vol. 2 881-883

Governmental activities/factors

computer-based electromagnetic education; activities of US NSF/IEEE Center for Computer Applications in Electromagnetic Education. *Iskander, Magdy F.*, *T-MTT Jun/Jul* 93 920-931

GPS; cf. Global Positioning System

Gradient methods

parameter extraction of microwave transistors using hybrid gradient descent and tree annealing approach. *Skaggs, Steven G.*, +, *T-MTT Apr* 93 726-729
scattering by dielectric body with large permittivity; 3-D algorithm for solving electric field integral equation using face-centered node points, conjugate gradient method, and FFT. *Ching-Chuan, Su*, *T-MTT Mar* 93 510-515

Graphics

graphical design method for traveling wave amplifier based on filter theory. *Paoloni, Claudio*, +, *MWSYM* 93 Vol. 1 273-276

Graph theory; cf. Diakoptics

Gratings; cf. Electromagnetic scattering, periodic structures

Great Britain; cf. United Kingdom

Green's functions

capacitance computations in multilayered dielectric medium using closed-form spatial Green's functions. *Oh, Kyung S.*, +, *MWSYM* 93 Vol. 1 429-432
efficient computation of periodic Green's function in layered dielectric media. *Shubair, Raed M.*, +, *T-MTT Mar* 93 498-502
full-wave analysis of wide rectangular radiating slot excited by microstrip line, using method of moments and matrix pencil method. *Kahrizi, Masoud*, +, *T-MTT Jan* 93 29-37
resonance in spherical-circular microstrip structure with air gap; analysis using Green's function and Galerkin's moment method. *Wong, Kin-Lu*, +, *T-MTT Aug* 93 1466-1468
theoretical modeling of whisker mounted in rectangular waveguide. *Xu, Jie*, +, *MWSYM* 93 Vol. 1 333-336
use of Levin's T-transform in accelerating summation of series representing free-space periodic Green's functions. *Singh, Surendra*, +, *T-MTT May* 93 884-886

Green's functions; cf. Boundary-element methods

Grid amplifiers; cf. Microwave bipolar transistor amplifiers, power; Microwave oscillators

Grid oscillators; cf. Microwave oscillators

Grounding

circuit model for substrate resonance coupling in grounded CPW circuits. *Jackson, Robert W.*, *T-MTT Sep* 93 1641-1645
effects of ground equalization on electrical performance of asymmetric CPW shunt stubs. *Dib, Nihad*, +, *MWSYM* 93 Vol. 2 701-704

Gunn device oscillators

4 × 4 spatial power-combining array with strongly coupled oscillators in multi-layer structure. *Lin, Jenshan*, +, *MWSYM* 93 Vol. 2 607-610
improvements in millimeter-wave system for Josephson junction array voltage standard system. *Yoshida, Haruo*, +, *MWSYM* 93 Vol. 1 389-392
improvements in millimeter-wave system for Josephson junction array voltage standard system. *Yoshida, Haruo*, +, *T-MTT Dec* 93 2353-2358
millimeter and submillimeter-wave quasi-optical oscillator with Gunn diodes. *Bae, Jongsuck*, +, *T-MTT Oct* 93 1851-1855
mode analysis of active microstrip antenna arrays with strongly coupled oscillators; method for power combining. *Nogi, Shigeji*, +, *T-MTT Oct* 93 1827-1837
VCO-based chirp generation for broad bandwidth compressive receiver applications. *Levy, J. S.*, +, *MWSYM* 93 Vol. 2 1113-1115

Gyrators

MIC active bandstop filter using GaAs MESFETs with adjustable center frequency. *Arnold, R. G.*, +, *MWSYM 93 Vol. 3* 1313-1316

Gyromagnetism

nonreciprocal tunable waveguide directional filter using turnstile open gyromagnetic resonator. *Helszajn, J.*, +, *T-MTT Nov 93* 1950-1958

Gyromagnetism; cf. Ferrite...

Gyrotrons

circular waveguide tapers based on subdivision of structure and controlling field resolution. *Jöstingmeier, A.*, +, *MWSYM 93 Vol. 2* 995-996

efficient $TE_{0,n}$ -to- $TE_{0,n} + p$ -mode converter in circular waveguides. *Jöstingmeier, A.*, +, *MWSYM 93 Vol. 2* 939-941

H**Hardware design languages**

introduction to MMIC hardware description language. *Barton, David L.*, +, *MWSYM 93 Vol. 3* 1487-1490

Harmonic analysis

analysis of nonlinear microwave circuits using compression approach. *Kunisch, J.*, +, *MWSYM 93 Vol. 2* 637-640

general method based on harmonic balance techniques to simulate noise in free running oscillators. *Anzill, Werner*, +, *MWSYM 93 Vol. 2* 655-658

general method based on harmonic balance techniques to simulate noise in free running oscillators. *Anzill, Werner*, +, *T-MTT Dec 93* 2256-2263

general-purpose harmonic-balance approach to computation of near-carrier noise in free-running microwave oscillators. *Rizzoli, Vittorio*, +, *MWSYM 93 Vol. 1* 309-312

HDL; cf. Hardware design languages

HDTV; cf. TV...

Head

dry phantom utilizing microwave ceramic powder for estimation of specific absorption rate in biological systems; application to irradiation at UHF. *Kobayashi, Takehiko*, +, *T-MTT Jan 93* 136-140

Helical antennas

heating characteristics of thin helical antennas with conducting cores in lossy medium; noninsulated antennas. *Mirotnik, Mark S.*, +, *T-MTT Nov 93* 1878-1886

HEMT; cf. MODFET...

Heterojunctions; cf. MODFET...

High electron mobility transistors; cf. MODFET...

High-pass filters

high-pass, low-pass and bandpass filters realized in CPW. *Rayit, A. K.*, +, *MWSYM 93 Vol. 3* 1317-1320

High-speed circuits/devices

broadband impedance matching of high-speed photodiodes over 2–4 GHz range. *Goldsmith, Charles L.*, +, *MWSYM 93 Vol. 1* 233-236

High-speed circuits/devices; cf. Ultrafast electronics

High-speed integrated circuits

realization of resistively matched three-ports and ramp-waveform responses of resistive, signal-split three-port transmission-line networks. *Sakagami, Iwata*, +, *T-MTT Feb 93* 234-243

Highways; cf. Road transportation, automated highways

Hilbert transforms

time-domain analysis of lossy multi-conductor transmission lines using Hilbert transform. *Arabi, Tawfik Rahal*, +, *MWSYM 93 Vol. 2* 987-990

Holography; cf. Microwave holography

Horn antennas

86–106 GHz quasi-integrated horn antenna Schottky receiver. *Ali-Ahmad, Walid Y.*, +, *T-MTT Apr 93* 558-564

quasi-integrated horn antennas for millimeter and submillimeter-wave applications. *Eleftheriades, George V.*, +, *T-MTT Jun/Jul 93* 954-965

submillimeter-wave planar low noise Schottky receiver based on quasi-integrated horn antenna. *Ali-Ahmad, Walid Y.*, +, *MWSYM 93 Vol. 2* 527-530

Horn antennas, corrugated

design of conical corrugated feed horns for wide-band high-frequency applications. *Zhang, Xiaolei*, *T-MTT Aug 93* 1263-1274

Gaussian beam-mode analysis and phase-centers of corrugated feed horns. *Wylde, Richard J.*, +, *T-MTT Oct 93* 1691-1699

Huygens' principle; cf. Electromagnetic propagation, anisotropic media

Hybrid integrated circuits

GHz-band ceramic multilayer substrate application to hybrid IC. *Taguchi, Yutaka*, +, *MWSYM 93 Vol. 3* 1325-1328

Hybrid junctions

parallel operation of four oscillators coupled with eight-port hybrid. *Ohta, Isao*, +, *MWSYM 93 Vol. 1* 317-320

rigorous and efficient full-wave analysis of hybrid T-junctions. *Alessandri, F.*, +, *MWSYM 93 Vol. 3* 1447-1450

Hyperthermia

calculating input impedance of electrically small insulated antennas for microwave hyperthermia. *Debicki, Piotr S.*, +, *T-MTT Feb 93* 357-360

current sheet applications for clinical microwave hyperthermia. *Gopal, Mohan Krishnan*, +, *T-MTT Mar 93* 431-437

FDTD modeling of hyperthermia applicators for cancer therapy. *Pothecary, N. M.*, +, *MWSYM 93 Vol. 2* 1151-1154

field analysis of dielectric-loaded lens applicator for microwave hyperthermia. *Alexander, Philip H.*, +, *T-MTT May 93* 792-796

microwave bioelectromagnetics in Europe. *Vander Vorst, André*, *MWSYM 93 Vol. 2* 1137-1140

thermal modelling of non-ideal interstitial microwave antenna array hyperthermia for treatment of cancer. *Clibbon, K. L.*, +, *MWSYM 93 Vol. 2* 1147-1150

thermic end-fire interstitial applicator for microwave hyperthermia. *Cerri, Graziano*, +, *T-MTT Jun/Jul 93* 1135-1142

I**Ice**

narrow band FM-CW system for measurement of ice thickness. *Adler, D.*, +, *MWSYM 93 Vol. 2* 809-812

IEEE

computer-based electromagnetic education; activities of US NSF/IEEE Center for Computer Applications in Electromagnetic Education. *Iskander, Magdy F.*, *T-MTT Jun/Jul 93* 920-931

IEEE; cf. Meetings

Image communication; cf. Cable TV

Image-reject receivers; cf. MMIC receivers

Image sensors; cf. TV image sensors

Imaging/mapping; cf. Microwave imaging/mapping; Millimeter-wave imaging/mapping; Radar imaging/mapping

IMPATT diode oscillators

60-GHz IMPATT oscillator array using pulsed operation to prevent overheating. *Davidson, Andrew C.*, +, *T-MTT Oct 93* 1845-1850

GaAs/AlGaAs MQW structures applied to high-frequency IMPATT devices. *Meng, C. C.*, +, *MWSYM 93 Vol. 2* 539-542

Impedance calculations

calculating input impedance of electrically small insulated antennas for microwave hyperthermia. *Debicki, Piotr S.*, +, *T-MTT Feb 93* 357-360

comments, with reply, on 'An analytic algorithm for unbalanced stripline impedance' by P. Robrish. *Costamagna, E.*, +, *T-MTT Jan 93* 173-174

(Original paper, Aug 90 1011-1016)

impedances and charge distributions in slab lines and rectangularly shielded lines obtained by inverse Schwarz-Christoffel conformal transformation. *Costamagna, E.*, +, *T-MTT Jan 93* 156-159

simplified 2-D graded mesh FDTD algorithm for calculating characteristic impedance of shielded or open planar waveguides with finite metallization thickness. *Krupezevic, D. V.*, +, *MWSYM 93 Vol. 2* 997-1000

theoretical modeling of whisker mounted in rectangular waveguide. *Xu, Jie*, +, *MWSYM 93 Vol. 1* 333-336

Impedance matching

547-GHz SIS receiver employing submicron Nb junction with integrated matching circuit. *Febvre, P.*, +, *MWSYM 93 Vol. 2* 771-774

broadband impedance matching of high-speed photodiodes over 2–4 GHz range. *Goldsmith, Charles L.*, +, *MWSYM 93 Vol. 1* 233-236

design criteria for multistage microwave amplifiers with match requirements at input and output. *Macchiarella, Giuseppe*, +, *T-MTT Aug 93* 1294-1298

design method for lumped broadband MMIC matching networks with semiuniform frequency-dependent losses. *Lin, Quinan*, +, *T-MTT May 93* 873-876

folded stubs for compact suspended stripline circuits. *Menzel, Wolfgang*, +, *MWSYM 93 Vol. 2* 593-596

high-temperature superconducting matching networks for electrically short monopole antennas. *Piatnicia, A. Y.*, +, *MWSYM 93 Vol. 3* 1417-1420

Ka-band power PHEMT on-wafer characterization using prematched structures. *Sharma, A. K.*, +, *MWSYM 93 Vol. 3* 1343-1346

matched diplexer configuration in E-plane technology. *Morini, Antonio*, +, *MWSYM 93 Vol. 2* 1077-1080

reactively matched optoelectronic transceivers on InP substrate for 6-GHz operation. *Maricot, S.*, +, *MWSYM 93 Vol. 2* 1067-1070

realization of resistively matched three-ports and ramp-waveform responses of resistive, signal-split three-port transmission-line networks. *Sakagami, Iwata*, +, *T-MTT Feb 93* 234-243

stable broadband microwave amplifier design using simplified real frequency technique. *Jung, Wen-Lin*, +, *T-MTT Feb 93* 336-340

Impedance matching; cf. Baluns**Impedance matrix**

determination of impedance matrix of antenna array in quasi-optical resonator using Lorentz integral. *Heron, Patrick L.*, +, *T-MTT Oct 93* 1816-1826

Impedance measurement

dielectric-waveguide measurement method for determining driving-point impedance of 2-D active grid arrays, based on microwave array models. *Pance, Aleksandar*, +, *T-MTT Jan 93* 20-28

Impedance transformers; cf. Impedance matching**Implantable biomedical devices**

thermal modelling of non-ideal interstitial microwave antenna array hyperthermia for treatment of cancer. *Clibbon, K. L.*, +, *MWSYM 93 Vol. 2* 1147-1150

thermic end-fire interstitial applicator for microwave hyperthermia. *Cerri, Graziano*, +, *T-MTT Jun/Jul 93* 1135-1142

Impulse generation

monolithic, photoconductive ultra-wideband RF radiating device. *Kim, A.*, +, *MWSYM 93 Vol. 3* 1221-1224

Indium materials/devices; cf. Gallium materials/devices; Millimeter-wave bipolar transistor amplifiers; Millimeter-wave bipolar transistor oscillators; MODFET oscillators**Indoor radio; cf. Radio communication, indoor****Inductance calculations**

calculation of capacitance and inductance matrices of coupled lines from modal powers. *Amari, Smain*, *T-MTT Jan 93* 146-150

moment method analysis for CPW discontinuity inductances. *Chiu, Chien-Wen*, +, *T-MTT Sep 93* 1511-1514

vector surface integral approach to computing inductances of general 3-D structures. *Kim, S.*, +, *MWSYM 93 Vol. 3* 1535-1538

Inductance measurement

experimental determination of small-signal equivalent circuit of millimeter-wave FETs. *Eskandarian, A.*, +, *T-MTT Jan 93* 159-162

Induction; cf. Electromagnetic induction**Inductors**

method of lines for analysis of rectangular spiral inductors. *Schmückle, F. J.*, *T-MTT Jun/Jul 93* 1183-1186

Industrial production; cf. Manufacturing**Infrared...; cf. Optical...****Inhomogeneous ...; cf. Nonhomogeneous...****Injection lasers; cf. Semiconductor lasers****Injection-locked oscillators**

fast-tuned, injection locked, DDS-based local oscillator for 3.6 to 4.1 GHz frequency range. *Cohen, Leonard D.*, +, *MWSYM 93 Vol. 2* 659-662

optically controlled oscillators for millimeter-wave phased-array antennas. *Sturzebecher, Dana J.*, +, *T-MTT Jun/Jul 93* 998-1004

push-pull self-oscillating mixer for optically fed phased arrays. *Zhou, Xuesong*, +, *MWSYM 93 Vol. 1* 321-324

two-mode tuning method for injection-locked oscillators at 3.5 GHz; use in lock-in discriminator. *Biswas, B. N.*, +, *T-MTT Mar 93* 388-394

Injection-locked oscillators; cf. Phase-locked oscillators**Integral equations**

characterization and optimization of electrooptic sampling by volume-integral-method; application to evaluation of space-harmonic potential. *Rottenkolber, M.*, +, *MWSYM 93 Vol. 1* 265-268

characterization and optimization of electrooptic sampling by volume-integral method; application to evaluation of space-harmonic potential. *Thomann, W.*, +, *T-MTT Dec 93* 2392-2399

characterization of microstrip-ridge structures in frequency domain by integral equation-mode matching technique and in time domain by Fourier transforms. *Engel, Andrew G., Jr.*, +, *T-MTT Aug 93* 1251-1262

computation of cutoff wavenumbers for partially filled waveguides of arbitrary cross section using surface integral formulations and method of moments. *Shu, Shianfeng*, +, *T-MTT Jun/Jul 93* 1111-1118

CPW resonator; on GaAs modelling using mixed potential integral equation. *Sattler, Sebastian*, +, *MWSYM 93 Vol. 3* 1531-1534

decoupling between two-conductor microstrip transmission line. *He, Shidong*, +, *T-MTT Jan 93* 53-61

determination of impedance matrix of antenna array in quasi-optical resonator using Lorentz integral. *Heron, Patrick L.*, +, *T-MTT Oct 93* 1816-1826

full-wave integral equation method for analysis of coplanar strip circuit using mixed-potentials eigenfunction expansion technique. *Lo, Wen-Teng*, +, *MWSYM 93 Vol. 3* 1539-1542

full-wave space-domain analysis of open microstrip discontinuities including singular current-edge behavior. *Sercu, Jeannick*, +, *T-MTT Sep 93* 1581-1588

improved formulation of singular integral equation technique for finlines. *Sarhan, Ahmed*, +, *MWSYM 93 Vol. 2* 905-908

inhomogeneously filled cavities coupled to waveguides using volume integral equation formulation. *Jöstingmeier, Andreas*, +, *T-MTT Jun/Jul 93* 1207-1214

integral-equation formulation for analysis of complex resonant frequency of rectangular microstrip patch on uniaxial substrate. *Wong, Kin-Lu*, +, *T-MTT Apr 93* 698-701

magnetic field integral equation analysis and design of ridge waveguides. *Sun, Weimin*, +, *T-MTT Nov 93* 1965-1971

method for reduction of surface integral to contour integral; application to calculation of electromagnetic coupling of circular cavities by rectangular iris. *Guillot, P.*, +, *MWSYM 93 Vol. 1* 455-458

method for reduction of surface integral to contour integral; application to calculation of electromagnetic coupling of circular cavities by rectangular iris. *Guillot, Philippe*, +, *T-MTT Dec 93* 2156-2160

mutual coupling between two small circular apertures in conducting screen; analytical expression. *Savov, Sava V.*, *T-MTT Jan 93* 143-146

numerical analysis and computer simulation of magnetostatic wave propagation in YIG-loaded waveguide. *Radmanesh, Matthew M.*, +, *T-MTT Jan 93* 89-96

numerical electromagnetic inverse-scattering solutions for 2-D infinite dielectric cylinders buried in lossy half-space. *Caorsi, S.*, +, *T-MTT Feb 93* 352-357

propagation regimes on integrated microstrip transmission lines using spectral-domain integral equation formulation. *Bagby, Jonathan S.*, +, *T-MTT Nov 93* 1887-1894

scattering by dielectric body with large permittivity; 3-D algorithm for solving electric field integral equation using face-centered node points, conjugate gradient method, and FFT. *Ching-Chuan, Su*, *T-MTT Mar 93* 510-515

surface integral representations; validity of Huygens' principle and equivalence principle in nonhomogeneous bi-anisotropic media. *Monzon, J. Cesar*, *T-MTT Nov 93* 1995-2001

TE and TM modes in circularly shielded slot waveguides. *Tsalamengas, John L.*, +, *T-MTT Jun/Jul 93* 966-973

useful Bessel function identities and integrals. *Manring, E. B.*, +, *T-MTT Aug 93* 1468-1471

vector surface integral approach to computing inductances of general 3-D structures. *Kim, S.*, +, *MWSYM 93 Vol. 3* 1535-1538

Integral equations; cf. Boundary integral equations; Moment methods**Integrated circuit bonding; cf. Surface mounting****Integrated circuit design; cf. Microwave FET amplifiers****Integrated circuit economics**

low cost 77-GHz monolithic transmitter for automotive collision avoidance systems. *Raffaelli, Lamberto*, +, *MCS 93* 63-66

Integrated circuit fabrication; cf. Integrated circuit packaging**Integrated circuit interconnections**

Al-SiO₂-Al sandwich microstrip lines for on-chip interconnects up to 400 GHz. *von Kamienski, E. Stein*, +, *MWSYM 93 Vol. 1* 393-396

Al-SiO₂-Al sandwich microstrip lines for on-chip interconnects up to 400 GHz. *Gondermann, Jörg*, +, *T-MTT Dec 93* 2087-2091

design analysis of coupling structures for multilayer MMICs. *Gillick, Matthew*, +, *T-MTT Feb 93* 346-349

improved floating-random-walk algorithm for solving multidielectric Dirichlet problem. *Jere, Jayant N.*, +, *T-MTT Feb 93* 325-329

model for CPW transmission line structures on semiconductor substrates. *Nary, Kevin R.*, +, *T-MTT Nov 93* 2034-2037

modeling and analysis of vias in multilayered ICs. *Gu, Qizheng*, +, *T-MTT Feb 93* 206-214

Integrated circuit interconnections; cf. Transmission lines**Integrated circuit measurements**

characterization and optimization of electrooptic sampling by volume-integral-method; application to evaluation of space-harmonic potential. *Rottenkolber, M.*, +, *MWSYM 93 Vol. 1* 265-268

characterization and optimization of electrooptic sampling by volume-integral method; application to evaluation of space-harmonic potential. *Thomann, W.*, +, *T-MTT Dec 93* 2392-2399

probe for W-band on-wafer measurements. *Liu, S. M. Joseph*, +, *MWSYM 93 Vol. 3* 1335-1338

W-band wafer probe using ridge-trough waveguide to transition from rectangular waveguide input to CPW. *Godshalk, Edward M.*, *MWSYM 93 Vol. 1* 171-174

Integrated circuit measurements; cf. Integrated circuit packaging; Microwave integrated circuits; Millimeter-wave integrated circuits**Integrated circuit metallization; cf. Integrated circuit interconnections****Integrated circuit modeling; cf. Integrated circuit interconnections****Integrated circuit noise**

probe for W-band on-wafer measurements. *Liu, S. M. Joseph*, +, *MWSYM 93 Vol. 3* 1335-1338

Integrated circuit packaging

- inductive connection effects of mounted spot in plastic SO8 package. *Ndagijimana, F.*, + , *MWSYM 93 Vol. 1* 91-94
- inductive connection effects on electrical performance of mounted SPDT in plastic SO8 package. *Ndagijimana, F.*, + , *MCS 93* 109-112
- test fixture for electrical characterization of packages for use with GaAs MMIC amplifiers. *Smith, Stephen R.*, + , *MWSYM 93 Vol. 1* 131-134
- use of side wall images to compute package effects in method of moments analysis of MMIC circuits. *Jackson, Robert W.*, *T-MTT Mar 93* 406-414

Integrated circuits

- 2.45 GHz wireless IC card system for automatic gates. *Konno, Ken-ichi*, + , *MWSYM 93 Vol. 2* 797-800
- quasi-integrated hom antennas for millimeter and submillimeter-wave applications. *Eleftheriades, George V.*, + , *T-MTT Jun/Jul 93* 954-965

Integrated circuits; cf. Bipolar integrated circuits; FET integrated circuits; High-speed integrated circuits; Hybrid integrated circuits; Integrated optoelectronics; Microwave integrated circuits; Millimeter-wave integrated circuits; MMICs; Submillimeter-wave integrated circuits; UHF integrated circuits**Integrated circuit thermal factors; cf. Cryogenic electronics****Integrated optics; cf. Integrated optoelectronics****Integrated optoelectronics**

- 11-GHz bandwidth GaAs MESFET/MSM OEIC receivers. *Wang, J. S.*, + , *MWSYM 93 Vol. 2* 1047-1050
- affordable low-profile multifunction structure for optoelectronic active array. *Newberg, Irwin L.*, + , *MWSYM 93 Vol. 2* 509-512
- monolithic image rejection optoelectronic up-converters that employ MMIC process. *Kamitsuna, Hideki*, + , *MCS 93* 75-78
- monolithic image rejection optoelectronic up-converters that employ MMIC process. *Kamitsuna, Hideki*, + , *T-MTT Dec 93* 2323-2329
- MSM/MODFET monolithic receiver for detecting 44-GHz modulation signals transmitter by optical carrier. *Litvin, K.*, + , *MWSYM 93 Vol. 2* 1063-1066
- multicoupled quantum well intensity optical modulator for InP-based MMIC/photonic ICs. *Silva, M. T. Camargo*, + , *MWSYM 93 Vol. 1* 229-232
- reactively matched optoelectronic transceivers on InP substrate for 6-GHz operation. *Maricot, S.*, + , *MWSYM 93 Vol. 2* 1067-1070
- rugged optoelectronic microwave transmitter and receiver submodules for microwave applications. *Combemale, Yves*, + , *MWSYM 93 Vol. 2* 735-738

Interchannel interference; cf. Crosstalk**Interconnected circuits; cf. Cascade circuits****Interconnected systems; cf. Multilevel systems****Interconnections, integrated circuits; cf. Integrated circuit interconnections****Interference; cf. Noise****Intermodulation distortion**

- comments, with reply, on 'Mechanisms determining third-order intermodulation distortion in AlGaAs/GaAs heterojunction bipolar transistors' by A. Samelis and D. Pavlidis. *Maas, S. A.*, + , *T-MTT Nov 93* 2038-2040 (Original paper, Dec 92 2374-2380)
- nonlinear model for predicting intermodulation distortion in GaAs FET RF switch devices. *Plá, J. A.*, + , *MWSYM 93 Vol. 2* 641-644
- optimization of tradeoffs between efficiency and intermodulation in power FETs. *Duvanaud, C.*, + , *MWSYM 93 Vol. 1* 285-288

International Microwave Symposium, 1993 IEEE MTT-S

- selected and expanded papers (special issue). *T-MTT Dec 93* 2051-2399

Inverse problems

- comments, with reply, on 'An analytic algorithm for unbalanced stripline impedance' by P. Robrish. *Costamagna, E.*, + , *T-MTT Jan 93* 173-174 (Original paper, Aug 90 1011-1016)
- impedances and charge distributions in slab lines and rectangularly shielded lines obtained by inverse Schwarz-Christoffel conformal transformation. *Costamagna, E.*, + , *T-MTT Jan 93* 156-159

Inverse problems; cf. Electromagnetic scattering, inverse problem**Irises; cf. Waveguide discontinuities****Italy**

- status of microwave education in Italy. *Sorrentino, Roberto*, + , *T-MTT Jun/Jul 93* 937-942

J**Japan**

- microwave ferrite technology in Japan; current status and future expectations. *Murakami, Yoshikazu*, *MWSYM 93 Vol. 1* 207-210
- present and future of mobile communications in Japan (graphics accompanying presentation). *Morishima, Mitsunori*, *MCS 93* 3-6
- research activities on millimeter-wave indoor communication systems in Japan. *Takimoto, Yukio*, + , *MWSYM 93 Vol. 2* 673-676

JFET integrated circuits

- GaAs JFET front-end mixer and amplifier MMICs for L-band personal communications. *Ohgihara, Takahiro*, + , *MCS 93* 9-12

Josephson arrays

- parametric interactions in high- T_c superconducting step edge junctions at X band; 60-GHz microstrip based parametric amplifier using antipodal finline transitions. *Kain, Aron Z.*, + , *MWSYM 93 Vol. 3* 1425-1428

Josephson device measurement applications

- improvements in millimeter-wave system for Josephson junction array voltage standard system. *Yoshida, Haruo*, + , *MWSYM 93 Vol. 1* 389-392
- improvements in millimeter-wave system for Josephson junction array voltage standard system. *Yoshida, Haruo*, + , *T-MTT Dec 93* 2353-2358

Josephson device noise

- comments, with reply, on 'Josephson effect gain and noise in SIS mixers' by M. J. Wengler et al.. *Jablonski, Daniel G.*, *T-MTT Jan 93* 172-173 (Original paper, May 92 820-826)
- noise figure of high temperature superconducting Josephson junction MMIC downconverter at 12 GHz. *Suzuki, Katsumi*, + , *MWSYM 93 Vol. 3* 1429-1432

Josephson mixers/frequency converters

- comments, with reply, on 'Josephson effect gain and noise in SIS mixers' by M. J. Wengler et al.. *Jablonski, Daniel G.*, *T-MTT Jan 93* 172-173 (Original paper, May 92 820-826)
- noise figure of high temperature superconducting Josephson junction MMIC downconverter at 12 GHz. *Suzuki, Katsumi*, + , *MWSYM 93 Vol. 3* 1429-1432

Junction lasers; cf. Semiconductor lasers**Junctions; cf. Hybrid junctions; Waveguide junctions****K****Klystrons**

- high-power millimeter-wave tubes. *Lopin, M. I.*, + , *MWSYM 93 Vol. 2* 1119-1121
- multiple-beam klystrons operating in fundamental resonator mode. *Gelovich, Edward A.*, + , *T-MTT Jan 93* 15-19
- multiple-beam microwave tubes developed at ISTOK. *Pobedonostsev, A. S.*, + , *MWSYM 93 Vol. 2* 1131-1134

L**Ladder filters**

- high Q microwave acoustic resonators and filters. *Lakin, K. M.*, + , *MWSYM 93 Vol. 3* 1517-1520
- high Q microwave acoustic resonators and filters. *Lakin, Kenneth M.*, + , *T-MTT Dec 93* 2139-2146

LAN; cf. Local area networks**Landing guidance systems; cf. Aircraft landing guidance****Land mobile radio cellular systems**

- design and performance of wideband IIDT-type SAW filters with low loss and improved sidelobe suppression. *Weigel, R.*, + , *MWSYM 93 Vol. 3* 1505-1508
- low loss SAW filter structure with extremely wide bandwidth for mobile communication systems. *Machui, J.*, + , *MWSYM 93 Vol. 3* 1501-1504
- low loss SAW filter structure with extremely wide bandwidth for mobile communication systems. *Müller, Gunter*, + , *T-MTT Dec 93* 2147-2155
- measurements of PCS microwave propagation in buildings. *Tang, Yuqiang*, + , *MWSYM 93 Vol. 2* 849-851
- MMIC power amplifier for pocket-size cellular telephones. *Muraguchi, Masahiro*, + , *MWSYM 93 Vol. 2* 793-796
- present and future of mobile communications in Japan (graphics accompanying presentation). *Morishima, Mitsunori*, *MCS 93* 3-6
- small dielectric TEM mode resonator with crossing slot; application to cellular radio VCO. *Uwano, Tomoki*, *T-MTT Apr 93* 639-646
- very small dielectric planar filter for portable telephones. *Ishizaki, T.*, + , *MWSYM 93 Vol. 1* 177-180

Land mobile radio propagation factors

- measurements of PCS microwave propagation in buildings. *Tang, Yuqiang*, + , *MWSYM 93 Vol. 2* 849-851

Land mobile radio transmitters/receivers

- 2.45 GHz wireless IC card system for automatic gates. *Konno, Ken-ichi*, + , *MWSYM 93 Vol. 2* 797-800
- high-efficiency AlGaAs/GaAs HBT power amplifier MMIC for 1.9 GHz digital cordless phone. *Hara, S.*, + , *MCS 93* 19-22

Laplace equations

- improved floating-random-walk algorithm for solving multidielectric Dirichlet problem. *Jere, Jayant N.*, + , *T-MTT Feb 93* 325-329

Laser applications; cf. Light-triggered switches; Optical fiber transmitters, lasers

Laser applications, measurement

real-time broadband waveform sampling using optic-microwave phase-locking. *Huang, S. L., +, MWSYM 93 Vol. 3 1387-1390*

Laser diodes; cf. Semiconductor lasers

Laser modulation; cf. Optical modulation/demodulation

Layered media; cf. Electromagnetic propagation, nonhomogeneous media; Nonhomogeneous media

LC circuits; cf. Ferroresonance; Lossless circuits

Leaky waves

continuous spectrum, characteristic modes, and leaky waves of open waveguides. *Mongiardo, Mauro, +, T-MTT Aug 93 1329-1335*

coupled-mode analysis of leaky waves in anisotropic circular channel waveguides. *Geshiro, Masahiro, +, T-MTT Jun/Jul 93 1159-1163*

coupling phenomena in conductor-backed slotline structures. *Liu, Yaosheng, +, MWSYM 93 Vol. 3 1203-1206*

existence of leaky dominant mode on microstrip line with isotropic substrate; theory and measurement. *Nghiem, David, +, MWSYM 93 Vol. 3 1291-1294*

NRD-guide leaky-wave directional coupler at Ka band. *Niu, Dow-Chih, +, MWSYM 93 Vol. 3 1207-1210*

NRD-guide leaky-wave directional coupler at Ka band. *Niu, Dow-Chih, +, T-MTT Dec 93 2126-2132*

packaged printed transmission lines; modal phenomena and relation to leakage. *Carin, L., +, MWSYM 93 Vol. 3 1195-1198*

rigorous boundary integral equation solution for general isotropic and uniaxial anisotropic dielectric waveguides in multilayered media including losses, gain and leakage. *Olyslager, Frank, +, T-MTT Aug 93 1385-1392*

simultaneous propagation of both bound and leaky dominant modes on conductor-backed coplanar strips. *Tsui, Miko, +, MWSYM 93 Vol. 3 1295-1298*

spectral analysis considerations relevant to radiation and leaky modes of open-boundary microstrip transmission line. *Grimm, Jerry Michael, +, T-MTT Jan 93 150-153*

Learning systems; cf. Neural networks

Least-squares methods

GaAs MESFET characterization using least-squares approximation by rational functions. *Nagatomo, Kazuo, +, T-MTT Feb 93 199-205*

Lens antennas

double-slot antennas on extended hemispherical and elliptical silicon dielectric lenses. *Filipovic, Daniel F., +, T-MTT Oct 93 1738-1749*

hybrid antenna for integrated array optics in quasi-optical millimeter-wave and submillimeter-wave receivers. *Buttgenbach, Thomas H., T-MTT Oct 93 1750-1761*

Lenses

field analysis of dielectric-loaded lens applicator for microwave hyperthermia. *Alexander, Philip H., +, T-MTT May 93 792-796*

Light-activated switches; cf. Light-triggered switches

Light deflectors; cf. Acoustooptic deflectors

Light-triggered switches

cavity dumping power from millimeter-wave open cavity using laser-illuminated silicon quasi-optical switch; generation of short high-power pulses. *Smith, G. M., +, MWSYM 93 Vol. 1 155-158*

MESFET as optically activated microwave switch; theory and experiment. *Madjar, Asher, +, MWSYM 93 Vol. 3 1399-1402*

picosecond photoconductive switches designed for on-wafer characterization of high frequency interconnects. *Golob, L. P., +, MWSYM 93 Vol. 3 1395-1398*

ultrawideband transient microwave scattering measurements using optoelectronically switched antennas. *Carin, Lawrence, +, T-MTT Feb 93 250-254*

Limiting; cf. Microwave limiters

Linacs; cf. Linear accelerators

Linear accelerators

calculation of intercavity coupling coefficient for side coupled standing wave linear accelerator. *Roy, Rajat, +, T-MTT Jun/Jul 93 1233-1235*

Linear algebra; cf. Matrices

Linear circuits

comments, with reply, on 'Instantaneous model of a MESFET for use in linear and nonlinear circuit simulations' by I. Corbella. *Camacho-Peñalosa, C., +, T-MTT Nov 93 2040-2041 (Original paper, Jul 92 1410-1421)*

convolution-based black-box approach for incorporating linear circuit blocks described by frequency-domain data into nonlinear transient time-domain simulator. *Halloran, Patrick, +, MWSYM 93 Vol. 3 1189-1192*

feedforward linearization of directly modulated laser diodes for AM CATV lightwave transmission systems. *Hassin, D., +, MWSYM 93 Vol. 2 727-730*

feedforward linearization of directly modulated laser diodes for AM CATV lightwave transmission systems. *Hassin, D., +, T-MTT Dec 93 2376-2382*

low-noise, low DC power linear amplifiers. *Ikalainen, Pertti K., +, MWSYM 93 Vol. 1 357-360*

low-noise, low-DC-power linear amplifiers using high dynamic range GaAs FETs. *Ikalainen, Pertti K., +, MCS 93 159-162*

passive FET MMIC linearizers for use with spaceborne TWTAs at C-, X-, and Ku-band. *Katz, Allen, +, MCS 93 155-158*

passive GaAs MESFET MMIC linearizers for use with space-born TWTAs at C, X, and Ku band. *Katz, Allen, +, MWSYM 93 Vol. 1 353-356*

Linear FM; cf. Chirp modulation

Lithium materials/devices; cf. Optical modulation/demodulation

Lithium materials/devices; cf. Microwave mixers

Loaded antennas

resonant frequency of superstrate-loaded rectangular microstrip structure. *Row, Jeon-Sheon, +, T-MTT Aug 93 1349-1355*

Loaded scatterers

design of lightweight, broad-band microwave absorbers using genetic algorithms. *Michielssen, Eric, +, T-MTT Jun/Jul 93 1024-1031*

Loaded waveguides; cf. Dielectric-loaded waveguides; Ferrite-loaded waveguides; Nonhomogeneously loaded waveguides

Local area networks

Australian activities in microwave links for wireless LANs. *Batchelor, Robert A., +, MWSYM 93 Vol. 2 677-680*

frequency hopping microwave radio system for LAN communications. *Williams, D. A., MWSYM 93 Vol. 2 685-690*

indoor and outdoor propagation measurements at 5 and 60 GHz for radio LAN application. *Plattner, A., +, MWSYM 93 Vol. 2 853-856*

microwave LANs using passive terminal stations acting as transponders and distributed antennas with no microwave power generation. *Meyer, S., +, MWSYM 93 Vol. 3 1549-1552*

research activities on millimeter-wave indoor communication systems in Japan. *Takimoto, Yukio, +, MWSYM 93 Vol. 2 673-676*

Locked oscillators; cf. Injection-locked oscillators; Phase-locked oscillators

Logarithmic amplifiers

compressive nature of optical detection in GaAs MESFETs; possible application as RF logarithmic amplifier. *Madjar, Asher, +, T-MTT Jan 93 165-167*

Logic circuits

cryogenic GaAs HBT microwave amplifier; application to superconductor digital IC; integration of amplifier with HTS superconductor logic gate. *Kobayashi, K. W., +, MWSYM 93 Vol. 1 377-380*

realization of resistively matched three-ports and ramp-waveform responses of resistive, signal-split three-port transmission-line networks. *Sakagami, Iwata, +, T-MTT Feb 93 234-243*

Logic circuits; cf. Bipolar integrated circuits; FET integrated circuits

Log-periodic antennas

resonances of tuning stubs integrated with SIS mixers in log-periodic antenna. *Dierichs, M. M. T. M., +, T-MTT Apr 93 605-608*

Losses

spectral-domain analysis of slow-wave transmission lines on multilayered semiconductor structures including conductor loss. *Liou, Jenn-Chorng, +, T-MTT May 93 824-829*

Losses; cf. Electromagnetic propagation, absorbing media

Lossless circuits

computation of scattering matrix of 2-D lossless network; synthesis of incommensurate line networks. *Zhu, Lizhong, +, MWSYM 93 Vol. 2 1073-1076*

rigorous full-wave analysis of propagation characteristics of general lossless and lossy multiconductor transmission lines in multilayered media. *Olyslager, Frank, +, T-MTT Jan 93 79-88*

transients on lossless exponential transmission lines using Allen's method. *Bouchard, Pierre, +, T-MTT Jun/Jul 93 1178-1182*

Lossy circuits

broad-band time-domain technique for measurement of frequency dependent complex permittivity in lossy transmission line. *Lape, Kristine M., +, MWSYM 93 Vol. 3 1235-1238*

computation of dielectric losses in multilayer, multiconductor microstrip for CAD of MIC and MMIC structures. *Gilb, James P. K., +, T-MTT Mar 93 527-530*

design method for lumped broadband MMIC matching networks with semiuniform frequency-dependent losses. *Lin, Quinan, +, T-MTT May 93 873-876*

efficient finite-element solution of inhomogeneous anisotropic and lossy dielectric waveguides. *Lu, Yilong, +, T-MTT Jun/Jul 93 1215-1223*

introduction of surface resistance in 3-D finite-difference method in frequency domain. *Hollmann, Detlev*, +, *T-MTT May 93* 893-895
 lossy transmission lines; time domain formulation and simulation model. *Yeung, Patrick S.*, *T-MTT Aug 93* 1275-1279
 nonlinear termination networks for coupled lossy and dispersive transmission lines. *Pan, George W.*, +, *T-MTT Mar 93* 531-535
 quasi-TEM description of MMIC coplanar lines including conductor-loss effects. *Heinrich, Wolfgang*, *T-MTT Jan 93* 45-52
 rigorous boundary integral equation solution for general isotropic and uniaxial anisotropic dielectric waveguides in multilayered media including losses, gain and leakage. *Olyslager, Frank*, +, *T-MTT Aug 93* 1385-1392
 rigorous full-wave analysis of propagation characteristics of general lossless and lossy multiconductor transmission lines in multilayered media. *Olyslager, Frank*, +, *T-MTT Jan 93* 79-88
Lossy media; cf. Electromagnetic propagation, absorbing media; Electromagnetic propagation, dispersive media

Low-pass filters

high-pass, low-pass and bandpass filters realized in CPWs. *Rayit, A. K.*, +, *MWSYM 93 Vol. 3* 1317-1320
 technique for design of filter-based parametric frequency dividers combining basic divider analysis with nonlinear simulation. *Sloan, George R.*, *T-MTT Feb 93* 224-228

Lumped-element microwave circuits

design method for lumped broadband MMIC matching networks with semiuniform frequency-dependent losses. *Lin, Quinan*, +, *T-MTT May 93* 873-876

M

Magnetic anisotropy

dispersion characteristics of open and shielded microstrip lines under combined principal axes rotation of electrically and magnetically anisotropic substrates. *Chen, Yinchao*, +, *T-MTT Apr 93* 673-679

Magnetic circuits; cf. Ferromagnetism

Magnetic films/devices

magnetostatic waves in ferrite film with losses. *Vyzulin, S. A.*, +, *T-MTT Jun/Jul 93* 1070-1073

Magnetic losses

losses in Y-junction stripline and microstrip ferrite circulators. *Neidert, Robert E.*, +, *T-MTT Jun/Jul 93* 1081-1086

Magnetic-material-loaded waveguides; cf. Ferrite-loaded waveguides

Magnetic materials/devices; cf. Electromagnetic propagation, magnetic media; Electromagnetic scattering, magnetic media

Magnetic measurements; cf. Permeability measurement

Magnetic resonance; cf. Ferromagnetism

Magnetostatic surface waves

magnetostatic surface wave and magnetostatic volume wave in multilayered ferrimagnetic structure with arbitrary orientation between two static magnetizations. *Sun, Kunquan*, *T-MTT Jun/Jul 93* 1143-1148
 signal-to-noise enhancer using two magnetostatic surface wave filters; application to noise reduction in DBS reception. *Nomoto, Toshihiro*, +, *T-MTT Aug 93* 1316-1322

Magnetostatic volume waves

magnetostatic surface wave and magnetostatic volume wave in multilayered ferrimagnetic structure with arbitrary orientation between two static magnetizations. *Sun, Kunquan*, *T-MTT Jun/Jul 93* 1143-1148

Magnetostatic waves

magnetostatic waves in ferrite film with losses. *Vyzulin, S. A.*, +, *T-MTT Jun/Jul 93* 1070-1073
 nonreciprocal and reciprocal complex and backward waves in parallel plate waveguides loaded with ferrite slab arbitrarily magnetized. *Marqués, Ricardo*, +, *T-MTT Aug 93* 1409-1418
 numerical analysis and computer simulation of magnetostatic wave propagation in YIG-loaded waveguide. *Radmanesh, Matthew M.*, +, *T-MTT Jan 93* 89-96

Manufacturing

computer based multivariate discrimination methods for production tuning of microwave components. *Stoneking, D. E.*, *MWSYM 93 Vol. 1* 127-130

Masers; cf. Gyrotrons

Matching; cf. Impedance matching

Matrices

analysis of single and coupled microstrip lines for millimeter-wave ICs on anisotropic substrates using differential matrix operators and spectral-domain method. *Chen, Yinchao*, +, *T-MTT Jan 93* 123-128
 calculation of capacitance and inductance matrices of coupled lines from modal powers. *Amari, Smain*, *T-MTT Jan 93* 146-150
 full-wave analysis of wide rectangular radiating slot excited by microstrip line, using method of moments and matrix pencil method. *Kahrizi, Masoud*, +, *T-MTT Jan 93* 29-37

Matrices; cf. Mode-matching methods; Moment methods

Maxwell's equations

class of symmetrical condensed node TLM methods derived directly from Maxwell's equations. *LoVetri, Joe*, +, *T-MTT Aug 93* 1419-1428
 synthesis of vector parasites in finite-element Maxwell solutions. *Lynch, Daniel R.*, +, *T-MTT Aug 93* 1439-1448

Measurement; cf. Electric variables measurement; Electrooptic measurements; Integrated circuit measurements; Josephson device measurement applications; Laser applications, measurement; Semiconductor device measurements; Semiconductor materials measurements; Superconducting materials, measurements; Time-domain measurements

Measurement standards; cf. Voltage measurement

Mechanical variables measurement; cf. Size measurement; Thickness measurement

Medical treatment; cf. Hyperthermia

Meetings

overview of 1993 IEEE MTT-S International Microwave Symposium. *T-MTT Dec 93* 2054-2057

MESFET amplifiers

11-GHz bandwidth GaAs MESFET/MSM OEIC receivers. *Wang, J. S.*, +, *MWSYM 93 Vol. 2* 1047-1050

18-40 GHz semi-monolithic balanced cascade amplifiers using AlGaAs/InGaAs P-HEMT and GaAs MESFET. *Kimishima, Masayuki*, +, *MWSYM 93 Vol. 2* 523-526

compressive nature of optical detection in GaAs MESFETs; possible application as RF logarithmic amplifier. *Madjar, Asher*, +, *T-MTT Jan 93* 165-167

design criteria for multistage microwave amplifiers with match requirements at input and output. *Macchiarella, Giuseppe*, +, *T-MTT Aug 93* 1294-1298

L-band tuned MMIC linearized amplifier using active feedback. *Pedro, José Carlos*, +, *MCS 93* 113-116

L-band tuned MMIC linearized amplifier using active feedback. *Pedro, José Carlos*, +, *MWSYM 93 Vol. 1* 95-98

low-noise, low DC power linear amplifiers. *Ikalainen, Pertti K.*, +, *MWSYM 93 Vol. 1* 357-360

low-noise, low-DC-power linear amplifiers using high dynamic range GaAs FETs. *Ikalainen, Pertti K.*, +, *MCS 93* 159-162

miniaturized low-noise variable gain GaAs MESFET MMIC amplifiers with low-power consumption for L-band portable communication applications. *Hara, Shinji*, +, *MCS 93* 67-70

MESFET amplifiers, power

high performance 46-GHz power MESFET MMIC amplifier. *Ho, T.*, +, *MWSYM 93 Vol. 2* 531-534

W-band integrated power module using MMIC MESFET power amplifiers and varactor diodes. *Ho, Thomas C.*, +, *T-MTT Dec 93* 2288-2294

MESFET integrated circuits

clock-recovery GaAs ICs for high-speed optical communication systems. *Imai, Yuhki*, +, *T-MTT May 93* 745-751

fully integrated narrowband tunable active MMIC bandpass and notch filters at X-band. *Katzin, P.*, +, *MCS 93* 141-144

low power GaAs MESFET monolithic downconverter for digital handheld telephone applications. *Birkeland, Joel*, *MWSYM 93 Vol. 2* 1105-1108

MIC active bandstop filter using GaAs MESFETs with adjustable center frequency. *Arnold, R. G.*, +, *MWSYM 93 Vol. 3* 1313-1316

passive GaAs MESFET MMIC linearizers for use with space-born TWTAs at C, X, and Ku band. *Katz, Allen*, +, *MWSYM 93 Vol. 1* 353-356

X-band low phase distortion MMIC MESFET power limiter. *Parra, T.*, +, *T-MTT May 93* 876-879

MESFET oscillators

CPW 2 GHz three-port MESFET oscillator for electrooptic modulator. *Radišić, Vesna*, +, *T-MTT Sep 93* 1645-1647

hybrid high temperature superconductor/GaAs 10-GHz microwave oscillator; temperature and bias effects. *Rohrer, Norman J.*, +, *T-MTT Nov 93* 1865-1871

monolithic dielectrically stabilized VCO for millimeter-wave range. *Güttich, U.*, +, *MWSYM 93 Vol. 2* 667-670

phase noise in cryogenic microwave HEMT and MESFET oscillators. *Llopis, Olivier*, +, *T-MTT Mar 93* 369-374

phase-shifterless beam-scanning technique using arrays of coupled oscillators. *Liao, P.*, +, *T-MTT Oct 93* 1810-1815

push-pull self-oscillating mixer for optically fed phased arrays. *Zhou, Xuesong*, +, *MWSYM 93 Vol. 1* 321-324

quasi-optical VCOs consisting of MESFET oscillator array, variable capacitance array and mirror. *Mader, Thomas*, +, *T-MTT Oct 93* 1775-1781

technique for numerically simulating noise in GaAs MESFET oscillators. *Bilbro, G. L.*, +, *MWSYM 93 Vol. 1* 305-308

- X-band eight MESFET 2-D periodic spatial power combiner. *Balasubramanian, Arul*, +, *MWSYM 93 Vol. 2* 611-614
- MESFETs**
- 2-D TLM simulation of electromagnetic fields in rectangular section of discretized GaAs MESFET channel with arbitrary doping profile. *Dindo, Salam*, +, *MWSYM 93 Vol. 3* 1455-1458
- analysis of wave propagation effects on microwave field-effect transistors; studies on conventional MESFET and inverted gated FET (INGFET). *Hakim, Mohammed S.*, +, *MWSYM 93 Vol. 3* 1303-1306
- characterization of MESFET and MODFET microwave noise properties utilizing drain noise current. *Tutt, Marcel N.*, +, *MWSYM 93 Vol. 2* 1099-1102
- characterization of thermal effects on microwave transistor performance using efficient physical model. *Atherton, John S.*, +, *MWSYM 93 Vol. 3* 1181-1184
- comments, with reply, on 'An analytical two-dimensional perturbation method to model submicron GaAs MESFET's' by E. Donkor and F. C. Jain. *Kukreja, Nirupama*, +, *T-MTT Mar 93* 543-545 (Original paper, Sep 89 1484-1487)
- comments, with reply, on 'Instantaneous model of a MESFET for use in linear and nonlinear circuit simulations' by I. Corbella. *Camacho-Peñalosa, C.*, +, *T-MTT Nov 93* 2040-2041 (Original paper, Jul 92 1410-1421)
- compressive nature of optical detection in GaAs MESFETs; possible application as RF logarithmic amplifier. *Madjar, Asher*, +, *T-MTT Jan 93* 165-167
- GaAs MESFET characterization using least-squares approximation by rational functions. *Nagatomo, Kazuo*, +, *T-MTT Feb 93* 199-205
- influence of gate leakage current on noise performance of MESFETs and MODFETs. *Danneville, François*, +, *MWSYM 93 Vol. 1* 373-376
- method for measuring noise parameters of MESFETs and HEMTs. *Dambrine, Gilles*, +, *T-MTT Mar 93* 375-381
- parameter extraction of microwave transistors using hybrid gradient descent and tree annealing approach. *Skaggs, Steven G.*, +, *T-MTT Apr 93* 726-729
- physically based circuit model of GaAs MESFET as optical port for microwave systems. *Razzooqi, K. A. R.*, +, *MWSYM 93 Vol. 3* 1553-1556
- systematic optimization strategy for microwave device modelling. *Patterson, Andrew D.*, +, *T-MTT Mar 93* 395-405
- MESFETs; cf. MESFET integrated circuits**
- MESFETs, power**
- direct nonlinear power MESFET parameter extraction and consistent modeling. *Werthof, A.*, +, *MWSYM 93 Vol. 2* 645-648
- high reliability power GaAs MESFET under RF overdrive condition. *Hasegawa, H.*, +, *MWSYM 93 Vol. 1* 289-292
- large-signal characterization of dual-gate FETs using load-pull measurements. *Drury, Denis M.*, +, *T-MTT Feb 93* 183-189
- MESFET switches**
- distortion in OFF-state GaAs MESFET switches. *Caverly, Robert H.*, *T-MTT Aug 93* 1323-1328
- MESFET as optically activated microwave switch; theory and experiment. *Madjar, Asher*, +, *MWSYM 93 Vol. 3* 1399-1402
- Metal-insulator-metal devices; cf. MIM devices**
- Metal-semiconductor devices; cf. Schottky...**
- MIC; cf. Microwave integrated circuits**
- Microstrip**
- Al-SiO₂-Al sandwich microstrip lines for on-chip interconnects up to 400 GHz. *von Kamienski, E. Stein*, +, *MWSYM 93 Vol. 1* 393-396
- Al-SiO₂-Al sandwich microstrip lines for on-chip interconnects up to 400 GHz. *Gondermann, Jörg*, +, *T-MTT Dec 93* 2087-2091
- analysis of broadside coupled strip inset dielectric guide. *Fan, Z.*, +, *MWSYM 93 Vol. 2* 839-842
- analysis of microstrip discontinuities based on edge-element 3-D FEM formulation and absorbing boundary conditions. *Wang, J. S.*, +, *MWSYM 93 Vol. 2* 745-748
- analysis of single and coupled microstrip lines for millimeter-wave ICs on anisotropic substrates using differential matrix operators and spectral-domain method. *Chen, Yinchao*, +, *T-MTT Jan 93* 123-128
- approach for analysis of microstrip lines with finite strip thickness and conductivity. *Ke, Jeng-Yi*, +, *MWSYM 93 Vol. 2* 931-934
- boundary-element analysis of trapezoidal transmission line. *Toland, Brent*, +, *T-MTT Jun/Jul 93* 1052-1056
- calculation of capacitance and inductance matrices of coupled lines from modal powers. *Amari, Smain*, *T-MTT Jan 93* 146-150
- causal skin-effect model of microstrip lines. *He, Jianqing*, +, *MWSYM 93 Vol. 2* 865-868
- characterization of microstrip-ridge structures in frequency domain by integral equation-mode matching technique and in time domain by Fourier transforms. *Engel, Andrew G., Jr.*, +, *T-MTT Aug 93* 1251-1262
- closed-form expressions for design of microstrip lines with two substrate layers. *Gilb, James P. K.*, +, *MWSYM 93 Vol. 2* 1005-1008
- compact wideband balun for MMIC applications. *Tsai, M. C.*, *MWSYM 93 Vol. 1* 141-143
- computation of dielectric losses in multilayer, multiconductor microstrip for CAD of MIC and MMIC structures. *Gilb, James P. K.*, +, *T-MTT Mar 93* 527-530
- corrections to 'A new formulation of the boundary condition at infinity for a hybrid radiation mode and its application to the analysis of the radiation modes of microstrip lines' (Sep 90 1294-1299). *Zieniutycz, Włodzimierz*, *T-MTT May 93* 901-902
- decoupling between two-conductor microstrip transmission line. *He, Shidong*, +, *T-MTT Jan 93* 53-61
- dispersion characteristics of open and shielded microstrip lines under combined principal axes rotation of electrically and magnetically anisotropic substrates. *Chen, Yinchao*, +, *T-MTT Apr 93* 673-679
- effects of resistively coated upper dielectric layer on propagation characteristics of hybrid modes in waveguide-shielded microstrip; analysis using method of lines. *Chung, Shyh-Jong*, +, *T-MTT Aug 93* 1393-1399
- end-effects in quasi-TEM transmission lines. *Getsinger, William J.*, *T-MTT Apr 93* 666-672
- existence of leaky dominant mode on microstrip line with isotropic substrate; theory and measurement. *Nghiem, David*, +, *MWSYM 93 Vol. 3* 1291-1294
- expression for S-parameters of arbitrarily oriented microstrip lines. *Howard, Lincoln Cole*, +, *MWSYM 93 Vol. 3* 1543-1546
- finite-difference approach for rigorous full-wave analysis of superconducting microwave structures. *Megahed, Mohamed A.*, +, *MWSYM 93 Vol. 2* 963-966
- full-wave analysis of multiple lossy microstrip lines on multilayered bi-anisotropic substrates and imperfect ground metallization. *Cai, Zhenglian*, +, *MWSYM 93 Vol. 2* 927-930
- full-wave analysis of superconducting microstrip lines on sapphire substrates. *Lee, L. H.*, +, *MWSYM 93 Vol. 1* 385-388
- full-wave analysis of superconducting microstrip lines on sapphire substrates. *Lee, Laurence H.*, +, *T-MTT Dec 93* 2359-2367
- full-wave description of propagation and losses in quasiplanar transmission lines by quasi-analytical solution. *Tao, Jun-Wu*, +, *MWSYM 93 Vol. 2* 935-938
- full-wave integral equation method for analysis of coplanar strip circuit using mixed-potentials eigenfunction expansion technique. *Lo, Wen-Teng*, +, *MWSYM 93 Vol. 3* 1539-1542
- Green's function for quasistatic analysis of shielded planar transmission lines by boundary-element method. *Chang, The-Nan*, +, *MWSYM 93 Vol. 2* 921-922
- higher order modes in suspended substrate microstrip lines; analysis using spectral domain method. *Polichronakis, Ioannis P.*, +, *T-MTT Aug 93* 1449-1454
- hybrid-mode analysis of planar transmission lines with arbitrary metallization cross sections. *Ma, Zhewang*, +, *T-MTT Mar 93* 491-497
- improved quasi-TEM spectral domain analysis of boxed coplanar multiconductor microstrip lines. *Drake, Enrique*, +, *T-MTT Feb 93* 260-267
- influence of finite conductor thickness and conductivity on fundamental and higher-order modes in miniature hybrid MICs (MHMICs) and MMICs. *Wu, Ke*, +, *T-MTT Mar 93* 421-430
- lossy microstrip dispersion model. *Tugulea, Alexandru A.*, +, *MWSYM 93 Vol. 2* 1025-1028
- metallization effects on GaAs microstrip line attenuation. *Carroll, Jim*, +, *T-MTT Jun/Jul 93* 1227-1229
- microstrip circuit design using neural networks. *Horng, Tzyy-Sheng*, +, *MWSYM 93 Vol. 1* 413-416
- millimetre-wave device model differences in microstrip and CPW. *Walters, Peter C.*, +, *MWSYM 93 Vol. 3* 1173-1176
- multiple microstrip lines on multilayered cylindrical dielectric substrate on perfectly conducting wedge. *Auda, Hesham A.*, +, *T-MTT Jun/Jul 93* 1037-1043
- optimized absorbing boundary conditions for analysis of planar circuits using FDTD method. *Railton, C. J.*, +, *T-MTT Feb 93* 290-297
- packaged printed transmission lines; modal phenomena and relation to leakage. *Carin, L.*, +, *MWSYM 93 Vol. 3* 1195-1198
- packaging and interconnection mutual coupling effects in planar structures and discontinuities. *Amrani, C.*, +, *MWSYM 93 Vol. 2* 843-846
- performance study of one-way absorbing boundary equations in 3-D TLM for dispersive guiding structures. *Eswarappa, Channabasappa*, +, *MWSYM 93 Vol. 3* 1439-1442
- planar 94-GHz transceiver with switchable polarization. *Niehenke, Edward C.*, +, *MWSYM 93 Vol. 1* 167-170

- propagation regimes on integrated microstrip transmission lines using spectral-domain integral equation formulation. *Bagby, Jonathan S.*, + , *T-MTT Nov 93* 1887-1894
- pulse distortion on multilayer microstrip line. *Verma, A. K.*, + , *MWSYM 93 Vol. 2* 861-864
- quasi-static analysis of shielded microstrip by modified boundary-element method. *Chang, T. N.*, + , *T-MTT Apr 93* 729-731
- quasi-TEM analysis of valley microstrip lines with slit for use in multilayered MMICs. *Rong, Ao Sheng*, + , *MWSYM 93 Vol. 2* 955-958
- resistance of strip conductors embedded in 2-D field distribution. *Heinrich, Wolfgang*, *MWSYM 93 Vol. 1* 417-420
- semi-discrete finite element method analysis of arbitrary microstrip elements; static solution. *Davidovitz, Marat*, + , *T-MTT Apr 93* 680-686
- simulation of high-frequency ICs incorporating full-wave analysis of microstrip discontinuities. *Kipp, Robert*, + , *T-MTT May 93* 848-854
- slot-coupled double-sided microstrip interconnects and couplers. *Ho, Chien-Hsun*, + , *MWSYM 93 Vol. 3* 1321-1324
- space domain mode-matching method technique for analyzing complex microwave integrated circuits. *Wu, Ke*, + , *MWSYM 93 Vol. 2* 983-986
- spectral analysis considerations relevant to radiation and leaky modes of open-boundary microstrip transmission line. *Grimm, Jerry Michael*, + , *T-MTT Jan 93* 150-153
- time-domain analysis of via holes and shorting pins in microstrip using 3-D symmetrical condensed mode TLM. *Eswarappa, Channabasappa*, + , *MWSYM 93 Vol. 2* 917-920
- Microstrip antennas**
- algorithm for treatment of curved metallic laminas in FDTD method. *Railton, C. J.*, *T-MTT Aug 93* 1429-1438
- full-wave analysis of radiating planar resonators with method of lines. *Dreher, Achim*, + , *T-MTT Aug 93* 1363-1368
- full-wave analysis of wide rectangular radiating slot excited by microstrip line, using method of moments and matrix pencil method. *Kahrizi, Masoud*, + , *T-MTT Jan 93* 29-37
- integral-equation formulation for analysis of complex resonant frequency of rectangular microstrip patch on uniaxial substrate. *Wong, Kin-Lu*, + , *T-MTT Apr 93* 698-701
- mode analysis of active microstrip antenna arrays with strongly coupled oscillators; method for power combining. *Nogi, Shigeji*, + , *T-MTT Oct 93* 1827-1837
- resonance in spherical-circular microstrip structure with air gap; analysis using Green's function and Galerkin's moment method. *Wong, Kin-Lu*, + , *T-MTT Aug 93* 1466-1468
- resonance in superstrate-loaded cylindrical-rectangular microstrip structure. *Wong, Kin-Lu*, + , *T-MTT May 93* 814-819
- resonant frequency of superstrate-loaded rectangular microstrip structure. *Row, Jeen-Sheen*, + , *T-MTT Aug 93* 1349-1355
- Microstrip circuits**
- algorithm for treatment of curved metallic laminas in FDTD method. *Railton, C. J.*, *T-MTT Aug 93* 1429-1438
- efficient implementation of spectral domain method including precalculated corner basis functions. *Meade, S. A.*, + , *MWSYM 93 Vol. 2* 991-994
- spatial interpolation of moment matrix for efficient analysis of microstrip circuits. *Nuteson, Todd W.*, + , *MWSYM 93 Vol. 2* 971-974
- use of side wall images to compute package effects in method of moments analysis of MMIC circuits. *Jackson, Robert W.*, *T-MTT Mar 93* 406-414
- Microstrip circulators**
- losses in Y-junction stripline and microstrip ferrite circulators. *Neidert, Robert E.*, + , *T-MTT Jun/Jul 93* 1081-1086
- Microstrip components**
- compact wideband balun for MMIC applications. *Tsai, M. C.*, *MCS 93* 123-125
- InP-based HBT millimeter-wave microstrip amplifiers and oscillators working up to 40 GHz. *Kobayashi, K. W.*, + , *MCS 93* 85-88
- microstrip quarter-wave high voltage DC block. *Koscica, Thomas E.*, *T-MTT Jan 93* 162-164
- parametric interactions in high- T_c superconducting step edge junctions at X band; 60-GHz microstrip based parametric amplifier using antipodal finline transitions. *Kain, Aron Z.*, + , *MWSYM 93 Vol. 3* 1425-1428
- Microstrip couplers**
- characterization of picosecond pulse crosstalk between coupled microstrip lines with arbitrary conductor width. *Qian, Yongxi*, + , *T-MTT Jun/Jul 93* 1011-1016
- design analysis of coupling structures for multilayer MMICs. *Gillick, Matthew*, + , *T-MTT Feb 93* 346-349
- generalized network model for coupled multiconductor transmission lines; use in planar re-entrant type couplers and three-line Baluns. *Tsai, C. M.*, + , *MWSYM 93 Vol. 2* 1013-1016
- hybrid couplers in bilevel microstrip. *Prouty, Mark D.*, + , *T-MTT Nov 93* 1939-1944
- MMIC compatible coupled line structure that uses embedded microstrip to achieve extremely tight couplings. *Willems, David*, + , *MWSYM 93 Vol. 2* 581-584
- MMIC compatible coupled line structure that uses embedded microstrip to achieve extremely tight couplings. *Willems, David*, + , *T-MTT Dec 93* 2303-2310
- modified broadside-coupled microstrip lines suitable for MIC and MMIC applications; use in bandpass filters. *Tran, Michael*, + , *T-MTT Aug 93* 1336-1342
- slot-coupled double-sided microstrip interconnects and couplers. *Ho, Chien-Hsun*, + , *MWSYM 93 Vol. 3* 1321-1324
- spectral-domain analysis of microstrip lines coupled through arbitrarily shaped aperture in thick common ground plane. *Tran, Allen M.*, + , *MWSYM 93 Vol. 2* 819-822
- Microstrip discontinuities**
- analysis of thin slot discontinuity in reference plane of microstrip structure by perturbational approach based on spectral domain technique. *Kouki, Ammar B.*, + , *T-MTT Aug 93* 1356-1362
- characterization of cylindrical via discontinuity using FDTD method. *Harms, Paul H.*, + , *T-MTT Jan 93* 153-156
- equivalent circuits for multiconductor microstrip bend discontinuities. *Harms, Paul H.*, + , *T-MTT Jan 93* 62-69
- full-wave analysis of two-slot microstrip filter using new algorithm for computation of spectral integrals. *Gothelf, Ulrich V.*, + , *T-MTT Jan 93* 101-108
- full-wave characterization of microstrip open end discontinuities patterned on anisotropic substrates using potential theory. *Toncich, S. S.*, + , *MWSYM 93 Vol. 3* 1527-1530
- full-wave characterization of microstrip open end discontinuities patterned on anisotropic substrates using potential theory. *Toncich, Stanley S.*, + , *T-MTT Dec 93* 2067-2073
- full-wave space-domain analysis of open microstrip discontinuities including singular current-edge behavior. *Sercu, Jeannick*, + , *T-MTT Sep 93* 1581-1588
- modeling of discontinuities in microwave and millimeter-wave ICs using curvilinear FDTD approach. *Kosanovich, Stevan*, + , *MWSYM 93 Vol. 2* 741-744
- quasistatic technique for analysis of coplanar and microstrip transmission-line discontinuities. *Yu, Ming*, + , *T-MTT Sep 93* 1638-1640
- rigorous analysis of shielded microstrip asymmetric step discontinuity. *Capsalis, C. N.*, + , *T-MTT Mar 93* 520-523
- simulation of high-frequency ICs incorporating full-wave analysis of microstrip discontinuities. *Kipp, Robert*, + , *T-MTT May 93* 848-854
- S-parameter analysis of microstrip discontinuities on cylindrical dielectric surfaces using full-wave frequency domain TLM method. *Huang, Jifu*, + , *MWSYM 93 Vol. 3* 1299-1302
- transient analysis of coupled, tapered transmission lines with arbitrary nonlinear terminations. *Oh, Kyung S.*, + , *T-MTT Feb 93* 268-273
- triangular-domain basis functions for full-wave analysis of microstrip discontinuities. *Kipp, Robert*, + , *T-MTT Jun/Jul 93* 1187-1194
- Microstrip filters**
- compact 900-MHz hairpin-line filters using high-dielectric-constant microstrip line. *Pramanick, Protap*, *MWSYM 93 Vol. 2* 885-888
- dual-mode microstrip ring resonator filter with active devices for loss compensation. *Karacaoglu, U.*, + , *MWSYM 93 Vol. 1* 189-192
- full-wave analysis of two-slot microstrip filter using new algorithm for computation of spectral integrals. *Gothelf, Ulrich V.*, + , *T-MTT Jan 93* 101-108
- high temperature superconductor narrow bandpass X-band microstrip filters for multiplexing applications. *Fathy, A.*, + , *MWSYM 93 Vol. 3* 1277-1280
- minimax microstrip filter design using direct electromagnetic field simulation. *Bandler, J. W.*, + , *MWSYM 93 Vol. 2* 889-892
- modified broadside-coupled microstrip lines suitable for MIC and MMIC applications; use in bandpass filters. *Tran, Michael*, + , *T-MTT Aug 93* 1336-1342
- study of gridding and cell-cell interactions in method of moments analysis of arbitrarily shaped planar circuits. *Sercu, Jeannick*, + , *MWSYM 93 Vol. 2* 753-756
- Microstrip phase shifters**
- Schiffman phase shifter design with loosely coupled lines. *Quirarte, José Luis Ramos*, + , *T-MTT Jan 93* 9-14
- Microstrip resonators**
- calculating resonant frequency of uncovered and covered rectangular microstrip patches using modified Wolff model. *Verma, Anand K.*, + , *T-MTT Jan 93* 109-116
- dual-mode microstrip ring resonator filter with active devices for loss compensation. *Karacaoglu, U.*, + , *MWSYM 93 Vol. 1* 189-192
- full-wave analysis of 3-D planar and waveguide structures. *Lerer, Alexander M.*, + , *T-MTT Nov 93* 2002-2015

- measurement of complex permittivity of low-loss planar microwave substrates using aperture-coupled microstrip resonators. *Saed, Mohammad A.*, *T-MTT Aug 93* 1343-1348
- tunable high temperature superconductor microstrip resonators. *Beall, James A.*, + , *MWSYM 93 Vol. 3* 1421-1423
- Microstrip transitions**
- generalized multiport reciprocity analysis of surface-to-surface transitions between multiple printed transmission lines. *Das, Nirod K.*, *T-MTT Jun/Jul 93* 1164-1177
- modeling and analysis of vias in multilayered ICs. *Gu, Qizheng*, + , *T-MTT Feb 93* 206-214
- transient analysis of coupled, tapered transmission lines with arbitrary nonlinear terminations. *Oh, Kyung S.*, + , *T-MTT Feb 93* 268-273
- Microwave (3–30 GHz); cf.** Millimeter-wave (30–300 GHz); UHF (300–3000 MHz)
- Microwave amplifiers**
- design criteria for multistage microwave amplifiers with match requirements at input and output. *Macchiarella, Giuseppe*, + , *T-MTT Aug 93* 1294-1298
- electrostatic amplifiers. *Budzinsky, Y. A.*, + , *MWSYM 93 Vol. 2* 1123-1125
- GaAs HBT PIN diode variable-gain amplifiers, attenuators and switches. *Kobayashi, Kevin W.*, + , *T-MTT Dec 93* 2295-2302
- parametric interactions in high- T_c superconducting step edge junctions at X band; 60-GHz microstrip based parametric amplifier using antipodal finline transitions. *Kain, Aron Z.*, + , *MWSYM 93 Vol. 3* 1425-1428
- Microwave amplifiers; cf.** Microwave bipolar transistor amplifiers; Microwave FET amplifiers
- Microwave amplifiers, power**
- computer based multivariate discrimination methods for production tuning of microwave components. *Stoneking, D. E.*, *MWSYM 93 Vol. 1* 127-130
- design-oriented nonlinear analysis of class-AB power amplifiers. *Giannini, F.*, + , *MWSYM 93 Vol. 1* 297-300
- introduction to MPM (microwave power module) which incorporating solid-state and vacuum-electronics technology. *Abrams, R. H., Jr.*, + , *MWSYM 93 Vol. 1* 107-110
- MPM applications; forecast of near- and long-term applications. *Cosby, Lynwood*, *MWSYM 93 Vol. 1* 111-114
- MPM technology developments; industry perspective. *Christensen, J. A.*, + , *MWSYM 93 Vol. 1* 115-118
- Microwave amplifiers, power; cf.** Microwave bipolar transistor amplifiers, power; Microwave FET amplifiers, power; MMIC amplifiers, power; Traveling-wave amplifiers; Traveling-wave tubes
- Microwave antennas; cf.** Active arrays; Phased arrays
- Microwave attenuators**
- AlGaAs/GaAs HBT 1–10 GHz pin diode attenuator and X-band pin diode switch. *Kobayashi, K. W.*, + , *MCS 93* 151-154
- GaAs HBT PIN diode attenuators and switches. *Kobayashi, K. W.*, + , *MWSYM 93 Vol. 1* 349-352
- GaAs HBT PIN diode variable-gain amplifiers, attenuators and switches. *Kobayashi, Kevin W.*, + , *T-MTT Dec 93* 2295-2302
- temperature dependence of PIN diode attenuators. *Caverly, Robert H.*, + , *MWSYM 93 Vol. 2* 553-556
- Microwave bipolar transistor amplifiers**
- 100-element 10-GHz HBT grid amplifier. *Kim, Moonil*, + , *MWSYM 93 Vol. 2* 615-618
- cryogenic GaAs HBT microwave amplifier; application to superconductor digital IC; integration of amplifier with HTS superconductor logic gate. *Kobayashi, K. W.*, + , *MWSYM 93 Vol. 1* 377-380
- Microwave bipolar transistor amplifiers, power**
- 100-element 10-GHz HBT grid amplifier. *Kim, Moonil*, + , *T-MTT Oct 93* 1762-1771
- broadband high-efficiency HBT MMIC power amplifier fabricated with re-aligned process. *Komiak, J. J.*, + , *MWSYM 93 Vol. 3* 1473-1476
- Microwave bipolar transistors**
- large-signal HBT characterization and modeling from 8 to 35 GHz. *Teeter, Douglas A.*, + , *T-MTT Jun/Jul 93* 1087-1093
- thermal stability analysis of multiple emitter finger microwave AlGaAs/GaAs HBTs. *Liou, L. L.*, + , *MWSYM 93 Vol. 1* 281-284
- Microwave bipolar transistors, power**
- large-signal performance of GaInP/GaAs HBTs at X-band. *Liu, William*, + , *MWSYM 93 Vol. 3* 1477-1480
- Microwave circuits**
- analysis of nonlinear microwave circuits using compression approach. *Kunisch, J.*, + , *MWSYM 93 Vol. 2* 637-640
- analysis of strongly nonlinear circuits with frequency-domain method coupled with consistent large-signal model. *Närhi, Tapani*, *MWSYM 93 Vol. 2* 633-636
- efficient statistical analysis of microwave circuit performance using design of experiments. *Virga, Kathleen L.*, + , *MWSYM 93 Vol. 1* 123-126
- FDTD method applied to analysis of circuits described by 2-D vector wave equation. *Gwarek, Wojciech K.*, + , *T-MTT Feb 93* 311-317
- optimized absorbing boundary conditions for analysis of planar circuits using FDTD method. *Railton, C. J.*, + , *T-MTT Feb 93* 290-297
- Microwave communication; cf.** Microwave radio communication
- Microwave devices**
- ISTOK achievements in solid-state microwave devices. *Zaytsev, S. A.*, + , *MWSYM 93 Vol. 2* 1129
- ISTOK Russian microwave R&D facility. *Korolyov, A. N.*, *MWSYM 93 Vol. 2* 1127
- Microwave devices; cf.** Delay lines
- Microwave FET amplifiers**
- Comments on 'Optimum noise measure terminations for microwave transistor amplifiers' by C. R. Poole and D. K. Paul. *Liu, Ji-Chyun*, + , *T-MTT Nov 93* 2042-2043 (Original paper, Nov 85 1254-1257)†
- comments, with reply, on 'Optimum noise measure terminations for microwave transistor amplifiers' by C. R. Poole and D. K. Paul. *Liu, Ji-Chyun*, + , *T-MTT Feb 93* 363-364 (Original paper, Nov 85 1254-1257)
- graphical design method for traveling wave amplifier based on filter theory. *Paoloni, Claudio*, + , *MWSYM 93 Vol. 1* 273-276
- low-noise, low DC power linear amplifiers. *Ikalainen, Pertti K.*, + , *MWSYM 93 Vol. 1* 357-360
- stable broadband microwave amplifier design using simplified real frequency technique. *Jung, Wen-Lin*, + , *T-MTT Feb 93* 336-340
- Microwave FET amplifiers; cf.** MESFET amplifiers; MMIC amplifiers; MODFET amplifiers
- Microwave FET amplifiers, power**
- 4-W 20-GHz partial monolithic amplifier using 0.25- μ m heterostructure FET device technology. *Yarborough, Ron*, + , *MWSYM 93 Vol. 3* 1381-1383
- C-X band 14-W power amplifier having flat gain and power responses. *Mochizuki, Mitsuru*, + , *MWSYM 93 Vol. 3* 1365-1368
- high power 14-GHz solid state power amplifier for satellite communications applications. *Mallavarpu, R.*, + , *MWSYM 93 Vol. 3* 1217-1220
- optimization of tradeoffs between efficiency and intermodulation in power FETs. *Duvanaud, C.*, + , *MWSYM 93 Vol. 1* 285-288
- Microwave FET amplifiers, power; cf.** MMIC amplifiers, power; MODFET amplifiers, power
- Microwave FET integrated circuits**
- physically based circuit model of GaAs MESFET as optical port for microwave systems. *Razzoqi, K. A. R.*, + , *MWSYM 93 Vol. 3* 1553-1556
- Microwave FET integrated circuits; cf.** MESFET integrated circuits; MMIC frequency converters; MODFET integrated circuits
- Microwave FET oscillators; cf.** MESFET oscillators; MODFET oscillators
- Microwave FETs**
- accurate and efficient modeling of heterojunction FETs (HFETs). *Abou-Elnour, Ali*, + , *MWSYM 93 Vol. 3* 1177-1180
- analysis of wave propagation effects on microwave field-effect transistors; studies on conventional MESFET and inverted gated FET (INGFET). *Hakim, Mohammed S.*, + , *MWSYM 93 Vol. 3* 1303-1306
- extraction of device noise sources from measured data using circuit simulator software. *Ikalainen, Pertti K.*, *T-MTT Feb 93* 340-343
- Microwave FETs; cf.** MESFETs; MODFETs
- Microwave FETs, power; cf.** MESFETs, power; MODFETs, power
- Microwave filters**
- design of tunable recursive active filters using power dividers. *Billonnet, L.*, + , *MWSYM 93 Vol. 1* 185-188
- fully integrated narrowband tunable active MMIC bandpass and notch filters at X-band. *Katzin, P.*, + , *MCS 93* 141-144
- multimode synthesis procedure for microwave filters based on thick inductive windows. *Guglielmi, M.*, + , *MWSYM 93 Vol. 1* 447-450
- narrow-band active X-band MMIC filters with automatic tuning and Q-factor control. *Katzin, P.*, + , *MWSYM 93 Vol. 1* 403-406
- noise design of active feedback resonator band-elimination filter. *Ishikawa, Youhei*, + , *MWSYM 93 Vol. 1* 193-196
- noise design of active feedback resonator band-elimination filter. *Ishikawa, Youhei*, + , *T-MTT Dec 93* 2133-2138
- slot-fed higher order mode Fabry-Perot filters. *McCleary, James*, + , *T-MTT Oct 93* 1703-1709
- X-band thin film acoustic filters on GaAs. *Stokes, Robert B.*, + , *T-MTT Jun/Jul 93* 1075-1080
- Microwave filters; cf.** Cavity-resonator filters; Dielectric-resonator filters; Microstrip filters; Stripline filters; Superconducting filters; Waveguide filters
- Microwave frequency conversion**
- analytical model of noise in analog frequency divider. *Llopis, O.*, + , *MWSYM 93 Vol. 2* 1033-1036

- circuit structure for microwave frequency doublers featuring effective suppression of fundamental and odd harmonics, conversion gain and simplicity; use in MMIC frequency doubler. *Fikart, Josef, + , MWSYM 93 Vol. 1 407-410*
- circuit structure for microwave frequency doublers featuring effective suppression of fundamental and odd harmonics, conversion gain and simplicity; use in MMIC frequency doubler. *Xuan, Yongnan, + , T-MTT Dec 93 2264-2268*
- noise figure of high temperature superconducting Josephson junction MMIC downconverter at 12 GHz. *Suzuki, Katsumi, + , MWSYM 93 Vol. 3 1429-1432*
- technique for design of filter-based parametric frequency dividers combining basic divider analysis with nonlinear simulation. *Sloan, George R., T-MTT Feb 93 224-228*
- Microwave frequency conversion; cf.** Microwave mixers; MMIC frequency converters
- Microwave generation; cf.** Microwave oscillators
- Microwave heating; cf.** Electromagnetic heating
- Microwave holography**
- holographic imaging of microwave propagation. *Kitayoshi, H., + , MWSYM 93 Vol. 1 241-244*
- Microwave imaging/mapping**
- bistatic frequency-swept microwave imaging; principle, methodology and experimental results. *Lin, Ding-Bing, + , T-MTT May 93 855-861*
- numerical electromagnetic inverse-scattering solutions for 2-D infinite dielectric cylinders buried in lossy half-space. *Caorsi, S., + , T-MTT Feb 93 352-357*
- Microwave imaging/mapping; cf.** Microwave holography; Tomography, electromagnetic
- Microwave integrated circuits**
- accurate conductor Q -factor of dielectric resonator placed in MIC environment. *Mongia, R. K., + , T-MTT Mar 93 445-449*
- comments, with reply, on 'Deterministic approach to full-wave analysis of discontinuities in MIC's using the method of lines' by Z. Chen and B. Gao. *Jiang, Xiao-hong, + , T-MTT Jun/Jul 93 1239-1240* (Original paper, Mar 89 606-611)
- complex permittivity of aluminum nitride substrates. *Wright, P., + , MWSYM 93 Vol. 1 269-272*
- computation of dielectric losses in multilayer, multiconductor microstrip for CAD of MIC and MMIC structures. *Gilb, James P. K., + , T-MTT Mar 93 527-530*
- efficient algorithm for calculation of parasitic coupling between lines in MICs. *Dunn, John M., + , T-MTT Aug 93 1287-1293*
- influence of finite conductor thickness and conductivity on fundamental and higher-order modes in miniature hybrid MICs (MHMICs) and MMICs. *Wu, Ke, + , T-MTT Mar 93 421-430*
- real-time broadband waveform sampling using optic-microwave phase-locking. *Huang, S. L., + , MWSYM 93 Vol. 3 1387-1390*
- space domain mode-matching method technique for analyzing complex microwave integrated circuits. *Wu, Ke, + , MWSYM 93 Vol. 2 983-986*
- Microwave integrated circuits; cf.** Coplanar waveguides; Lumped-element microwave circuits; Microstrip...; Microwave FET integrated circuits; MMICs; Slotline...; Stripline...
- Microwave limiters**
- broadband frequency selective limiter fabricated with YIG films in stripline configuration providing over 14 dB of limiting across more than octave bandwidth. *Adam, J. D., + , MWSYM 93 Vol. 1 477-478*
- broadband frequency selective limiter fabricated with YIG films in stripline configuration providing over 14 dB of limiting across more than octave bandwidth. *Adam, J. Douglas, + , T-MTT Dec 93 2227-2231*
- limiting filter for application in GPS receiver. *Tan, Robert, + , MWSYM 93 Vol. 2 881-883*
- X-band low phase distortion MMIC MESFET power limiter. *Parra, T., + , T-MTT May 93 876-879*
- Microwave measurements**
- 2-D mapping of microwave potential on MMICs using electrooptic sampling. *Hjelme, Dag Roar, + , T-MTT Jun/Jul 93 1149-1158*
- evaluation of noise parameter extraction methods. *Escotte, Laurent, + , T-MTT Mar 93 382-387*
- large-signal characterization of dual-gate FETs using load-pull measurements. *Drury, Denis M., + , T-MTT Feb 93 183-189*
- method for measuring properties of nonhomogeneous materials using two-polarization forward-scattering measurement. *Toropainen, Anssi P., MWSYM 93 Vol. 1 257-260*
- method for measuring properties of nonhomogeneous materials using two-polarization forward-scattering measurement. *Toropainen, Anssi P., T-MTT Dec 93 2081-2086*
- microwave measurement technique for characterizing I - V relationship for negative differential conductance devices. *Huang, P., + , T-MTT Aug 93 1455-1458*
- picosecond photoconductive switches designed for on-wafer characterization of high frequency interconnects. *Golob, L. P., + , MWSYM 93 Vol. 3 1395-1398*
- probe tip invasiveness at indirect electro-optic sampling of MMIC. *Mertin, W., + , MWSYM 93 Vol. 3 1351-1354*
- real-time broadband waveform sampling using optic-microwave phase-locking. *Huang, S. L., + , MWSYM 93 Vol. 3 1387-1390*
- surface roughness measurement of metals using microwave. *Ding, Zhan, + , MWSYM 93 Vol. 1 253-256*
- test fixture for electrical characterization of packages for use with GaAs MMIC amplifiers. *Smith, Stephen R., + , MWSYM 93 Vol. 1 131-134*
- ultrawideband characterization of lossy materials; short-pulse microwave measurements. *Kralj, David, + , MWSYM 93 Vol. 3 1239-1242*
- ultrawideband transient microwave scattering measurements using optoelectronically switched antennas. *Carin, Lawrence, + , T-MTT Feb 93 250-254*
- Microwave measurements; cf.** Antenna measurements; Permeability measurement; Permittivity measurement; Scattering parameters measurement; Time-domain measurements
- Microwave mixers**
- design of low-conversion-loss cold FET mixers by statistical optimization of high order sidebands loading. *Villemazet, I. F., + , MWSYM 93 Vol. 2 1029-1032*
- inexpensive mixers for high-reliability markets. *Kaylie, Harvey, + , MWSYM 93 Vol. 1 121-122*
- lightwave-microwave signal conversion method. *Berceli, Tibor, + , MWSYM 93 Vol. 3 1407-1410*
- LiNbO₃ microwave-optoelectronic mixer with linear performance. *Gopalakrishnan, G. K., + , MWSYM 93 Vol. 2 1055-1058*
- LiNbO₃ microwave-optoelectronic mixer with linear performance. *Gopalakrishnan, G. K., + , T-MTT Dec 93 2383-2391*
- monolithic image rejection optoelectronic up-converters that employ MMIC process. *Kamitsuna, Hideki, + , MCS 93 75-78*
- monolithic image rejection optoelectronic up-converters that employ MMIC process. *Kamitsuna, Hideki, + , T-MTT Dec 93 2323-2329*
- push-pull self-oscillating mixer for optically fed phased arrays. *Zhou, Xuesong, + , MWSYM 93 Vol. 1 321-324*
- star mixer using planar balun structure. *Basu, S., + , T-MTT Nov 93 2028-2030*
- Microwave mixers; cf.** MMIC mixers; Schottky diode mixers
- Microwave modulation/demodulation**
- broadband impedance matching of high-speed photodiodes over 2-4 GHz range. *Goldsmith, Charles L., + , MWSYM 93 Vol. 1 233-236*
- comparison of CPU level data mixing to T/R level data mixing architectures in optically controlled phased arrays. *Saedi, R., + , MWSYM 93 Vol. 2 501-504*
- high-performance fiber-optic links for microwave applications. *Cox, C. H., III, MWSYM 93 Vol. 2 719-722*
- large signal equivalent circuit model for multielectrode laser and microwave semiconductor lasers for CAD applications. *Elkadi, H., + , MWSYM 93 Vol. 1 217-220*
- microwave LANs using passive terminal stations acting as transponders and distributed antennas with no microwave power generation. *Meyer, S., + , MWSYM 93 Vol. 3 1549-1552*
- MMIC subharmonically pumped SSB modulator. *Pospishil, A., + , MCS 93 137-140*
- MMIC subharmonically pumped SSB modulator. *Pospishil, A., + , MWSYM 93 Vol. 1 399-402*
- reactively matched optoelectronic transceivers on InP substrate for 6-GHz operation. *Maricot, S., + , MWSYM 93 Vol. 2 1067-1070*
- rugged optoelectronic microwave transmitter and receiver submodules for microwave applications. *Combemale, Yves, + , MWSYM 93 Vol. 2 735-738*
- X-band phased array microwave/photonic beamforming network. *Banerjee, S. K., + , MWSYM 93 Vol. 2 505-508*
- Microwave modulation/demodulation; cf.** Microwave mixers
- Microwave oscillators**
- 6.5 GHz-11.5 GHz source using grid amplifier with twist reflector. *Kim, Moonil, + , T-MTT Oct 93 1772-1774*
- automatic generation of starting values for simulation of microwave oscillators by frequency domain techniques. *Filleböck, Marion, + , T-MTT May 93 809-813*
- general method based on harmonic balance techniques to simulate noise in free running oscillators. *Anzill, Werner, + , MWSYM 93 Vol. 2 655-658*
- general method based on harmonic balance techniques to simulate noise in free running oscillators. *Anzill, Werner, + , T-MTT Dec 93 2256-2263*
- general-purpose harmonic-balance approach to computation of near-carrier noise in free-running microwave oscillators. *Rizzoli, Vittorio, + , MWSYM 93 Vol. 1 309-312*

- hybrid high temperature superconductor/GaAs 10-GHz microwave oscillator; temperature and bias effects. *Rohrer, Norman J.*, +, *T-MTT Nov 93* 1865-1871
- measurement and modelling of radiative coupling in oscillator arrays. *York, Robert A.*, +, *T-MTT Mar 93* 438-444
- nonlinear analysis of phase relationships in quasi-optical oscillator arrays. *York, R. A.*, *T-MTT Oct 93* 1799-1809
- numerical optimization of microwave oscillators and VCOs. *Rizzoli, Vittorio*, +, *MWSYM 93 Vol. 2* 629-632
- parallel operation of four oscillators coupled with eight-port hybrid. *Ohta, Isao*, +, *MWSYM 93 Vol. 1* 317-320
- Microwave oscillators; cf.** Injection-locked oscillators; Klystrons; MMIC oscillators
- Microwave phase shifters**
- Schiffman phase shifter design with loosely coupled lines. *Quirarte, José Luis Ramos*, +, *T-MTT Jan 93* 9-14
- Microwave phase shifters; cf.** MMIC phase shifters
- Microwave power dividers/combiners**
- 100-element 10-GHz HBT grid amplifier. *Kim, Moonil*, +, *MWSYM 93 Vol. 2* 615-618
- 2 × 2 quasi-optical power combiner array at 20 GHz. *Kawasaki, Shigeo*, +, *T-MTT Apr 93* 717-719
- 4 × 4 spatial power-combining array with strongly coupled oscillators in multi-layer structure. *Lin, Jenshan*, +, *MWSYM 93 Vol. 2* 607-610
- active inverted stripline circular patch antennas for spatial power combining. *Navarro, Julio A.*, +, *T-MTT Oct 93* 1856-1863
- design of tunable recursive active filters using power dividers. *Billonnet, L.*, +, *MWSYM 93 Vol. 1* 185-188
- electromagnetic model of planar radial-waveguide divider/combiner incorporating probes. *Bialkowski, Marek E.*, +, *T-MTT Jun/Jul 93* 1126-1134
- electrooptic sampling measurements of microwave grid oscillator power combiners. *Chen, Kuang Yi*, +, *MWSYM 93 Vol. 1* 313-316
- FET active slotline notch antennas for quasi-optical power combining. *Leverich, W. Kent*, +, *T-MTT Sep 93* 1515-1518
- matched-line directional dividers. *Russell, Thomas J.*, *T-MTT Jun/Jul 93* 1094-1104
- mode analysis of active microstrip antenna arrays with strongly coupled oscillators; method for power combining. *Nogi, Shigeji*, +, *T-MTT Oct 93* 1827-1837
- parallel operation of four oscillators coupled with eight-port hybrid. *Ohta, Isao*, +, *MWSYM 93 Vol. 1* 317-320
- power amplifier yielding 10 W over 8–14 GHz using GaAs MMICs in low-temperature cofired ceramic serial combiner/divider network. *Gipprich, J. W.*, +, *MWSYM 93 Vol. 3* 1369-1372
- quasi-optical planar arrays with FETs and slots. *Kawasaki, Shigeo*, +, *T-MTT Oct 93* 1838-1844
- spatial power amplification with active linearly tapered slot antenna array. *Simons, Rainee N.*, +, *MWSYM 93 Vol. 2* 623-626
- X-band eight MESFET 2-D periodic spatial power combiner. *Balasubramanian, Arul*, +, *MWSYM 93 Vol. 2* 611-614
- Microwave propagation**
- holographic imaging of microwave propagation. *Kitayoshi, H.*, +, *MWSYM 93 Vol. 1* 241-244
- microwave signal distribution using optical amplifier. *Mongardien, D.*, +, *MWSYM 93 Vol. 2* 731-734
- Microwave propagation; cf.** Microwave radio propagation; Waveguides
- Microwave radio communication**
- frequency hopping microwave radio system for LAN communications. *Williams, D. A.*, *MWSYM 93 Vol. 2* 685-690
- GaAs JFET front-end mixer and amplifier MMICs for L-band personal communications. *Ohgihara, Takahiro*, +, *MCS 93* 9-12
- Microwave radio communication; cf.** Microwave radio propagation
- Microwave radio propagation**
- indoor and outdoor propagation measurements at 5 and 60 GHz for radio LAN application. *Plattner, A.*, +, *MWSYM 93 Vol. 2* 853-856
- measurements of PCS microwave propagation in buildings. *Tang, Yuqiang*, +, *MWSYM 93 Vol. 2* 849-851
- Microwave receivers**
- limiting filter for application in GPS receiver. *Tan, Robert*, +, *MWSYM 93 Vol. 2* 881-883
- Microwave receivers; cf.** MMIC receivers
- Microwave repeaters; cf.** Satellite communication, onboard systems
- Microwave resonators**
- CPW resonator; on GaAs modelling using mixed potential integral equation. *Sattler, Sebastian*, +, *MWSYM 93 Vol. 3* 1531-1534
- efficient method for determining resonant frequencies of shielded circular disk and ring resonators. *Tefiku, Fatou*, +, *T-MTT Feb 93* 343-346
- propagation characteristics of waveguiding structures with very thin superconductors; application to CPW $\text{YBa}_2\text{Cu}_3\text{O}_{7-x}$ resonators. *Klopman, Boele B. G.*, +, *T-MTT May 93* 781-791
- tunable uniplanar ring resonators consisting of slotline and CPW ring resonators integrated with varactor diodes. *Navarro, Julio A.*, +, *T-MTT May 93* 760-766
- Microwave resonators; cf.** Cavity resonators; Dielectric resonators
- Microwave switches**
- AlGaAs/GaAs HBT 1–10 GHz pin diode attenuator and X-band pin diode switch. *Kobayashi, K. W.*, +, *MCS 93* 151-154
- distortion in OFF-state GaAs MESFET switches. *Caverly, Robert H.*, *T-MTT Aug 93* 1323-1328
- GaAs HBT PIN diode attenuators and switches. *Kobayashi, K. W.*, +, *MWSYM 93 Vol. 1* 349-352
- GaAs HBT PIN diode variable-gain amplifiers, attenuators and switches. *Kobayashi, Kevin W.*, +, *T-MTT Dec 93* 2295-2302
- inductive connection effects on electrical performance of mounted SPDT in plastic SO8 package. *Ndagijimana, F.*, +, *MCS 93* 109-112
- MESFET as optically activated microwave switch; theory and experiment. *Madjar, Asher*, +, *MWSYM 93 Vol. 3* 1399-1402
- Microwave switches; cf.** TR devices
- Microwave technology**
- International Microwave Symposium, 1993 IEEE MTT-S (special issue). *T-MTT Dec 93* 2051-2399
- Microwave technology; cf.** Specific topic or device
- Microwave transmitters**
- GaAs FET direct frequency-modulators for 42-GHz-band HDTV radio cameras and 7-GHz-band field pick-up transmitters. *Mitsumoto, Hideo*, +, *MWSYM 93 Vol. 2* 663-666
- miniaturized X-band solid-state transmitter with 26 W peak output power. *Mizan, Muhammad*, +, *MWSYM 93 Vol. 2* 813-816
- Microwave transmitters; cf.** MMIC transmitters
- Microwave waveguides; cf.** Waveguide...
- Millimeter-wave (30–300 GHz); cf.** Microwave (3–30 GHz); Submillimeter-wave (300–3000 GHz)
- Millimeter-wave amplifiers**
- high-power millimeter-wave tubes. *Lopin, M. I.*, +, *MWSYM 93 Vol. 2* 1119-1121
- parametric interactions in high- T_c superconducting step edge junctions at X band; 60-GHz microstrip based parametric amplifier using antipodal finline transitions. *Kain, Aron Z.*, +, *MWSYM 93 Vol. 3* 1425-1428
- Millimeter-wave amplifiers; cf.** Millimeter-wave bipolar transistor amplifiers
- Millimeter-wave amplifiers, power; cf.** MMIC amplifiers, power
- Millimeter-wave antennas**
- Australian activities in microwave links for wireless LANs. *Batchelor, Robert A.*, +, *MWSYM 93 Vol. 2* 677-680
- design of conical corrugated feed horns for wide-band high-frequency applications. *Zhang, Xiaolei*, *T-MTT Aug 93* 1263-1274
- double-slot antennas on extended hemispherical and elliptical silicon dielectric lenses. *Filipovic, Daniel F.*, +, *T-MTT Oct 93* 1738-1749
- optically controlled oscillators for millimeter-wave phased-array antennas. *Sturzebecher, Dana J.*, +, *T-MTT Jun/Jul 93* 998-1004
- quasi-integrated horn antennas for millimeter and submillimeter-wave applications. *Eleftheriades, George V.*, +, *T-MTT Jun/Jul 93* 954-965
- Millimeter-wave bipolar transistor amplifiers**
- InP-based HBT millimeter-wave microstrip amplifiers and oscillators working up to 40 GHz. *Kobayashi, K. W.*, +, *MCS 93* 85-88
- Millimeter-wave bipolar transistor oscillators**
- InP-based HBT millimeter-wave microstrip amplifiers and oscillators working up to 40 GHz. *Kobayashi, K. W.*, +, *MCS 93* 85-88
- Millimeter-wave bipolar transistors**
- large-signal HBT characterization and modeling from 8 to 35 GHz. *Teeter, Douglas A.*, +, *T-MTT Jun/Jul 93* 1087-1093
- Millimeter-wave circuits**
- space terahertz technology (special section). *T-MTT Apr 93* 549-722
- Millimeter-wave circulators**
- analysis of reflection and transmission configurations of quasi-optical Faraday rotation millimeter-wave ferrite circulator. *Lax, B.*, +, *MWSYM 93 Vol. 1* 479-482
- analysis of reflection and transmission configurations of quasi-optical Faraday rotation millimeter-wave ferrite circulator. *Lax, Benjamin*, +, *T-MTT Dec 93* 2190-2197
- semiconductor junction circulators; broadband 94-GHz circulator using idealized GaAs cooled to 77 K and narrowband 40-GHz circulator. *Davis, L. E.*, +, *MWSYM 93 Vol. 1* 483-486
- slotline junction circulator including effects from losses due to electron collisions in GaAs cooled to 77 K; predicted performances near 40- and 75-GHz. *Davis, Lionel E.*, +, *T-MTT Dec 93* 2243-2247

- Millimeter-wave communication; cf.** Millimeter-wave radio communication
- Millimeter-wave detectors**
monolithic W-band preamplified diode detector. Wang, H., +, *MCS* 93 167-170
monolithic W-band preamplified diode detectors. Wang, H., +, *MWSYM* 93 Vol. 1 365-368
- Millimeter-wave devices**
NRD-guide leaky-wave directional coupler at Ka band. Niu, Dow-Chih, +, *MWSYM* 93 Vol. 3 1207-1210
NRD-guide leaky-wave directional coupler at Ka band. Niu, Dow-Chih, +, *T-MTT Dec* 93 2126-2132
scattering parameters measurement of nonreciprocal coupling structure. Kwan, P., +, *T-MTT Apr* 93 652-657
- Millimeter-wave devices; cf.** Frequency selective surfaces
- Millimeter-wave diodes**
theoretical modeling of whisker mounted in rectangular waveguide. Xu, Jie, +, *MWSYM* 93 Vol. 1 333-336
- Millimeter-wave diodes; cf.** Schottky diodes
- Millimeter-wave FET amplifiers; cf.** MESFET amplifiers; MODFET amplifiers
- Millimeter-wave FET amplifiers, power; cf.** MESFET amplifiers, power; MMIC amplifiers, power; MODFET amplifiers, power
- Millimeter-wave FET integrated circuits**
W-band subharmonically pumped resistive mixer based on pseudomorphic heterostructure FET technology. Zirath, Herbert, +, *MWSYM* 93 Vol. 1 341-344
- Millimeter-wave FET integrated circuits; cf.** MMICs; MODFET integrated circuits
- Millimeter-wave FET oscillators; cf.** MESFET oscillators; MODFET oscillators
- Millimeter-wave FETs**
experimental determination of small-signal equivalent circuit of millimeter-wave FETs. Eskandarian, A., +, *T-MTT Jan* 93 159-162
- Millimeter-wave FETs; cf.** MODFETs
- Millimeter-wave FETs, power**
quarter-micron WSi/Au gate AlGaAs/InGaAs HJFETs for Q-band power applications. Matsumura, T., +, *MWSYM* 93 Vol. 3 1481-1484
- Millimeter-wave FETs, power; cf.** MODFETs, power
- Millimeter-wave filters; cf.** Dielectric-resonator filters; Superconducting filters; Waveguide filters
- Millimeter-wave frequency conversion**
200-GHz tripler using single barrier varactor. Choudhury, Debabani, +, *T-MTT Apr* 93 595-599
94 GHz-band low noise downconverter combining InP-HEMT LNA, pseudomorphic HEMT mixer and DRO. Yoshinaga, Hiroyuki, +, *MWSYM* 93 Vol. 2 779-782
GaAs, InGaAs, and InAs-based single barrier varactor diodes for 750-GHz tripler multiplier. Nilsen, Svein M., +, *T-MTT Apr* 93 572-580
resonant tunneling devices as sources for millimeter and submillimeter wavelengths. Bouregba, R., +, *T-MTT Nov* 93 2025-2027
symmetric-varactor-frequency triplers; analytical model. Krishnamurthi, Kathiravan, +, *MWSYM* 93 Vol. 2 649-652
YIG-tuned nonlinear transmission line multiplier. Van Der Weide, D. W., *MWSYM* 93 Vol. 2 557-560
- Millimeter-wave frequency conversion; cf.** Millimeter-wave mixers; MMIC frequency converters
- Millimeter-wave generation**
oscillator scheme that substantially increases millimeter-wave power generation capabilities of quantum-well resonant tunneling diode by device-level series integration. Yang, Cheng Chih, +, *MWSYM* 93 Vol. 1 329-332
- Millimeter-wave generation; cf.** Millimeter-wave oscillators
- Millimeter-wave imaging/mapping**
focal plane imaging systems for millimeter wavelengths. Goldsmith, P. F., +, *T-MTT Oct* 93 1664-1675
quasioptical millimeter-wave hybrid and monolithic PIN diode switches. Stephan, Karl D., +, *T-MTT Oct* 93 1791-1798
W-band MMIC direct detection receiver for passive imaging system. Dow, G. S., +, *MWSYM* 93 Vol. 1 163-166
- Millimeter-wave integrated circuits**
86–106 GHz quasi-integrated horn antenna Schottky receiver. Ali-Ahmad, Walid Y., +, *T-MTT Apr* 93 558-564
real-time broadband waveform sampling using optic-microwave phase-locking. Huang, S. L., +, *MWSYM* 93 Vol. 3 1387-1390
- Millimeter-wave integrated circuits; cf.** Finline...; Microstrip...; Millimeter-wave FET integrated circuits; MMICs
- Millimeter-wave measurements**
full two-port on-wafer vector network analysis to 120 GHz using active probes. Yu, Ruai, +, *MWSYM* 93 Vol. 3 1339-1342
picosecond photoconductive switches designed for on-wafer characterization of high frequency interconnects. Golob, L. P., +, *MWSYM* 93 Vol. 3 1395-1398
probe for W-band on-wafer measurements. Liu, S. M. Joseph, +, *MWSYM* 93 Vol. 3 1335-1338
probe tip invasiveness at indirect electro-optic sampling of MMIC. Mertin, W., +, *MWSYM* 93 Vol. 3 1351-1354
real-time broadband waveform sampling using optic-microwave phase-locking. Huang, S. L., +, *MWSYM* 93 Vol. 3 1387-1390
time-domain network analysis of millimeter-wave circuits based on photoconductive-probe sampling technique. Kim, J., +, *MWSYM* 93 Vol. 3 1359-1362
ultrawideband characterization of lossy materials; short-pulse microwave measurements. Kralj, David, +, *MWSYM* 93 Vol. 3 1239-1242
W-band wafer probe using ridge-through waveguide to transition from rectangular waveguide input to CPW. Godshalk, Edward M., *MWSYM* 93 Vol. 1 171-174
- Millimeter-wave measurements; cf.** Millimeter-wave radiometry
- Millimeter-wave mixers**
94 GHz-band low noise downconverter combining InP-HEMT LNA, pseudomorphic HEMT mixer and DRO. Yoshinaga, Hiroyuki, +, *MWSYM* 93 Vol. 2 779-782
accurate analysis and design of millimeter wave mixers. De Flaviis, Franco, +, *T-MTT May* 93 870-873
broadband planar doubly balanced monolithic Ka-band diode mixer. Maas, S. A., +, *MCS* 93 53-55
broadband planar doubly balanced monolithic Ka-band diode mixer. Maas, Stephen A., +, *T-MTT Dec* 93 2330-2335
embedding impedance approximations in analysis of SIS mixers. Kerr, Anthony R., +, *T-MTT Apr* 93 590-594
F-band (90–140 GHz) resistive mixer based on HFET technology. Angelov, Ilcho, +, *MWSYM* 93 Vol. 2 787-790
monolithic image rejection optoelectronic up-converters that employ MMIC process. Kamitsuna, Hideki, +, *MCS* 93 75-78
monolithic image rejection optoelectronic up-converters that employ MMIC process. Kamitsuna, Hideki, +, *T-MTT Dec* 93 2323-2329
planar wideband 80–200 GHz subharmonic receiver. Kormanyos, Brian K., +, *T-MTT Oct* 93 1730-1737
W-band subharmonically pumped resistive mixer based on pseudomorphic heterostructure FET technology. Zirath, Herbert, +, *MWSYM* 93 Vol. 1 341-344
wide-bandwidth electron bolometric mixers; 2DEG prototype and potential for low-noise THz receivers. Yang, Jian-Xun, +, *T-MTT Apr* 93 581-589
- Millimeter-wave mixers; cf.** MMIC mixers; Schottky diode mixers; Superconductor-insulator-superconductor mixers
- Millimeter-wave modulation/demodulation**
design and on-wafer testing of millimeter-wave external optical modulators. Polifko, David, +, *MWSYM* 93 Vol. 3 1391-1394
MSM/MODFET monolithic receiver for detecting 44-GHz modulation signals transmitter by optical carrier. Litvin, K., +, *MWSYM* 93 Vol. 2 1063-1066
two-mode tuning method for injection-locked oscillators at 3.5 GHz; use in lock-in discriminator. Biswas, B. N., +, *T-MTT Mar* 93 388-394
- Millimeter-wave modulation/demodulation; cf.** Millimeter-wave mixers
- Millimeter-wave oscillators**
high-power millimeter-wave tubes. Lopin, M. I., +, *MWSYM* 93 Vol. 2 1119-1121
optically controlled oscillators for millimeter-wave phased-array antennas. Sturzebecher, Dana J., +, *T-MTT Jun/Jul* 93 998-1004
- Millimeter-wave oscillators; cf.** Gunn device oscillators; IMPATT diode oscillators; Injection-locked oscillators; Millimeter-wave bipolar transistor oscillators; Tunnel diode oscillators
- Millimeter-wave power dividers/combiners**
60-GHz IMPATT oscillator array using pulsed operation to prevent overheating. Davidson, Andrew C., +, *T-MTT Oct* 93 1845-1850
circuit level modeling of quasioptical power combining open cavities. Heron, Patrick L., +, *MWSYM* 93 Vol. 1 433-436
determination of impedance matrix of antenna array in quasi-optical resonator using Lorentz integral. Heron, Patrick L., +, *T-MTT Oct* 93 1816-1826
high-power amplification at millimeter-wave frequencies using spatial power combining. Benet, James A., +, *MWSYM* 93 Vol. 2 619-622
millimeter and submillimeter-wave quasi-optical oscillator with Gunn diodes. Bae, Jongsuck, +, *T-MTT Oct* 93 1851-1855
power combining of planar arrays of HEMTs at 37 GHz. Harris, H. M., +, *MWSYM* 93 Vol. 1 159-162

Millimeter-wave propagation; cf. Millimeter-wave radio propagation; Millimeter-wave waveguides

Millimeter-wave radar

experimental autonomous aircraft landing system utilizing 94-GHz FM-CW imaging radar. *Bui, L. Q., + , MWSYM 93 Vol. 2 857-860*

Millimeter-wave radio communication

development of commercial, 38-GHz communication link. *Gulloch, W., + , MWSYM 93 Vol. 2 681-684*

research activities on millimeter-wave indoor communication systems in Japan. *Takimoto, Yukio, + , MWSYM 93 Vol. 2 673-676*

Millimeter-wave radio communication; cf. Millimeter-wave radio propagation; Millimeter-wave receivers

Millimeter-wave radiometry

110-GHz ozone radiometer with cryogenically cooled planar Schottky mixer. *Koistinen, O., + , MWSYM 93 Vol. 2 775-778*

110-GHz ozone radiometer with cryogenically cooled planar Schottky mixer. *Koistinen, Olli P., + , T-MTT Dec 93 775-778*

calibration and applications of polarization-correlating radiometers. *Gasiewski, A. J., + , T-MTT May 93 767-773*

Millimeter-wave radiometry; cf. Millimeter-wave imaging/mapping

Millimeter-wave radio propagation

indoor and outdoor propagation measurements at 5 and 60 GHz for radio LAN application. *Plattner, A., + , MWSYM 93 Vol. 2 853-856*

monolithic diode array millimeter-wave beam transmittance controller. *Sjogren, Lance B., + , T-MTT Oct 93 1782-1790*

Millimeter-wave receivers

547-GHz SIS receiver employing submicron Nb junction with integrated matching circuit. *Febvre, P., + , MWSYM 93 Vol. 2 771-774*

hybrid antenna for integrated array optics in quasi-optical millimeter-wave and submillimeter-wave receivers. *Buttgenbach, Thomas H., T-MTT Oct 93 1750-1761*

low-noise 86-90 GHz uniplanar Schottky-receiver based on CPW double-slot antenna. *Gauthier, Gildas, + , MWSYM 93 Vol. 1 325-328*

planar quasi-optical SIS receiver operating at 230 GHz. *Stimson, Philip A., + , T-MTT Apr 93 609-615*

planar wideband 80-200 GHz subharmonic receiver. *Kormanyos, Brian K., + , T-MTT Oct 93 1730-1737*

Millimeter-wave receivers; cf. Millimeter-wave mixers; MMIC receivers

Millimeter-wave resonators

coplanar millimeter-wave resonator on grounded silicon substrate. *Sattler, Sebastian, + , MCS 93 57-60*

CPW resonator; on GaAs modelling using mixed potential integral equation. *Sattler, Sebastian, + , MWSYM 93 Vol. 3 1531-1534*

determination of impedance matrix of antenna array in quasi-optical resonator using Lorentz integral. *Heron, Patrick L., + , T-MTT Oct 93 1816-1826*

millimeter-wave confocal resonators for vertical structure profiling in semiconducting and superconducting materials. *Martens, J. S., + , MWSYM 93 Vol. 3 1243-1246*

Millimeter-wave resonators; cf. Cavity resonators

Millimeter-wave switches

quasi-optical millimeter-wave hybrid and monolithic PIN diode switches. *Stephan, Karl D., + , T-MTT Oct 93 1791-1798*

Millimeter-wave technology

quasi-optical techniques (special issue). *T-MTT Oct 93 1661-1863*

Millimeter-wave transmitters; cf. MMIC transmitters

Millimeter-wave waveguides

analysis of millimeter waveguides on anisotropic substrates using 3-D TLM method. *Bulutay, Ceyhan, + , T-MTT Jun/Jul 93 1119-1125*

high-temperature superconducting thin films in frequency selective surfaces (FSS) at millimeter-wave frequencies; superconducting FSS as quasi-optical millimeter-wave bandpass filters. *Zhang, Dawei, + , T-MTT Jun/Jul 93 1032-1036*

mode conversion at diffracting apertures in millimeter and submillimeter wave optical systems. *Murphy, J. Anthony, + , T-MTT Oct 93 1700-1702*

MIM devices

rigorous 3-D electromagnetic simulation and efficient approximate model of MMIC overlay capacitors with multiple feedpoints. *Engels, M., + , MWSYM 93 Vol. 2 757-760*

Minimization methods; cf. Optimization methods

MISFETs; cf. MOSFETs

Mixers; cf. Josephson mixers/frequency converters; Microwave mixers;

Millimeter-wave mixers; Optical mixers; Schottky diode mixers;

Submillimeter-wave mixers; Superconductor-insulator-

superconductor mixers

MMIC amplifiers

design method for lumped broadband MMIC matching networks with semiuniform frequency-dependent losses. *Lin, Quinan, + , T-MTT May 93 873-876*

design method for microwave distributed amplifier based on relations between FIR digital filter and distributed amplifier. *Wu, Wen, + , MWSYM 93 Vol. 1 301-303*

GaAs JFET front-end mixer and amplifier MMICs for L-band personal communications. *Ohgihara, Takahiro, + , MCS 93 9-12*

low noise wideband fiberoptic MMIC-based receiver. *Khairandish, R., + , MCS 93 71-73*

test fixture for electrical characterization of packages for use with GaAs MMIC amplifiers. *Smith, Stephen R., + , MWSYM 93 Vol. 1 131-134*

MMIC amplifiers; cf. MESFET amplifiers; MODFET amplifiers

MMIC amplifiers, power

20-50 GHz MMIC amplifier with 21-dBm output power; application as frequency doubler. *Kondoh, Hiroshi, + , MCS 93 35-38*

3-V GaAs power amplifiers for personal communications at 1.9 GHz. *Ngo, D., + , MWSYM 93 Vol. 3 1461-1464*

broadband high-efficiency HBT MMIC power amplifier fabricated with re-aligned process. *Komiak, J. J., + , MWSYM 93 Vol. 3 1473-1476*

HEMT MMIC 1-W power amplifier operating over 34-36 GHz. *Aust, M. V., + , MCS 93 45-48*

high-efficiency AlGaAs/GaAs HBT power amplifier MMIC for 1.9 GHz digital cordless phone. *Hara, S., + , MCS 93 19-22*

high-power amplification at millimeter-wave frequencies using spatial power combining. *Benet, James A., + , MWSYM 93 Vol. 2 619-622*

Ku-band monolithic 7-W power amplifier using AlGaAs/GaAs 0.25- μ m T-gate heterostructure FET technology. *Bryant, Danny T., + , MWSYM 93 Vol. 3 1373-1376*

MMIC power amplifier for pocket-size cellular telephones. *Muraguchi, Masahiro, + , MWSYM 93 Vol. 2 793-796*

power amplifier yielding 10 W over 8-14 GHz using GaAs MMICs in low-temperature cofired ceramic serial combiner/divider network. *Gipprich, J. W., + , MWSYM 93 Vol. 3 1369-1372*

spatial power amplification with active linearly tapered slot antenna array. *Simons, Rainee N., + , MWSYM 93 Vol. 2 623-626*

MMIC amplifiers, power; cf. MESFET amplifiers, power; MODFET amplifiers, power

MMIC frequency converters

18/36 GHz (M)MIC GaAs FET frequency doublers fabricated in CPW taking into consideration effects of coplanar discontinuities. *Abdo-Tuko, M., + , T-MTT Aug 93 1307-1315*

20-50 GHz MMIC amplifier with 21-dBm output power; application as frequency doubler. *Kondoh, Hiroshi, + , MCS 93 35-38*

94-GHz MMIC frequency doubler with 25% efficiency and 65-mW output power. *Chen, Seng-Woon, + , MCS 93 89-92*

94-GHz MMIC frequency doubler with 25% efficiency and 65-mW output power. *Chen, Seng-Woon, + , T-MTT Dec 93 2317-2322*

circuit structure for microwave frequency doublers. *Fikart, Josef, + , MCS 93 145-148*

circuit structure for microwave frequency doublers featuring effective suppression of fundamental and odd harmonics, conversion gain and simplicity; use in MMIC frequency doubler. *Fikart, Josef, + , MWSYM 93 Vol. 1 407-410*

circuit structure for microwave frequency doublers featuring effective suppression of fundamental and odd harmonics, conversion gain and simplicity; use in MMIC frequency doubler. *Xuan, Yongnan, + , T-MTT Dec 93 2264-2268*

large signal design of broadband monolithic microwave frequency dividers and phase-locked oscillators. *Quéré, Raymond, + , T-MTT Nov 93 1928-1938*

low power GaAs MESFET monolithic downconverter for digital handheld telephone applications. *Birkeland, Joel, MWSYM 93 Vol. 2 1105-1108*

monolithic image rejection optoelectronic up-converters that employ MMIC process. *Kamitsuna, Hideki, + , MCS 93 75-78*

monolithic image rejection optoelectronic up-converters that employ MMIC process. *Kamitsuna, Hideki, + , T-MTT Dec 93 2323-2329*

W-band integrated power module using MMIC MESFET power amplifiers and varactor diodes. *Ho, Thomas C., + , T-MTT Dec 93 2288-2294*

MMIC mixers

experimental characteristics and performance analysis of monolithic InP-based InAlAs/InGaAs HEMT mixers at W-band. *Kwon, Youngwoo, + , T-MTT Jan 93 1-8*

extremely small 26 GHz monolithic image-rejection mixer without DC power consumption. *Minakawa, Akira, + , T-MTT Sep 93 1634-1637*

GaAs JFET front-end mixer and amplifier MMICs for L-band personal communications. *Ohgihara, Takahiro, + , MCS 93 9-12*

MMIC oscillators

large signal design of broadband monolithic microwave frequency dividers and phase-locked oscillators. *Quéré, Raymond, + , T-MTT Nov 93 1928-1938*

MMIC phase shifters

- three phase-states phase shifter constructed by adding switching FETs to conventional single-stage 2-phase-states phase shifter. *Nakahara, K., + , MWSYM 93 Vol. 1 369-372*
- ultra-wideband MMIC active power splitters with arbitrary phase relationships. *Kamitsuna, Hideki, + , T-MTT Sep 93 1519-1523*

MMIC power dividers/combiners

- ultra-wideband MMIC active power splitters with arbitrary phase relationships. *Kamitsuna, Hideki, + , T-MTT Sep 93 1519-1523*

MMIC receivers

- 2.4-GHz single chip transceiver. *Devlin, L. M., + , MCS 93 23-26*
- comparison of noise performance between PIN diode and MMIC HEMT and HBT optical receivers. *Ogawa, Hiroyo, + , MWSYM 93 Vol. 1 225-228*
- fully integrated 35-GHz MMIC receiver with on-chip LO. *Ramachandran, R., + , MCS 93 93-95*
- highly compact wideband GaAs HEMT X-Ku band image-reject receiver MMIC. *Katz, R., + , MCS 93 131-134*
- highly compact, wideband GaAs HEMT X-Ku band image-reject receiver MMIC. *Katz, R., + , MWSYM 93 Vol. 1 149-152*
- highly integrated MMIC K-band transmit/receive chip. *Fudem, Howard, + , MCS 93 119-122*
- low noise wideband fiberoptic MMIC-based receiver. *Khairandish, R., + , MCS 93 71-73*
- planar 94-GHz transceiver with switchable polarization. *Niehenke, Edward C., + , MWSYM 93 Vol. 1 167-170*
- W-band MMIC direct detection receiver for passive imaging system. *Dow, G. S., + , MWSYM 93 Vol. 1 163-166*
- W-band single-chip MMIC transceiver for FM/CW radar. *Chang, K. W., + , MCS 93 41-44*

MMICs

- 2-D mapping of microwave potential on MMICs using electrooptic sampling. *Hjelme, Dag Roar, + , T-MTT Jun/Jul 93 1149-1158*
- 3-D characterization of air bridges and via holes in conductor-backed CPWs for MMIC applications. *Visan, S., + , MWSYM 93 Vol. 2 709-712*
- 3-D mode matching technique for efficient analysis of coplanar MMIC discontinuities with finite metallization thickness. *Alessandri, Ferdinando, + , T-MTT Sep 93 1625-1629*
- acoustooptic control of MMIC T/R modules for phased array beamsteering. *Jemison, William D., + , MWSYM 93 Vol. 2 1051-1054*
- analysis of microstrip discontinuities based on edge-element 3-D FEM formulation and absorbing boundary conditions. *Wang, J. S., + , MWSYM 93 Vol. 2 745-748*
- Australian activities in microwave links for wireless LANs. *Batchelor, Robert A., + , MWSYM 93 Vol. 2 677-680*
- CAD-oriented analytical model for losses of general asymmetric coplanar lines in hybrid and monolithic MICs. *Ghione, Giovanni, T-MTT Sep 93 1499-1510*
- compact wideband balun for MMIC applications. *Tsai, M. C., MCS 93 123-125*
- compact wideband balun for MMIC applications. *Tsai, M. C., MWSYM 93 Vol. 1 141-143*
- computation of dielectric losses in multilayer, multiconductor microstrip for CAD of MIC and MMIC structures. *Gilb, James P. K., + , T-MTT Mar 93 527-530*
- convolution-based black-box approach for incorporating linear circuit blocks described by frequency-domain data into nonlinear transient time-domain simulator. *Halloran, Patrick, + , MWSYM 93 Vol. 3 1189-1192*
- design analysis of coupling structures for multilayer MMICs. *Gillick, Matthew, + , T-MTT Feb 93 346-349*
- design method for lumped broadband MMIC matching networks with semiuniform frequency-dependent losses. *Lin, Quinan, + , T-MTT May 93 873-876*
- dual 6.8-10.7 GHz T/R module using 72 MMICs for EW system. *Garbe, G., + , MWSYM 93 Vol. 3 1329-1332*
- finite-difference analysis of open and short circuits in coplanar MMICs. *Beilenhoff, Klaus, + , T-MTT Sep 93 1534-1537*
- influence of finite conductor thickness and conductivity on fundamental and higher-order modes in miniature hybrid MICs (MHMICs) and MMICs. *Wu, Ke, + , T-MTT Mar 93 421-430*
- introduction to MMIC hardware description language. *Barton, David L., + , MWSYM 93 Vol. 3 1487-1490*
- introduction to MPM (microwave power module) which incorporating solid-state and vacuum-electronics technology. *Abrams, R. H., Jr., + , MWSYM 93 Vol. 1 107-110*
- MMIC compatible coupled line structure that uses embedded microstrip to achieve extremely tight couplings. *Willems, David, + , MWSYM 93 Vol. 2 581-584*

MMIC compatible coupled line structure that uses embedded microstrip to achieve extremely tight couplings. *Willems, David, + , T-MTT Dec 93 2303-2310*

MMIC subharmonically pumped SSB modulator. *Pospishil, A., + , MCS 93 137-140*

MMIC subharmonically pumped SSB modulator. *Pospishil, A., + , MWSYM 93 Vol. 1 399-402*

MMIC twin-tee active bandpass filter. *Rosenbaum, F. J., + , MCS 93 163-166*

MMIC twin-tee active bandpass filter. *Rosenbaum, F. J., + , MWSYM 93 Vol. 1 361-364*

modeling and design of coplanar monolithic microwave and millimeter-wave integrated circuits (special issue). *T-MTT Sep 93 1481-1658*

modeling of discontinuities in microwave and millimeter-wave ICs using curvilinear FDTD approach. *Kosanovich, Stevan, + , MWSYM 93 Vol. 2 741-744*

modified broadside-coupled microstrip lines suitable for MIC and MMIC applications; use in bandpass filters. *Tran, Michael, + , T-MTT Aug 93 1336-1342*

MPM applications; forecast of near- and long-term applications. *Cosby, Lynwood, MWSYM 93 Vol. 1 111-114*

MPM technology developments; industry perspective. *Christensen, J. A., + , MWSYM 93 Vol. 1 115-118*

multicoupled quantum well intensity optical modulator for InP-based MMIC/photonic ICs. *Silva, M. T. Camargo, + , MWSYM 93 Vol. 1 229-232*

narrow-band active X-band MMIC filters with automatic tuning and Q-factor control. *Katzin, P., + , MWSYM 93 Vol. 1 403-406*

noise figure of high temperature superconducting Josephson junction MMIC downconverter at 12 GHz. *Suzuki, Katsumi, + , MWSYM 93 Vol. 3 1429-1432*

object-oriented design of microwave circuit simulators. *Carvalho, P., + , MWSYM 93 Vol. 3 1491-1494*

passive FET MMIC linearizers for use with spaceborne TWTAs at C-, X-, and Ku-band. *Katz, Allen, + , MCS 93 155-158*

probe for W-band on-wafer measurements. *Liu, S. M. Joseph, + , MWSYM 93 Vol. 3 1335-1338*

probe tip invasiveness at indirect electro-optic sampling of MMIC. *Mertin, W., + , MWSYM 93 Vol. 3 1351-1354*

quasi-TEM analysis of valley microstrip lines with slit for use in multilayered MMICs. *Rong, Ao Sheng, + , MWSYM 93 Vol. 2 955-958*

quasi-TEM description of MMIC coplanar lines including conductor-loss effects. *Heinrich, Wolfgang, T-MTT Jan 93 45-52*

rigorous 3-D electromagnetic simulation and efficient approximate model of MMIC overlay capacitors with multiple feedpoints. *Engels, M., + , MWSYM 93 Vol. 2 757-760*

spectral-domain analysis of bilateral CPWs printed on anisotropic substrates for use in monolithic MICs. *Chen, Yinchao, + , T-MTT Sep 93 1489-1493*

ultra-low-impedance CPW transmission lines for multilayer MMICs. *Gillick, Matthew, MCS 93 127-130*

ultra low impedance CPW transmission lines for multilayer MMICs. *Gillick, Matthew, + , MWSYM 93 Vol. 1 145-148*

use of side wall images to compute package effects in method of moments analysis of MMIC circuits. *Jackson, Robert W., T-MTT Mar 93 406-414*

MMICs; cf. MESFET integrated circuits; MODFET integrated circuits

MMIC switches

low voltage high power T/R switch MMIC using LC resonators. *Tokumitsu, Tsuneo, + , MCS 93 27-30*

MMIC transmitters

2.4-GHz single chip transceiver. *Devlin, L. M., + , MCS 93 23-26*

highly integrated MMIC K-band transmit/receive chip. *Fudem, Howard, + , MCS 93 119-122*

low cost 77-GHz monolithic transmitter for automotive collision avoidance systems. *Raffaelli, Lamberto, + , MCS 93 63-66*

planar 94-GHz transceiver with switchable polarization. *Niehenke, Edward C., + , MWSYM 93 Vol. 1 167-170*

W-band single-chip MMIC transceiver for FM/CW radar. *Chang, K. W., + , MCS 93 41-44*

Mobile communication; cf. Space vehicle communication

Mode coupling; cf. Coupled-mode analysis

Modeling; cf. Specific topic

Mode-matching methods

3-D mode matching technique for efficient analysis of coplanar MMIC discontinuities with finite metallization thickness. *Alessandri, Ferdinando, + , T-MTT Sep 93 1625-1629*

approximate approach to design of shielded dielectric disk resonators with whispering-gallery modes. *Ivanov, Eugene N., + , T-MTT Apr 93 632-638*

- CAD of T-septum waveguide evanescent-mode filters. *Labay, Vladimir A.*, +, *T-MTT Apr 93* 731-733
- characterization of microstrip-ridge structures in frequency domain by integral equation-mode matching technique and in time domain by Fourier transforms. *Engel, Andrew G., Jr.*, +, *T-MTT Aug 93* 1251-1262
- combined numerical and analytical methods for rigorous analysis of waveguide circuits with discontinuities. *Wu, Ke-Li.*, +, *MWSYM 93 Vol. 2* 975-978
- field analysis of shielded uniaxial-anisotropic dielectric rod resonators. *Kobayashi, Yoshio.*, +, *T-MTT Dec 93* 2198-2205
- field analysis of shielded uniaxial-dielectric rod resonators. *Kobayashi, Y.*, +, *MWSYM 93 Vol. 2* 913-916
- field theoretical CAD of rectangular and circular iris coupled rectangular or circular waveguide cavity filters. *Papziner, Uwe.*, +, *T-MTT Mar 93* 462-471
- hybrid-mode analysis of planar transmission lines with arbitrary metallization cross sections. *Ma, Zhewang.*, +, *T-MTT Mar 93* 491-497
- influence of metallization thickness on characteristics of cascaded junction discontinuities of shielded coplanar type transmission line. *Huang, Tian-Wei.*, +, *T-MTT Apr 93* 693-697
- investigation of multiple rectangular aperture irises in rectangular waveguide using TE_{nm} -modes. *Yang, Rong.*, +, *T-MTT Aug 93* 1369-1374
- modeling of cylindrical dielectric resonators in rectangular waveguides and cavities. *Liang, Xiao-Peng.*, +, *MWSYM 93 Vol. 2* 597-600
- modeling of cylindrical dielectric resonators in rectangular waveguides and cavities. *Liang, Xiao-Peng.*, +, *T-MTT Dec 93* 2174-2181
- rigorous analysis of shielded microstrip asymmetric step discontinuity. *Capsalis, C. N.*, +, *T-MTT Mar 93* 520-523
- scattering and reception by flanged parallel-plate waveguide; TE-mode analysis. *Park, Tah J.*, +, *T-MTT Aug 93* 1458-1460
- space domain mode-matching method technique for analyzing complex microwave integrated circuits. *Wu, Ke.*, +, *MWSYM 93 Vol. 2* 983-986
- transmission characteristics of finite-width conductor-backed CPW; theoretical and experimental results. *Tien, Ching-Cheng.*, +, *T-MTT Sep 93* 1616-1624
- transverse scattering matrix formulation for class of waveguide eigenvalue problems. *Ma, Zhewang.*, +, *T-MTT Jun/Jul 93* 1044-1051
- MODFET amplifiers**
- 12-GHz low-noise MMIC amplifier designed with noise model that scales with MODFET size and bias. *Hughes, Brian.*, +, *MCS 93* 31-34
- 12-GHz low-noise MMIC amplifier designed with noise model that scales with MODFET size and bias. *Hughes, Brian.*, +, *T-MTT Dec 93* 2311-2316
- 18-40 GHz semi-monolithic balanced cascade amplifiers using AlGaAs/InGaAs P-HEMT and GaAs MESFET. *Kimishima, Masayuki.*, +, *MWSYM 93 Vol. 2* 523-526
- 7-11 GHz AlInAs/GaInAs/InP MMIC LNA. *Rosenbaum, Steven E.*, +, *MWSYM 93 Vol. 2* 1103-1104
- 94 GHz-band low noise downconverter combining InP-HEMT LNA, pseudomorphic HEMT mixer and DRO. *Yoshinaga, Hiroyuki.*, +, *MWSYM 93 Vol. 2* 779-782
- cryogenic characteristics of wide-band pseudomorphic HEMT MMIC low-noise amplifiers. *Yang, Cheng Chih.*, +, *T-MTT Jun/Jul 93* 992-997
- high-gain low-noise 110 GHz monolithic two-stage amplifier. *Wang, H.*, +, *MWSYM 93 Vol. 2* 783-785
- high performance 1.5-dB low-noise GaAs PHEMT MMIC amplifier for low cost 1.5-8 GHz commercial applications. *Morkner, H.*, +, *MCS 93* 13-16
- high performance Q-band 0.15- μ m InGaAs HEMT MMIC LNA. *Duh, K. H. G.*, +, *MCS 93* 99-102
- Ka-band MMIC power and LNAs fabricated on same PHEMT wafer. *Kurdoghlian, A.*, +, *MCS 93* 97-98
- low-noise HEMT Ka-band amplifiers for deep space communication. *Laskar, J.*, +, *MWSYM 93 Vol. 2* 1095-1098
- low noise, phase linear distributed CPW amplifier. *Minot, K.*, +, *T-MTT Sep 93* 1650-1653
- millimeter-wave, cryogenically-coolable amplifiers using AlInAs/GaInAs/InP HEMTs. *Pospieszalski, M. W.*, +, *MWSYM 93 Vol. 2* 515-518
- monolithic W-band preamplified diode detectors. *Wang, H.*, +, *MWSYM 93 Vol. 1* 365-368
- monolithic W-band three-stage LNA using 0.1 μ m InAlAs/InGaAs/InP HEMT technology. *Wang, H.*, +, *MWSYM 93 Vol. 2* 519-522
- MSM/MODFET monolithic receiver for detecting 44-GHz modulation signals transmitter by optical carrier. *Litvin, K.*, +, *MWSYM 93 Vol. 2* 1063-1066
- MODFET amplifiers, power**
- 20 GHz high power high efficiency HEMT module. *Chen, C. H.*, +, *MWSYM 93 Vol. 3* 1377-1380
- highly-efficient 7-W 16-GHz monolithic pseudomorphic HEMT amplifier. *Tserng, Hua Quen.*, +, *MCS 93* 105-108
- highly-efficient 7-watt 16 GHz monolithic pseudomorphic HEMT amplifier. *Tserng, Hua Quen.*, +, *MWSYM 93 Vol. 1* 87-90
- Ka-band MMIC power and LNAs fabricated on same PHEMT wafer. *Kurdoghlian, A.*, +, *MCS 93* 97-98
- Ka-band power PHEMT on-wafer characterization using prematched structures. *Sharma, A. K.*, +, *MWSYM 93 Vol. 3* 1343-1346
- MODFET integrated circuits**
- experimental characteristics and performance analysis of monolithic InP-based InAlAs/InGaAs HEMT mixers at W-band. *Kwon, Youngwoo.*, +, *T-MTT Jan 93* 1-8
- highly compact wideband GaAs HEMT X-Ku band image-reject receiver MMIC. *Katz, R.*, +, *MCS 93* 131-134
- highly compact, wideband GaAs HEMT X-Ku band image-reject receiver MMIC. *Katz, R.*, +, *MWSYM 93 Vol. 1* 149-152
- highly integrated MMIC k-band transmit/receive chip operating in 15-25 GHz range. *Fudem, Howard.*, +, *MWSYM 93 Vol. 1* 137-140
- monolithic image rejection optoelectronic up-converters that employ MMIC process. *Kamitsuna, Hideki.*, +, *MCS 93* 75-78
- monolithic image rejection optoelectronic up-converters that employ MMIC process. *Kamitsuna, Hideki.*, +, *T-MTT Dec 93* 2323-2329
- picosecond MODFET IC pulse sharpener. *Shakouri, Mohammad S.*, +, *MCS 93* 79-81
- MODFET oscillators**
- 2 $\times$ 2 quasi-optical power combiner array at 20 GHz. *Kawasaki, Shigeo.*, +, *T-MTT Apr 93* 717-719
- D-band monolithic fundamental oscillator using InP-based HEMTs. *Kwon, Y.*, +, *MCS 93* 49-52
- D-band monolithic fundamental oscillator using InP-based HEMTs. *Kwon, Youngwoo.*, +, *T-MTT Dec 93* 2336-2344
- electrooptic sampling measurements of microwave grid oscillator power combiners. *Chen, Kuang Yi.*, +, *MWSYM 93 Vol. 1* 313-316
- phase noise in cryogenic microwave HEMT and MESFET oscillators. *Llopis, Olivier.*, +, *T-MTT Mar 93* 369-374
- power combining of planar arrays of HEMTs at 37 GHz. *Harris, H. M.*, +, *MWSYM 93 Vol. 1* 159-162
- MODFETs**
- 60 GHz-band ultra-low-noise planar-doped HEMT. *Katoh, T.*, +, *MWSYM 93 Vol. 1* 337-340
- characteristics of CPW HEMT mount on GaAs substrate. *Mirshekar-Syahkal, D.*, +, *T-MTT Sep 93* 1494-1498
- characterization of MESFET and MODFET microwave noise properties utilizing drain noise current. *Tutt, Marcel N.*, +, *MWSYM 93 Vol. 2* 1099-1102
- comparison of noise performance between PIN diode and MMIC HEMT and HBT optical receivers. *Ogawa, Hiroyo.*, +, *MWSYM 93 Vol. 1* 225-228
- designing FETs for broad noise circles. *Hughes, Brian.*, *T-MTT Feb 93* 190-198
- experimental determination of small-signal equivalent circuit of millimeter-wave FETs. *Eskandarian, A.*, +, *T-MTT Jan 93* 159-162
- extraction of device noise sources from measured data using circuit simulator software. *Ikalainen, Pertti K.*, *T-MTT Feb 93* 340-343
- fast and accurate process-oriented model for CAD of MODFETs. *Vereseghyazy, R. K.*, +, *MWSYM 93 Vol. 2* 1001-1004
- influence of gate leakage current on noise performance of MESFETs and MODFETs. *Danneville, François.*, +, *MWSYM 93 Vol. 1* 373-376
- manufacturability of 0.1- μ m millimeter-wave low-noise InP HEMTs. *Nguyen, Loi.*, +, *MWSYM 93 Vol. 1* 345-347
- measurement-based large-signal diode model and associated automated data acquisition system and model generator system for simulation of diodes. *Root, David E.*, +, *MWSYM 93 Vol. 1* 261-264
- measurement-based large-signal diode model and associated automated data acquisition system and model generator system for simulation of diodes. *Root, David E.*, +, *T-MTT Dec 93* 2211-2217
- method for measuring noise parameters of MESFETs and HEMTs. *Dambrine, Gilles.*, +, *T-MTT Mar 93* 375-381
- millimeter-wave device model differences in microstrip and CPW. *Walters, Peter C.*, +, *MWSYM 93 Vol. 3* 1173-1176
- modeling of transverse propagation delays in GaAs/AlGaAs modulation doped HFETs. *Goel, Ashok K.*, +, *T-MTT Jun/Jul 93* 1230-1232
- negative photoresponse of AlGaAs/GaAs MODFETs. *Romero, M. A.*, +, *MWSYM 93 Vol. 3* 1403-1406
- probe for W-band on-wafer measurements. *Liu, S. M. Joseph.*, +, *MWSYM 93 Vol. 3* 1335-1338
- simulation of HEMT DC drain current and 1 to 50 GHz S-parameters as function of gate bias. *Mahon, Simon J.*, +, *T-MTT Jun/Jul 93* 1065-1067
- transistor noise parameter extraction using 50 Ω noise figure measurement. *Tasker, P. J.*, +, *MWSYM 93 Vol. 3* 1251-1254

- traveling-wave HEMT providing high gain, high bandwidth performance at millimeter-wave frequencies. *Anand, M. B.*, +, *T-MTT Apr 93* 624-631
- MODFETs; cf. MODFET integrated circuits**
- MODFETs, power**
- 4-GHz high-power high-efficiency pseudomorphic power HEMT. *Fu, S. T.*, +, *MWSYM 93 Vol. 3* 1469-1472
- AlGaAs/InGaAs pseudomorphic HEMT with improved breakdown voltage for X- and Ku-band power applications. *Huang, John C.*, +, *T-MTT May 93* 752-759
- V-band high-efficiency high-power AlInAs/GaInAs/InP HEMTs. *Matloubian, M.*, +, *MWSYM 93 Vol. 2* 535-538
- V-band high-efficiency high-power AlInAs/GaInAs/InP HEMTs. *Matloubian, Mehran*, +, *T-MTT Dec 93* 2206-2210
- Modulation/demodulation; cf. AM...; Chirp modulation; Electrooptic modulation; FM...; Microwave modulation/demodulation; Millimeter-wave modulation/demodulation; Optical modulation/demodulation; UHF modulation/demodulation**
- Moment methods**
- analysis of general class of open dielectric waveguides by spectral-domain technique. *Sabefakhri, Kazem*, +, *MWSYM 93 Vol. 3* 1523-1526
- analysis of single and coupled microstrip lines for millimeter-wave ICs on anisotropic substrates using differential matrix operators and spectral-domain method. *Chen, Yinchao*, +, *T-MTT Jan 93* 123-128
- analysis of thin slot discontinuity in reference plane of microstrip structure by perturbational approach based on spectral domain technique. *Kouki, Ammar B.*, +, *T-MTT Aug 93* 1356-1362
- choices of expansion and testing functions for method of moments applied to class of electromagnetic problems. *Aksun, M. I.*, +, *T-MTT Mar 93* 503-509
- comments on 'A procedure defining behavior of weight functions near the edge for best convergence using the Galerkin method' by P. S. Fridberg and I. M. Yakover. *Laura, Patricio A. A.*, +, *T-MTT May 93* 900-901 (Original paper, Aug 92 1661-1667)
- computation of cutoff wavenumbers for partially filled waveguides of arbitrary cross section using surface integral formulations and method of moments. *Shu, Shianfeng*, +, *T-MTT Jun/Jul 93* 1111-1118
- corrections to 'Moment method formulation of thick diaphragms in a rectangular waveguide' (Mar 92 592-595). *Datta, Amlan*, +, *T-MTT Apr 93* 738-739
- criterion for choice of trial functions in Galerkin's method that suppresses spurious solutions in transverse resonance method. *Aubert, Hervé*, +, *T-MTT Mar 93* 450-456
- dispersion characteristics of broadside-coupled CPW; analysis using spectral-domain method. *Nguyen, Cam*, *T-MTT Sep 93* 1630-1633
- effects of air-bridges and mitering on CPW 90° bends; theory and experiment. *Omar, A. A.*, +, *MWSYM 93 Vol. 2* 823-826
- efficient implementation of spectral domain method including precalculated corner basis functions. *Meade, S. A.*, +, *MWSYM 93 Vol. 2* 991-994
- efficient TE_{0,n}-to-TE_{0,n+p}-mode converter in circular waveguides. *Jöstingmeier, A.*, +, *MWSYM 93 Vol. 2* 939-941
- electric fields of H-plane tapered iris calculated using moment method. *Natzke, John R.*, +, *T-MTT Aug 93* 1463-1466
- full-wave analysis of 3-D planar and waveguide structures. *Lerer, Alexander M.*, +, *T-MTT Nov 93* 2002-2015
- full-wave analysis of CPW discontinuities with finite conductor thickness using extended version of spectral-domain approach. *Tran, Allen M.*, +, *T-MTT Sep 93* 1611-1615
- full-wave analysis of two-slot microstrip filter using new algorithm for computation of spectral integrals. *Gothelf, Ulrich V.*, +, *T-MTT Jan 93* 101-108
- full-wave analysis of wide rectangular radiating slot excited by microstrip line, using method of moments and matrix pencil method. *Kahrizi, Masoud*, +, *T-MTT Jan 93* 29-37
- full-wave space-domain analysis of open microstrip discontinuities including singular current-edge behavior. *Sercu, Jeannick*, +, *T-MTT Sep 93* 1581-1588
- higher order modes in suspended substrate microstrip lines; analysis using spectral domain method. *Polichronakis, Ioannis P.*, +, *T-MTT Aug 93* 1449-1454
- improved quasi-TEM spectral domain analysis of boxed coplanar multiconductor microstrip lines. *Drake, Enrique*, +, *T-MTT Feb 93* 260-267
- investigation of multiple rectangular aperture irises in rectangular waveguide using TE_{mn}-modes. *Yang, Rong*, +, *T-MTT Aug 93* 1369-1374
- moment method analysis for CPW discontinuity inductances. *Chiu, Chien-Wen*, +, *T-MTT Sep 93* 1511-1514
- multiconductor transmission lines of arbitrary cross section in multilayered uniaxial media; analysis using mixed-potential EFIE formulation. *Hsu, Chung-I G.*, +, *T-MTT Jan 93* 70-78
- overconstrained version of method of moments for specific absorption rate evaluation in biological bodies. *Caorsi, Salvatore*, +, *T-MTT Feb 93* 305-310
- packaging and interconnection mutual coupling effects in planar structures and discontinuities. *Amrani, C.*, +, *MWSYM 93 Vol. 2* 843-846
- propagation characteristics of waveguiding structures with very thin superconductors; application to CPW YBa₂Cu₃O_{7-x} resonators. *Klopman, Boele B. G.*, +, *T-MTT May 93* 781-791
- propagation regimes on integrated microstrip transmission lines using spectral-domain integral equation formulation. *Bagby, Jonathan S.*, +, *T-MTT Nov 93* 1887-1894
- quasistatic technique for analysis of coplanar and microstrip transmission-line discontinuities. *Yu, Ming*, +, *T-MTT Sep 93* 1638-1640
- resonance in spherical-circular microstrip structure with air gap; analysis using Green's function and Galerkin's moment method. *Wong, Kin-Lu*, +, *T-MTT Aug 93* 1466-1468
- resonance in superstrate-loaded cylindrical-rectangular microstrip structure. *Wong, Kin-Lu*, +, *T-MTT May 93* 814-819
- rigorous analysis of iris coupling problem in waveguide. *Yang, Rong*, +, *T-MTT Feb 93* 349-352
- rigorous full-wave analysis of propagation characteristics of general lossless and lossy multiconductor transmission lines in multilayered media. *Olyslager, Frank*, +, *T-MTT Jan 93* 79-88
- simulation of high-frequency ICs incorporating full-wave analysis of microstrip discontinuities. *Kipp, Robert*, +, *T-MTT May 93* 848-854
- spatial interpolation of moment matrix for efficient analysis of microstrip circuits. *Nuteson, Todd W.*, +, *MWSYM 93 Vol. 2* 971-974
- spectral-domain analysis of bilateral CPWs printed on anisotropic substrates for use in monolithic MICs. *Chen, Yinchao*, +, *T-MTT Sep 93* 1489-1493
- spectral-domain analysis of microstrip lines coupled through arbitrarily shaped aperture in thick common ground plane. *Tran, Allen M.*, +, *MWSYM 93 Vol. 2* 819-822
- spectral-domain analysis of open and shielded slotlines printed on various anisotropic substrates. *Chen, Yinchao*, +, *T-MTT Nov 93* 1872-1877
- spectral-domain analysis of slow-wave transmission lines on multilayered semiconductor structures including conductor loss. *Liou, Jenn-Chorng*, +, *T-MTT May 93* 824-829
- spectral domain technique formulation for analysis of general case of uniaxial/biaxial electric magnetic anisotropic multilayer planar structures; application to shielded CPW structures. *Mazé-Merceur, Geneviève*, +, *T-MTT Mar 93* 457-461
- study of gridding and cell-cell interactions in method of moments analysis of arbitrarily shaped planar circuits. *Sercu, Jeannick*, +, *MWSYM 93 Vol. 2* 753-756
- technique for quasi-TEM analysis of conductor-backed CPW structures based on spectral-domain method. *Cheng, Kwok K. M.*, +, *T-MTT Sep 93* 1589-1592
- theoretical modeling of whisker mounted in rectangular waveguide. *Xu, Jie*, +, *MWSYM 93 Vol. 1* 333-336
- thin inclined rectangular aperture with arbitrary location in rectangular waveguide. *Yang, Ron*, +, *T-MTT Aug 93* 1461-1463
- use of side wall images to compute package effects in method of moments analysis of MMIC circuits. *Jackson, Robert W.*, *T-MTT Mar 93* 406-414
- versatile moment method solution of conventional and modified CPW T-junctions. *Omar, Amjad A.*, +, *T-MTT Apr 93* 687-692
- Monolithic microwave integrated circuits; cf. MMIC...**
- Monopole antennas**
- high-temperature superconducting matching networks for electrically short monopole antennas. *Piatnicia, A. Y.*, +, *MWSYM 93 Vol. 3* 1417-1420
- Monopole arrays**
- high-temperature superconducting matching networks for electrically short monopole antennas. *Piatnicia, A. Y.*, +, *MWSYM 93 Vol. 3* 1417-1420
- Monte Carlo methods**
- computer based multivariate discrimination methods for production tuning of microwave components. *Stoneking, D. E.*, *MWSYM 93 Vol. 1* 127-130
- MOSFETs**
- large-signal modeling of MOSFETs for L-band applications. *Costa, Julio C.*, +, *MWSYM 93 Vol. 1* 293-296
- silicon MOSFETs for applications below 3 GHz. *Camilleri, Natalino*, +, *MWSYM 93 Vol. 2* 545-548
- MOS integrated circuits; cf. MOSFETs**
- Multiconductor transmission lines**
- equivalent circuits for multiconductor microstrip bend discontinuities. *Harms, Paul H.*, +, *T-MTT Jan 93* 62-69

- generalized network model for coupled multiconductor transmission lines; use in planar re-entrant type couplers and three-line Baluns. *Tsai, C. M.*, +, *MWSYM 93 Vol. 2* 1013-1016
- improved quasi-TEM spectral domain analysis of boxed coplanar multiconductor microstrip lines. *Drake, Enrique*, +, *T-MTT Feb 93* 260-267
- multiconductor transmission lines of arbitrary cross section in multilayered uniaxial media; analysis using mixed-potential EFIE formulation. *Hsu, Chung-I G.*, +, *T-MTT Jan 93* 70-78
- rigorous full-wave analysis of propagation characteristics of general lossless and lossy multiconductor transmission lines in multilayered media. *Olyslager, Frank*, +, *T-MTT Jan 93* 79-88
- time-domain analysis of lossy multi-conductor transmission lines using Hilbert transform. *Arabi, Tawfik Rahal*, +, *MWSYM 93 Vol. 2* 987-990
- Multiconductor transmission lines; cf.** Coupled transmission lines
- Multidimensional systems**
- computation of scattering matrix of 2-D lossless network; synthesis of incommensurate line networks. *Zhu, Lizhong*, +, *MWSYM 93 Vol. 2* 1073-1076
- multilevel multidimensional quadratic modeling for yield-driven electromagnetic optimization. *Bandler, J. W.*, +, *MWSYM 93 Vol. 2* 1017-1020
- multilevel multidimensional quadratic modeling for yield-driven electromagnetic optimization. *Bandler, John W.*, +, *T-MTT Dec 93* 2269-2278
- Multidimensional systems; cf.** Microwave power dividers/combiners; Transmission lines
- Multilevel systems**
- multilevel multidimensional quadratic modeling for yield-driven electromagnetic optimization. *Bandler, J. W.*, +, *MWSYM 93 Vol. 2* 1017-1020
- multilevel multidimensional quadratic modeling for yield-driven electromagnetic optimization. *Bandler, John W.*, +, *T-MTT Dec 93* 2269-2278
- Multiplexing**
- 4-GHz dielectric contiguous output multiplexer for communications satellite transponders. *Holme, C. J.*, +, *MWSYM 93 Vol. 1* 443-446
- CAD of singly-matched multiplexer with common junction. *Gong, Ji-An*, +, *T-MTT May 93* 886-890
- high temperature superconducting hybrid-coupled multiplexers and diplexers using asymmetrical superconducting filters. *Mansour, R. R.*, +, *MWSYM 93 Vol. 3* 1281-1284
- high temperature superconductor narrow bandpass X-band microstrip filters for multiplexing applications. *Fathy, A.*, +, *MWSYM 93 Vol. 3* 1277-1280
- Multiplexing; cf.** Diplexers
- Multiport circuits**
- circuit level modeling of quasioptical power combining open cavities. *Heron, Patrick L.*, +, *MWSYM 93 Vol. 1* 433-436
- compact ring-style 8-port comparator circuit using coupled lines. *Riblet, G. P.*, *T-MTT Jun/Jul 93* 1224-1226
- CPW 2 GHz three-port MESFET oscillator for electrooptic modulator. *Radišić, Vesna*, +, *T-MTT Sep 93* 1645-1647
- millimeter-wave three-port finline circulator using distributed coupling effect. *Mazur, Jerzy*, *T-MTT Jun/Jul 93* 1067-1070
- nonreciprocal tunable waveguide directional filter using turnstile open gyromagnetic resonator. *Helszajn, J.*, +, *T-MTT Nov 93* 1950-1958
- realization of resistively matched three-ports and ramp-waveform responses of resistive, signal-split three-port transmission-line networks. *Sakagami, Iwata*, +, *T-MTT Feb 93* 234-243
- rigorous 3-D electromagnetic simulation and efficient approximate model of MMIC overlay capacitors with multiple feedpoints. *Engels, M.*, +, *MWSYM 93 Vol. 2* 757-760
- semi-automatic three-port network analyzer. *Schöön, Martin*, *T-MTT Jun/Jul 93* 974-978
- two-port to three-port noise-wave transformation for CAD applications. *Grosch, Theodore O.*, +, *T-MTT Sep 93* 1543-1548
- Multiport circuits; cf.** Microwave power dividers/combiners; Scattering parameters measurement; Two-port circuits
- Multiprocessing; cf.** Neural networks
- Mutual coupling; cf.** Antenna array mutual coupling
- N**
- N-port circuits; cf.** Multiport circuits
- Negative-resistance devices**
- microwave measurement technique for characterizing *I-V* relationship for negative differential conductance devices. *Huang, P.*, +, *T-MTT Aug 93* 1455-1458
- Negative resistance devices; cf.** Tunnel diode...
- Networks**
- concurrent network diakoptics for electromagnetic field problems. *Merugu, L. N.*, +, *T-MTT Apr 93* 708-716
- knowledge networking; network applications. *Stuntebeck, Peter H.*, *MWSYM 93 Vol. 2* 567-568
- Networks; cf.** Local area networks; Multiport circuits; Neural networks
- Neural networks**
- microstrip circuit design using neural networks. *Horng, Tzyy-Sheng*, +, *MWSYM 93 Vol. 1* 413-416
- Newton's method**
- use of Davidenko's Newton-based method in complex root search. *Hejase, Hassan A. N.*, *T-MTT Jan 93* 141-143
- Noise**
- analytical model of noise in analog frequency divider. *Llopis, O.*, +, *MWSYM 93 Vol. 2* 1033-1036
- balanced receiver external modulation fiber-optic link architecture with reduced noise figure. *Ackerman, E.*, +, *MWSYM 93 Vol. 2* 723-726
- signal-to-noise enhancer using two magnetostatic surface wave filters; application to noise reduction in DBS reception. *Nomoto, Toshihiro*, +, *T-MTT Aug 93* 1316-1322
- two-port to three-port noise-wave transformation for CAD applications. *Grosch, Theodore O.*, +, *T-MTT Sep 93* 1543-1548
- Noise; cf.** Optical fiber receivers; Phase noise; Semiconductor device noise
- Noise measurement**
- evaluation of noise parameter extraction methods. *Escotte, Laurent*, +, *T-MTT Mar 93* 382-387
- method for measuring noise parameters of MESFETs and HEMTs. *Dambrine, Gilles*, +, *T-MTT Mar 93* 375-381
- probe for W-band on-wafer measurements. *Liu, S. M. Joseph*, +, *MWSYM 93 Vol. 3* 1335-1338
- transistor noise parameter extraction using 50 Ω noise figure measurement. *Tasker, P. J.*, +, *MWSYM 93 Vol. 3* 1251-1254
- Nonhomogeneously loaded waveguides**
- complete eigenvalue analysis of inhomogeneously dielectric-loaded two-conductor guiding structures. *Mohamed, Magdy Z.*, +, *T-MTT Mar 93* 536-539
- Nonhomogeneous media**
- efficient computation of periodic Green's function in layered dielectric media. *Shubair, Raed M.*, +, *T-MTT Mar 93* 498-502
- improved floating-random-walk algorithm for solving multidielectric Dirichlet problem. *Jere, Jayant N.*, +, *T-MTT Feb 93* 325-329
- modeling and analysis of vias in multilayered ICs. *Gu, Qizheng*, +, *T-MTT Feb 93* 206-214
- multiple microstrip lines on multilayered cylindrical dielectric substrate on perfectly conducting wedge. *Auda, Hesham A.*, +, *T-MTT Jun/Jul 93* 1037-1043
- spectral-domain analysis of slow-wave transmission lines on multilayered semiconductor structures including conductor loss. *Liou, Jenn-Chorng*, +, *T-MTT May 93* 824-829
- Nonhomogeneous media; cf.** Electromagnetic propagation, nonhomogeneous media; Electromagnetic scattering, nonhomogeneous media
- Nonlinear circuits**
- analysis of nonlinear microwave circuits using compression approach. *Kunisch, J.*, +, *MWSYM 93 Vol. 2* 637-640
- analysis of strongly nonlinear circuits with frequency-domain method coupled with consistent large-signal model. *Närhi, Tapani*, *MWSYM 93 Vol. 2* 633-636
- comments, with reply, on 'Instantaneous model of a MESFET for use in linear and nonlinear circuit simulations' by I. Corbella. *Camacho-Peñalosa, C.*, +, *T-MTT Nov 93* 2040-2041 (Original paper, *Jul 92* 1410-1421)
- design-oriented nonlinear analysis of class-AB power amplifiers. *Giannini, F.*, +, *MWSYM 93 Vol. 1* 297-300
- large signal equivalent circuit model for multielectrode laser and microwave semiconductor lasers for CAD applications. *Elkadi, H.*, +, *MWSYM 93 Vol. 1* 217-220
- large-signal modeling of MOSFETs for L-band applications. *Costa, Julio C.*, +, *MWSYM 93 Vol. 1* 293-296
- large-signal performance of GaInP/GaAs HBTs at X-band. *Liu, William*, +, *MWSYM 93 Vol. 3* 1477-1480
- measurement-based large-signal diode model and associated automated data acquisition system and model generator system for simulation of diodes. *Root, David E.*, +, *MWSYM 93 Vol. 1* 261-264
- measurement-based large-signal diode model and associated automated data acquisition system and model generator system for simulation of diodes. *Root, David E.*, +, *T-MTT Dec 93* 2211-2217
- noninvasive waveform probing for nonlinear network analysis; application to GaAs power FET. *Wei, C. J.*, +, *MWSYM 93 Vol. 3* 1347-1350

- nonlinear termination networks for coupled lossy and dispersive transmission lines. *Pan, George W.*, + , *T-MTT Mar 93* 531-535
YIG-tuned nonlinear transmission line multiplier. *Van Der Weide, D. W.*, *MWSYM 93 Vol. 2* 557-560
- Nonlinear circuits; cf.** Nonlinear oscillators
- Nonlinear distortion**
distortion in OFF-state GaAs MESFET switches. *Caverly, Robert H.*, *T-MTT Aug 93* 1323-1328
- Nonlinear distortion; cf.** Intermodulation distortion
- Nonlinear equations; cf.** Newton's method
- Nonlinear magnetics**
nonlinear response to picosecond pulse excitations in magneto-dielectric media. *How, Hoton*, + , *T-MTT Feb 93* 255-259
- Nonlinear optics; cf.** Optical mixers
- Nonlinear oscillators**
nonlinear analysis of phase relationships in quasi-optical oscillator arrays. *York, R. A.*, *T-MTT Oct 93* 1799-1809
nonlinear synchronized LC oscillators; theory and simulation. *Odyniec, Michal*, *T-MTT May 93* 774-780
- Nonlinear systems**
convolution-based black-box approach for incorporating linear circuit blocks described by frequency-domain data into nonlinear transient time-domain simulator. *Halloran, Patrick*, + , *MWSYM 93 Vol. 3* 1189-1192
- Nonlinear wave propagation; cf.** Electromagnetic propagation, nonlinear media
- Nonreciprocal circuits**
full-wave analysis of transversely magnetized ferrite nonradiative dielectric waveguide. *César, Amílcar Careli*, + , *T-MTT Apr 93* 647-651
scattering parameters measurement of nonreciprocal coupling structure. *Kwan, P.*, + , *T-MTT Apr 93* 652-657
- Nonreciprocal circuits; cf.** Gytrators
- Nonreciprocal wave propagation; cf.** Electromagnetic propagation, nonreciprocal media
- Notch filters**
fully integrated narrowband tunable active MMIC bandpass and notch filters at X-band. *Katzin, P.*, + , *MCS 93* 141-144
MIC active bandstop filter using GaAs MESFETs with adjustable center frequency. *Arnold, R. G.*, + , *MWSYM 93 Vol. 3* 1313-1316
MMIC twin-tee active bandpass filter. *Rosenbaum, F. J.*, + , *MCS 93* 163-166
MMIC twin-tee active bandpass filter. *Rosenbaum, F. J.*, + , *MWSYM 93 Vol. 1* 361-364
narrow-band active X-band MMIC filters with automatic tuning and Q-factor control. *Katzin, P.*, + , *MWSYM 93 Vol. 1* 403-406
- Numerical integration; cf.** Moment methods
- Numerical methods**
calculation of fundamental mode sizes in optical channel waveguides using Gaussian quadrature. *Jaeger, Nicolas A. F.*, + , *T-MTT Nov 93* 1907-1912
combined numerical and analytical methods for rigorous analysis of waveguide circuits with discontinuities. *Wu, Ke-Li*, + , *MWSYM 93 Vol. 2* 975-978
comments, with reply, on 'Deterministic approach to full-wave analysis of discontinuities in MIC's using the method of lines' by Z. Chen and B. Gao. *Jiang, Xiao-hong*, + , *T-MTT Jun/Jul 93* 1239-1240 (Original paper, Mar 89 606-611)
effects of resistively coated upper dielectric layer on propagation characteristics of hybrid modes in waveguide-shielded microstrip; analysis using method of lines. *Chung, Shyh-Jong*, + , *T-MTT Aug 93* 1393-1399
full-wave analysis of discontinuities in conductor-backed CPW using method of lines. *Chung, Shyh-Jong*, + , *T-MTT Sep 93* 1601-1605
full-wave analysis of radiating planar resonators with method of lines. *Dreher, Achim*, + , *T-MTT Aug 93* 1363-1368
impedances and charge distributions in slab lines and rectangularly shielded lines obtained by inverse Schwarz-Christoffel conformal transformation. *Costamagna, E.*, + , *T-MTT Jan 93* 156-159
method of lines for analysis of rectangular spiral inductors. *Schmückle, F. J.*, *T-MTT Jun/Jul 93* 1183-1186
numerical analysis and computer simulation of magnetostatic wave propagation in YIG-loaded waveguide. *Radmanesh, Matthew M.*, + , *T-MTT Jan 93* 89-96
stability analysis and numerical simulation of multidevice amplifiers. *Ohtomo, Motoharu*, *T-MTT Jun/Jul 93* 983-991
triangular-domain basis functions for full-wave analysis of microstrip discontinuities. *Kipp, Robert*, + , *T-MTT Jun/Jul 93* 1187-1194
- Numerical methods; cf.** Approximation methods;
Eigenvalues/eigenfunctions; Finite-difference methods;
Finite-element methods; Maxwell's equations; Moment methods;
Monte Carlo methods; Newton's method; Optimization methods;
Transmission-line-matrix methods
- O**
- Object-oriented programming**
object-oriented design of microwave circuit simulators. *Carvalho, P.*, + , *MWSYM 93 Vol. 3* 1491-1494
- Office automation; cf.** Local area networks
- One-port circuits**
calibration techniques for characterization of general one- and two-port networks using time-domain network analysis. *Hayden, Leonard A.*, + , *T-MTT Mar 93* 415-420
- Optical...; cf.** Optical fiber...
- Optical communication**
MSM/MODFET monolithic receiver for detecting 44-GHz modulation signals transmitter by optical carrier. *Litvin, K.*, + , *MWSYM 93 Vol. 2* 1063-1066
- Optical couplers; cf.** Optical directional couplers
- Optical detectors; cf.** Photodetectors
- Optical directional couplers**
coupling phenomena in conductor-backed slotline structures. *Liu, Yaoshong*, + , *MWSYM 93 Vol. 3* 1203-1206
- Optical fiber amplifiers**
microwave signal distribution using optical amplifier. *Mongardien, D.*, + , *MWSYM 93 Vol. 2* 731-734
- Optical fiber communication**
clock-recovery GaAs ICs for high-speed optical communication systems. *Imai, Yuhki*, + , *T-MTT May 93* 745-751
comparison of CPU level data mixing to T/R level data mixing architectures in optically controlled phased arrays. *Saedi, R.*, + , *MWSYM 93 Vol. 2* 501-504
high-performance fiber-optic links for microwave applications. *Cox, C. H., III*, *MWSYM 93 Vol. 2* 719-722
maximum dynamic range operation of microwave external modulation fiber-optic link. *Ackerman, Edward*, + , *T-MTT Aug 93* 1299-1306
microwave LANs using passive terminal stations acting as transponders and distributed antennas with no microwave power generation. *Meyer, S.*, + , *MWSYM 93 Vol. 3* 1549-1552
push-pull self-oscillating mixer for optically fed phased arrays. *Zhou, Xuesong*, + , *MWSYM 93 Vol. 1* 321-324
rugged optoelectronic microwave transmitter and receiver submodules for microwave applications. *Combemale, Yves*, + , *MWSYM 93 Vol. 2* 735-738
X-band phased array microwave/photonic beamforming network. *Banerjee, S. K.*, + , *MWSYM 93 Vol. 2* 505-508
- Optical fiber communication; cf.** Optical fiber...
- Optical fiber delay lines**
fiber-optic dual delay line for multimode radar test target simulator. *Paoletta, Arthur*, + , *MWSYM 93 Vol. 2* 1059-1062
- Optical fiber receivers**
balanced receiver external modulation fiber-optic link architecture with reduced noise figure. *Ackerman, E.*, + , *MWSYM 93 Vol. 2* 723-726
broadband impedance matching of high-speed photodiodes over 2-4 GHz range. *Goldsmith, Charles L.*, + , *MWSYM 93 Vol. 1* 233-236
comparison of noise performance between PIN diode and MMIC HEMT and HBT optical receivers. *Ogawa, Hiroyo*, + , *MWSYM 93 Vol. 1* 225-228
low noise wideband fiberoptic MMIC-based receiver. *Khairandish, R.*, + , *MCS 93* 71-73
monolithic image rejection optoelectronic up-converters that employ MMIC process. *Kamitsuna, Hideki*, + , *MCS 93* 75-78
monolithic image rejection optoelectronic up-converters that employ MMIC process. *Kamitsuna, Hideki*, + , *T-MTT Dec 93* 2323-2329
reactively matched optoelectronic transceivers on InP substrate for 6-GHz operation. *Maricot, S.*, + , *MWSYM 93 Vol. 2* 1067-1070
- Optical fiber transmitters, lasers**
feedforward linearization of directly modulated laser diodes for AM CATV lightwave transmission systems. *Hassin, D.*, + , *MWSYM 93 Vol. 2* 727-730
feedforward linearization of directly modulated laser diodes for AM CATV lightwave transmission systems. *Hassin, D.*, + , *T-MTT Dec 93* 2376-2382
large signal equivalent circuit model for multielectrode laser and microwave semiconductor lasers for CAD applications. *Elkadi, H.*, + , *MWSYM 93 Vol. 1* 217-220

- reactively matched optoelectronic transceivers on InP substrate for 6-GHz operation. *Maricot, S.*, + , *MWSYM 93 Vol. 2* 1067-1070
- Optical frequency conversion**; cf. Optical mixers
- Optical interfaces**; cf. MESFETs
- Optical measurements**
ultrawideband characterization of lossy materials; short-pulse microwave measurements. *Kralj, David*, + , *MWSYM 93 Vol. 3* 1239-1242
- Optical measurements**; cf. Electrooptic measurements; Laser applications, measurement
- Optical mixers**
lightwave-microwave signal conversion method. *Berceli, Tibor*, + , *MWSYM 93 Vol. 3* 1407-1410
monolithic image rejection optoelectronic up-converters that employ MMIC process. *Kamitsuna, Hideki*, + , *MCS 93* 75-78
monolithic image rejection optoelectronic up-converters that employ MMIC process. *Kamitsuna, Hideki*, + , *T-MTT Dec 93* 2323-2329
- Optical modulation/demodulation**
analysis of LiNbO₃ optical modulator using coplanar-type electrodes. *Kitazawa, Toshihide*, + , *MWSYM 93 Vol. 1* 213-216
comparison of CPU level data mixing to T/R level data mixing architectures in optically controlled phased arrays. *Saedi, R.*, + , *MWSYM 93 Vol. 2* 501-504
feedforward linearization of directly modulated laser diodes for AM CATV lightwave transmission systems. *Hassin, D.*, + , *MWSYM 93 Vol. 2* 727-730
feedforward linearization of directly modulated laser diodes for AM CATV lightwave transmission systems. *Hassin, D.*, + , *T-MTT Dec 93* 2376-2382
X-band phased array microwave/photonics beamforming network. *Banerjee, S. K.*, + , *MWSYM 93 Vol. 2* 505-508
- Optical modulation/demodulation**; cf. Electrooptic modulation; Optical mixers
- Optical planar waveguides**
generation and observation of surface waves on dielectric slabs and coplanar structures. *Godshalk, Edward M.*, *MWSYM 93 Vol. 2* 923-926
hybrid dielectric slab-beam waveguide for submillimeter wave region. *Mink, J. W.*, + , *T-MTT Oct 93* 1720-1729
rigorously modeling short bent, graded-index dielectric slab. *Bastiaansen, Harrie J. M.*, + , *T-MTT Nov 93* 1972-1980
- Optical polarization**
asymptotic analysis of mode transition in general class of circular hollow waveguides at infrared frequency. *Kato, Yuji*, + , *T-MTT Apr 93* 733-736
- Optical propagation**; cf. Optical waveguides
- Optical propagation, nonlinear media**; cf. Optical mixers
- Optical radiation effects**; cf. MESFETs; MODFETs; Semiconductor plasma devices
- Optical receivers**
11-GHz bandwidth GaAs MESFET/MSM OEIC receivers. *Wang, J. S.*, + , *MWSYM 93 Vol. 2* 1047-1050
MSM/MODFET monolithic receiver for detecting 44-GHz modulation signals transmitter by optical carrier. *Litvin, K.*, + , *MWSYM 93 Vol. 2* 1063-1066
- Optical receivers**; cf. Optical fiber receivers
- Optical refraction**
ultrawideband characterization of lossy materials; short-pulse microwave measurements. *Kralj, David*, + , *MWSYM 93 Vol. 3* 1239-1242
- Optical resonators**; cf. Fabry-Perot resonators
- Optical strip waveguides**
calculation of fundamental mode sizes in optical channel waveguides using Gaussian quadrature. *Jaeger, Nicolas A. F.*, + , *T-MTT Nov 93* 1907-1912
coupled-mode analysis of leaky waves in anisotropic circular channel waveguides. *Geshiro, Masahiro*, + , *T-MTT Jun/Jul 93* 1159-1163
- Optical waveguides**
asymptotic analysis of mode transition in general class of circular hollow waveguides at infrared frequency. *Kato, Yuji*, + , *T-MTT Apr 93* 733-736
- Optics**
long-wave optics. *Martin, Derek H.*, + , *T-MTT Oct 93* 1676-1690
- Optics**; cf. Ultrafast optics
- Optimization methods**
design of lightweight, broad-band microwave absorbers using genetic algorithms. *Michielssen, Eric*, + , *T-MTT Jun/Jul 93* 1024-1031
nonlinear termination networks for coupled lossy and dispersive transmission lines. *Pan, George W.*, + , *T-MTT Mar 93* 531-535
optimum source conductance for high frequency SIS quasiparticle receivers. *Ke, Qing*, + , *T-MTT Apr 93* 600-604
shape function optimization in finite-element analysis of waveguides. *Hernández-Figueroa, H. E.*, + , *T-MTT Jun/Jul 93* 1235-1238
systematic optimization strategy for microwave device modelling. *Patterson, Andrew D.*, + , *T-MTT Mar 93* 395-405
- Optimization methods**; cf. Approximation methods; Circuit optimization; Gradient methods; Least-squares methods; Search methods; Simulated annealing
- Optoelectronic devices**
LiNbO₃ microwave-optoelectronic mixer with linear performance. *Gopalakrishnan, G. K.*, + , *MWSYM 93 Vol. 2* 1055-1058
LiNbO₃ microwave-optoelectronic mixer with linear performance. *Gopalakrishnan, G. K.*, + , *T-MTT Dec 93* 2383-2391
- Optoelectronic devices**; cf. Integrated optoelectronics
- Orthogonal functions**
useful Bessel function identities and integrals. *Manring, E. B.*, + , *T-MTT Aug 93* 1468-1471
- Oscillator noise**
general-purpose harmonic-balance approach to computation of near-carrier noise in free-running microwave oscillators. *Rizzoli, Vittorio*, + , *MWSYM 93 Vol. 1* 309-312
technique for numerically simulating noise in GaAs MESFET oscillators. *Bilbro, G. L.*, + , *MWSYM 93 Vol. 1* 305-308
- Oscillator noise**; cf. Phase noise
- Oscillators**; cf. Dielectric-resonator oscillators; Gunn device oscillators; Microwave oscillators; Millimeter-wave oscillators; Nonlinear oscillators; Submillimeter-wave oscillators; TV transmitters; Voltage-controlled oscillators
- Oscillator stability**
monolithic dielectrically stabilized VCO for millimeter-wave range. *Güttich, U.*, + , *MWSYM 93 Vol. 2* 667-670
- Ozone**
110-GHz ozone radiometer with cryogenically cooled planar Schottky mixer. *Koistinen, O.*, + , *MWSYM 93 Vol. 2* 775-778
110-GHz ozone radiometer with cryogenically cooled planar Schottky mixer. *Koistinen, Olli P.*, + , *T-MTT Dec 93* 775-778

P

Packaging

- investigations on reduction of package densities in coplanar circuits. *Becks, Thomas*, + , *MWSYM 93 Vol. 2* 869-872
packaging and interconnection mutual coupling effects in planar structures and discontinuities. *Amrani, C.*, + , *MWSYM 93 Vol. 2* 843-846

Packaging; cf. Integrated circuit packaging

Parallel-plate waveguides

- multimode equivalent network representation of capacitive discontinuities in parallel-plate waveguide; use in analysis of planar transmission lines. *Guglielmi, Marco*, + , *T-MTT Jun/Jul 93* 1195-1206
nonreciprocal and reciprocal complex and backward waves in parallel plate waveguides loaded with ferrite slab arbitrarily magnetized. *Marqués, Ricardo*, + , *T-MTT Aug 93* 1409-1418
reflection and transmission of guided electromagnetic waves at air-chiral interface and at chiral slab in parallel-plate waveguide. *Mariotte, Frédéric*, + , *T-MTT Nov 93* 1895-1906
scattering and reception by flanged parallel-plate waveguide; TE-mode analysis. *Park, Tah J.*, + , *T-MTT Aug 93* 1458-1460

Parameter estimation

- direct nonlinear power MESFET parameter extraction and consistent modeling. *Werthof, A.*, + , *MWSYM 93 Vol. 2* 645-648
efficient FET model parameter extraction using multi-plane data-fitting and bidirectional search technique. *Lin, Fujiang*, + , *MWSYM 93 Vol. 2* 1021-1024
evaluation of noise parameter extraction methods. *Escotte, Laurent*, + , *T-MTT Mar 93* 382-387
parameter extraction of microwave transistors using hybrid gradient descent and tree annealing approach. *Skaggs, Steven G.*, + , *T-MTT Apr 93* 726-729
systematic optimization strategy for microwave device modelling. *Patterson, Andrew D.*, + , *T-MTT Mar 93* 395-405
transistor noise parameter extraction using 50 Ω noise figure measurement. *Tasker, P. J.*, + , *MWSYM 93 Vol. 3* 1251-1254

Parametric amplifiers

- parametric interactions in high- T_c superconducting step edge junctions at X band; 60-GHz microstrip based parametric amplifier using antipodal finline transitions. *Kain, Aron Z.*, + , *MWSYM 93 Vol. 3* 1425-1428

Parametric devices

- technique for design of filter-based parametric frequency dividers combining basic divider analysis with nonlinear simulation. *Sloan, George R.*, *T-MTT Feb 93* 224-228

Partial differential equations; cf. Laplace equations; Maxwell's equations

- Passivity**
passive GaAs MESFET MMIC linearizers for use with space-born TWTAs at C, X, and Ku band. *Katz, Allen*, + , *MWSYM 93 Vol. 1* 353-356

Patch antennas; cf. Microstrip antennas; Stripline antennas

Periodic structures

CAD technique for wideband couplers and high-quality filters using periodic topology. *Wu, Ke, +, MWSYM 93 Vol. 2 1085-1088*

X-band eight MESFET 2-D periodic spatial power combiner. *Balasubramanian, Arul, +, MWSYM 93 Vol. 2 611-614*

Periodic structures; cf. Arrays; Electromagnetic scattering, periodic structures; Log-periodic antennas

Permeability measurement

effects of waveguide wall grooves used to hold samples for measurement of permittivity and permeability. *Luebbers, Raymond, T-MTT Nov 93 1959-1964*

Permittivity; cf. Dielectric...

Permittivity measurement

broad-band time-domain technique for measurement of frequency dependent complex permittivity in lossy transmission line. *Lape, Kristine M., +, MWSYM 93 Vol. 3 1235-1238*

complex permittivity of aluminum nitride substrates. *Wright, P., +, MWSYM 93 Vol. 1 269-272*

effects of waveguide wall grooves used to hold samples for measurement of permittivity and permeability. *Luebbers, Raymond, T-MTT Nov 93 1959-1964*

measurement of complex permittivity of low-loss planar microwave substrates using aperture-coupled microstrip resonators. *Saed, Mohammad A., T-MTT Aug 93 1343-1348*

measuring temperature sensitivity of coaxial-probe complex permittivity measurements from 100 MHz to 26.5 GHz. *Colpitts, Bruce G., T-MTT Feb 93 229-233*

millimeter-wave confocal resonators for vertical structure profiling in semiconducting and superconducting materials. *Martens, J. S., +, MWSYM 93 Vol. 3 1243-1246*

turnstile reflecto-polarimeter using principal incidence method; application to determination of permittivities up to 1200°C. *Bretenoux, Alain, +, T-MTT Nov 93 1945-1949*

Personal communication services; cf. Land mobile radio cellular systems; Portable radio

Perturbation methods

analysis of thin slot discontinuity in reference plane of microstrip structure by perturbational approach based on spectral domain technique. *Kouki, Ammar B., +, T-MTT Aug 93 1356-1362*

comments, with reply, on 'An analytical two-dimensional perturbation method to model submicron GaAs MESFET's' by E. Donkor and F. C. Jain. *Kukreja, Nirupama, +, T-MTT Mar 93 543-545 (Original paper, Sep 89 1484-1487)*

single-frequency relative Q measurements using perturbation theory. *Tian, Baiqiang, +, T-MTT Nov 93 1922-1927*

Phased-array radar

L-band high power transmit/receive module for electronically scanned cylindrical array radar. *Issogna, P., +, MWSYM 93 Vol. 2 497-500*

solid state 6×6 transfer switch for cylindrical array radar. *Knox, M. E., +, MWSYM 93 Vol. 3 1225-1228*

X-band phased array microwave/photonic beamforming network. *Banerjee, S. K., +, MWSYM 93 Vol. 2 505-508*

Phased arrays

acousto-optic control of MMIC T/R modules for phased array beamsteering. *Jemison, William D., +, MWSYM 93 Vol. 2 1051-1054*

comparison of CPU level data mixing to T/R level data mixing architectures in optically controlled phased arrays. *Saedi, R., +, MWSYM 93 Vol. 2 501-504*

introduction to MPM (microwave power module) which incorporating solid-state and vacuum-electronics technology. *Abrams, R. H., Jr., +, MWSYM 93 Vol. 1 107-110*

optically controlled oscillators for millimeter-wave phased-array antennas. *Sturzebecher, Dana J., +, T-MTT Jun/Jul 93 998-1004*

phase-shifterless beam-scanning technique using arrays of coupled oscillators. *Liao, P., +, T-MTT Oct 93 1810-1815*

push-pull self-oscillating mixer for optically fed phased arrays. *Zhou, Xuesong, +, MWSYM 93 Vol. 1 321-324*

Phase distortion

X-band low phase distortion MMIC MESFET power limiter. *Parra, T., +, T-MTT May 93 876-879*

Phase-locked loops

optically controlled oscillators for millimeter-wave phased-array antennas. *Sturzebecher, Dana J., +, T-MTT Jun/Jul 93 998-1004*

Phase-locked oscillators

large signal design of broadband monolithic microwave frequency dividers and phase-locked oscillators. *Quéré, Raymond, +, T-MTT Nov 93 1928-1938*

Phase-locked oscillators; cf. Injection-locked oscillators

Phase noise

general method based on harmonic balance techniques to simulate noise in free running oscillators. *Anzill, Werner, +, MWSYM 93 Vol. 2 655-658*

general method based on harmonic balance techniques to simulate noise in free running oscillators. *Anzill, Werner, +, T-MTT Dec 93 2256-2263*

phase noise in cryogenic microwave HEMT and MESFET oscillators. *Llopis, Olivier, +, T-MTT Mar 93 369-374*

reduced phase noise of varactor tunable oscillator; numerical calculations and experimental results. *Güntherich, V., +, MWSYM 93 Vol. 2 561-564*

Phase shifters; cf. Ferrite phase shifters; Microstrip phase shifters; Microwave phase shifters; Phased arrays

Photoconducting materials/devices

monolithic, photoconductive ultra-wideband RF radiating device. *Kim, A., +, MWSYM 93 Vol. 3 1221-1224*

time-domain network analysis of millimeter-wave circuits based on photoconductive-probe sampling technique. *Kim, J., +, MWSYM 93 Vol. 3 1359-1362*

Photoconducting materials/devices; cf. Light-triggered switches

Photodetectors

compressive nature of optical detection in GaAs MESFETs; possible application as RF logarithmic amplifier. *Madjar, Asher, +, T-MTT Jan 93 165-167*

Photodetectors; cf. Optical fiber receivers; Photodiodes

Photodiodes

MSM/MODFET monolithic receiver for detecting 44-GHz modulation signals transmitter by optical carrier. *Litvin, K., +, MWSYM 93 Vol. 2 1063-1066*

Photodiodes; cf. Optical fiber receivers

Photonic integrated circuits; cf. Integrated optoelectronics

Phototransistors; cf. Optical fiber receivers

Piezoelectric resonators; cf. Acoustic surface wave resonators

p-i-n diodes

AlGaAs/GaAs HBT 1-10 GHz pin diode attenuator and X-band pin diode switch. *Kobayashi, K. W., +, MCS 93 151-154*

GaAs HBT PIN diode attenuators and switches. *Kobayashi, K. W., +, MWSYM 93 Vol. 1 349-352*

GaAs HBT PIN diode variable-gain amplifiers, attenuators and switches. *Kobayashi, Kevin W., +, T-MTT Dec 93 2295-2302*

quasi-optical millimeter-wave hybrid and monolithic PIN diode switches. *Stephan, Karl D., +, T-MTT Oct 93 1791-1798*

solid state 6×6 transfer switch for cylindrical array radar. *Knox, M. E., +, MWSYM 93 Vol. 3 1225-1228*

temperature dependence of PIN diode attenuators. *Caverly, Robert H., +, MWSYM 93 Vol. 2 553-556*

p-i-n photodiodes; cf. Optical fiber receivers

Planar arrays

dielectric-waveguide measurement method for determining driving-point impedance of 2-D active grid arrays, based on microwave array models. *Pance, Aleksandar, +, T-MTT Jan 93 20-28*

quasi-optical planar arrays with FETs and slots. *Kawasaki, Shigeo, +, T-MTT Oct 93 1838-1844*

Planar transmission lines

CAD technique for wideband couplers and high-quality filters using periodic topology. *Wu, Ke, +, MWSYM 93 Vol. 2 1085-1088*

criterion for choice of trial functions in Galerkin's method that suppresses spurious solutions in transverse resonance method. *Aubert, Hervé, +, T-MTT Mar 93 450-456*

full-wave analysis of 3-D planar and waveguide structures. *Lerer, Alexander M., +, T-MTT Nov 93 2002-2015*

full-wave analysis of discontinuities in uniplanar and multiplanar transmission lines using frequency-domain TLM method. *Jin, Hang, +, MWSYM 93 Vol. 2 713-716*

full-wave description of propagation and losses in quasiplanar transmission lines by quasi-analytical solution. *Tao, Jun-Wu, +, MWSYM 93 Vol. 2 935-938*

full-wave mixed transmission line interconnects using the frequency-domain TLM method. *Jin, Hang, +, T-MTT Dec 93 2248-2255*

Green's function for quasistatic analysis of shielded planar transmission lines by boundary-element method. *Chang, The-Nan, +, MWSYM 93 Vol. 2 921-922*

hybrid-mode analysis of planar transmission lines with arbitrary metallization cross sections. *Ma, Zhewang, +, T-MTT Mar 93 491-497*

improved 2D-FDTD algorithm for hybrid mode analysis of quasi-planar transmission lines. *Xiao, S., +, MWSYM 93 Vol. 1 421-424*

locally conformed FDTD algorithm of modeling arbitrary shape planar metal strips. *Fang, Jiayuan, +, T-MTT May 93 830-838*

- multimode equivalent network representation of capacitive discontinuities in parallel-plate waveguide; use in analysis of planar transmission lines. *Guglielmi, Marco*, +, *T-MTT Jun/Jul 93* 1195-1206
- simplified 2-D graded mesh FDTD algorithm for calculating characteristic impedance of shielded or open planar waveguides with finite metallization thickness. *Krupezevic, D. V.*, +, *MWSYM 93 Vol. 2* 997-1000
- spectral-domain analysis of slow-wave transmission lines on multilayered semiconductor structures including conductor loss. *Liou, Jenn-Chorng*, +, *T-MTT May 93* 824-829
- spectral domain technique formulation for analysis of general case of uniaxial/biaxial electric magnetic anisotropic multilayer planar structures; application to shielded CPW structures. *Mazé-Merceur, Geneviève*, +, *T-MTT Mar 93* 457-461
- star mixer using planar balun structure. *Basu, S.*, +, *T-MTT Nov 93* 2028-2030
- study of gridding and cell-cell interactions in method of moments analysis of arbitrarily shaped planar circuits. *Sercu, Jeannick*, +, *MWSYM 93 Vol. 2* 753-756
- Planar transmission lines; cf.** Coplanar transmission lines; Microstrip...; Slotline...; Stripline...
- Planar waveguides**
- corrections to 'A linear-operator formalism for the analysis of inhomogeneous biisotropic planar waveguides' (Apr 92 672-678). *Paiva, Carlos R.*, +, *T-MTT Jun/Jul 93* 1240
- Planar waveguides; cf.** Coplanar waveguides
- Plasma devices; cf.** Semiconductor plasma devices
- Plastic packaging; cf.** Integrated circuit packaging
- PLL; cf.** Phase-locked loops
- Poland**
- overview of microwave ferrite-related activity in France, Germany, Spain, Poland and UK. *Davis, Lionel E.*, *MWSYM 93 Vol. 1* 199-202
- Polarimetry**
- turnstile reflecto-polarimeter using principal incidence method; application to determination of permittivities up to 1200°C. *Bretenoux, Alain*, +, *T-MTT Nov 93* 1945-1949
- Polarization**
- calibration and applications of polarization-correlating radiometers. *Gasiewski, A. J.*, +, *T-MTT May 93* 767-773
- circular polarization of magnetic field in whispering-gallery resonant modes of dielectric disk at microwave frequencies. *Longo, Iginio*, +, *T-MTT Jan 93* 117-122
- field theory design of corrugated septum orthomode transducers. *Ihmels, R.*, +, *MWSYM 93 Vol. 2* 909-912
- method for measuring properties of nonhomogeneous materials using two-polarization forward-scattering measurement. *Toropainen, Anssi P.*, *MWSYM 93 Vol. 1* 257-260
- method for measuring properties of nonhomogeneous materials using two-polarization forward-scattering measurement. *Toropainen, Anssi P.*, *T-MTT Dec 93* 2081-2086
- planar 94-GHz transceiver with switchable polarization. *Niehenke, Edward C.*, +, *MWSYM 93 Vol. 1* 167-170
- reflection and transmission of guided electromagnetic waves at air-chiral interface and at chiral slab in parallel-plate waveguide. *Mariotte, Frédéric*, +, *T-MTT Nov 93* 1895-1906
- Polarization; cf.** Optical polarization
- Poles and zeros**
- use of Davidenko's Newton-based method in complex root search. *Hejase, Hassan A. N.*, *T-MTT Jan 93* 141-143
- Polynomials**
- CAD of microwave junctions by polynomial curve fitting. *Liang, Ji-Fuh*, +, *MWSYM 93 Vol. 1* 451-454
- Portable radio**
- 3-V GaAs power amplifiers for personal communications at 1.9 GHz. *Ngo, D.*, +, *MWSYM 93 Vol. 3* 1461-1464
- GaAs/GaAlAs power HBTs for mobile communications at 1.8 GHz. *Wang, H.*, +, *MWSYM 93 Vol. 2* 549-552
- GaAs JFET front-end mixer and amplifier MMICs for L-band personal communications. *Ohgihara, Takahiro*, +, *MCS 93* 9-12
- IRIDIUM global digital satellite-based personal communications system. *Leopold, Raymond J.*, +, *MWSYM 93 Vol. 2* 575-578
- low power GaAs MESFET monolithic downconverter for digital handheld telephone applications. *Birkeland, Joel*, *MWSYM 93 Vol. 2* 1105-1108
- measurements of PCS microwave propagation in buildings. *Tang, Yuqiang*, +, *MWSYM 93 Vol. 2* 849-851
- present and future of mobile communications in Japan (graphics accompanying presentation). *Morishima, Mitsunori*, *MCS 93* 3-6
- Power amplifiers; cf.** Microwave amplifiers, power; Traveling-wave amplifiers
- Power bipolar transistor amplifiers; cf.** Microwave bipolar transistor amplifiers, power; UHF bipolar transistor amplifiers, power
- Power bipolar transistors**
- enhanced active load-pull system for highly mismatched power transistor measurements. *Coupat, J. M.*, +, *MWSYM 93 Vol. 1* 245-248
- Power bipolar transistors; cf.** Microwave bipolar transistors, power; UHF bipolar transistors, power
- Power conversion, AC-DC; cf.** Rectifiers
- Power conversion, DC-DC**
- shunt-mounted harmonically-tuned power rectifier for distributed power converters. *Garrison, D. P.*, +, *MWSYM 93 Vol. 3* 1229-1232
- Power dividers/combiners; cf.** Microwave power dividers/combiners; Millimeter-wave power dividers/combiners; Submillimeter-wave power dividers/combiners
- Power FET amplifiers; cf.** MESFET amplifiers, power; Microwave FET amplifiers, power; MODFET amplifiers, power; UHF FET amplifiers, power
- Power FETs**
- noninvasive waveform probing for nonlinear network analysis; application to GaAs power FET. *Wei, C. J.*, +, *MWSYM 93 Vol. 3* 1347-1350
- Power FETs; cf.** MESFETs, power; Millimeter-wave FETs, power; MODFETs, power; UHF FETs, power
- Power generation; cf.** Pulse power systems
- Power transistors**
- enhanced active load-pull system for highly mismatched power transistor measurements. *Coupat, J. M.*, +, *MWSYM 93 Vol. 1* 245-248
- Printed circuits**
- method for electromagnetic coupling air-dielectric stripline interdigital or comb line bandpass filter to planar microwave circuit. *Johnson, Gerald E.*, +, *MWSYM 93 Vol. 3* 1309-1311
- packaged printed transmission lines; modal phenomena and relation to leakage. *Carin, L.*, +, *MWSYM 93 Vol. 3* 1195-1198
- Printed circuits; cf.** Surface mounting
- Propagation; cf.** Electromagnetic propagation...; Waveguide...
- Pulse-compression methods; cf.** Chirp modulation
- Pulse generation**
- cavity dumping power from millimeter-wave open cavity using laser-illuminated silicon quasi-optical switch; generation of short high-power pulses. *Smith, G. M.*, +, *MWSYM 93 Vol. 1* 155-158
- picosecond MODFET IC pulse sharpener. *Shakouri, Mohammad S.*, +, *MCS 93* 79-81
- Pulse generation; cf.** Impulse generation
- Pulse measurements**
- nonlinear response to picosecond pulse excitations in magneto-dielectric media. *How, Hoton*, +, *T-MTT Feb 93* 255-259
- Pulse power systems**
- cavity dumping power from millimeter-wave open cavity using laser-illuminated silicon quasi-optical switch; generation of short high-power pulses. *Smith, G. M.*, +, *MWSYM 93 Vol. 1* 155-158
- Pulse propagation; cf.** Electromagnetic transient propagation
- Pulse shaping**
- picosecond MODFET IC pulse sharpener. *Shakouri, Mohammad S.*, +, *MCS 93* 79-81

Q

Q measurement

accurate conductor *Q*-factor of dielectric resonator placed in MIC environment. *Mongia, R. K.*, +, *T-MTT Mar 93* 445-449

single-frequency relative *Q* measurements using perturbation theory. *Tian, Baiqiang*, +, *T-MTT Nov 93* 1922-1927

Quantum-effect semiconductor devices; cf. Quantum-well devices

Quantum-well devices

GaAs/AlGaAs MQW structures applied to high-frequency IMPATT devices. *Meng, C. C.*, +, *MWSYM 93 Vol. 2* 539-542

multicoupled quantum well intensity optical modulator for InP-based MMIC/photonic ICs. *Silva, M. T. Camargo*, +, *MWSYM 93 Vol. 1* 229-232

oscillator scheme that substantially increases millimeter-wave power generation capabilities of quantum-well resonant tunneling diode by device-level series integration. *Yang, Cheng Chih*, +, *MWSYM 93 Vol. 1* 329-332

Quasi-optical arrays; cf. Planar arrays
Quasi-optical grid amplifiers; cf. Microwave bipolar transistor amplifiers, power
Quasi-optical oscillators; cf. Voltage-controlled oscillators
Quasi-optical power combiners; cf. Microwave power dividers/combiners
Quasi-optical receivers; cf. Millimeter-wave radio receivers; Millimeter-wave receivers; Submillimeter-wave radio receivers
Quasi-optical resonators; cf. Millimeter-wave resonators
Quasi-optical switches; cf. Millimeter-wave switches
Quasi-optical systems; cf. Millimeter-wave waveguides; Submillimeter-wave waveguides

R

R circuits; cf. Resistive circuits
RC circuits; cf. Active circuits
RC filters; cf. Active filters
Radar; cf. Aircraft landing guidance; Aircraft radar, onboard; CW radar; Doppler radar; FM radar; Millimeter-wave radar; Phased-array radar; Road vehicle radar
Radar antennas
 affordable low-profile multifunction structure for optoelectronic active array. *Newberg, Irwin L., + , MWSYM 93 Vol. 2 509-512*
Radar countermeasures; cf. Loaded scatterers
Radar imaging/mapping
 experimental autonomous aircraft landing system utilizing 94-GHz FM-CW imaging radar. *Bui, L. Q., + , MWSYM 93 Vol. 2 857-860*
Radar receivers
 VCO-based chirp generation for broad bandwidth compressive receiver applications. *Levy, J. S., + , MWSYM 93 Vol. 2 1113-1115*
 W-band single-chip MMIC transceiver for FM/CW radar. *Chang, K. W., + , MCS 93 41-44*
Radar testing
 fiber-optic dual delay line for multimode radar test target simulator. *Paolella, Arthur, + , MWSYM 93 Vol. 2 1059-1062*
Radar transmitters
 12-kW S-band solid-state transmitter for radar systems. *Hanczor, Michael, + , MWSYM 93 Vol. 3 1213-1216*
 12-kW S-band solid-state transmitter for radar systems. *Hanczor, Michael, + , T-MTT Dec 93 2237-2242*
 low cost 77-GHz monolithic transmitter for automotive collision avoidance systems. *Raffaelli, Lamberto, + , MCS 93 63-66*
 W-band single-chip MMIC transceiver for FM/CW radar. *Chang, K. W., + , MCS 93 41-44*
Radar velocity measurement; cf. Doppler radar; Road vehicle radar
Radiation detectors; cf. Bolometers; Millimeter-wave detectors; Photodetectors
Radio communication; cf. Microwave radio communication; Millimeter-wave radio communication; Portable radio; Space vehicle communication
Radio communication, indoor
 indoor and outdoor propagation measurements at 5 and 60 GHz for radio LAN application. *Plattner, A., + , MWSYM 93 Vol. 2 853-856*
 research activities on millimeter-wave indoor communication systems in Japan. *Takimoto, Yukio, + , MWSYM 93 Vol. 2 673-676*
Radiometry; cf. Millimeter-wave radiometry
Radio propagation; cf. Land mobile radio propagation factors; Microwave radio propagation; Millimeter-wave radio propagation
Radio propagation terrain factors; cf. Radio communication, indoor
Radio receivers; cf. Land mobile radio transmitters/receivers; Microwave receivers; Millimeter-wave radio receivers; Millimeter-wave receivers; Submillimeter-wave radio receivers
Radio repeaters; cf. Satellite communication, onboard systems
Radio tomography; cf. Tomography, electromagnetic
Radio transmitters; cf. Land mobile radio transmitters/receivers
Rail-transportation electronics
 2.45 GHz wireless IC card system for automatic gates. *Konno, Ken-ichi, + , MWSYM 93 Vol. 2 797-800*
Ranging; cf. Radar...
Rational functions
 GaAs MESFET characterization using least-squares approximation by rational functions. *Nagatomo, Kazuo, + , T-MTT Feb 93 199-205*
Rational matrices; cf. Scattering matrices
RD&E
 ISTOK Russian microwave R&D facility. *Korolyov, A. N., MWSYM 93 Vol. 2 1127*

Reactance circuits; cf. Lossless circuits
Reactors; cf. Inductors
Receivers; cf. Microwave receivers; Millimeter-wave receivers; Optical receivers; TR devices; UHF receivers
Rectifiers
 shunt-mounted harmonically-tuned power rectifier for distributed power converters. *Garrison, D. P., + , MWSYM 93 Vol. 3 1229-1232*
Recursive analog filters
 design of tunable recursive active filters using power dividers. *Billonnet, L., + , MWSYM 93 Vol. 1 185-188*
Reflection; cf. Electromagnetic reflection
Reflection coefficient measurement; cf. Scattering parameters measurement
Relaxation methods; cf. Simulated annealing
Research, development, and engineering; cf. RD&E
Resistance
 introduction of surface resistance in 3-D finite-difference method in frequency domain. *Hollmann, Detlev, + , T-MTT May 93 893-895*
 resistance of strip conductors embedded in 2-D field distribution. *Heinrich, Wolfgang, MWSYM 93 Vol. 1 417-420*
Resistive circuits
 F-band (90–140 GHz) resistive mixer based on HFET technology. *Angelov, Ilcho, + , MWSYM 93 Vol. 2 787-790*
 W-band subharmonically pumped resistive mixer based on pseudomorphic heterostructure FET technology. *Zirath, Herbert, + , MWSYM 93 Vol. 1 341-344*
Resonance
 integral-equation formulation for analysis of complex resonant frequency of rectangular microstrip patch on uniaxial substrate. *Wong, Kin-Lu, + , T-MTT Apr 93 698-701*
 resonance in superstrate-loaded cylindrical-rectangular microstrip structure. *Wong, Kin-Lu, + , T-MTT May 93 814-819*
 resonances of tuning stubs integrated with SIS mixers in log-periodic antenna. *Dierichs, M. M. T. M., + , T-MTT Apr 93 605-608*
 resonant phenomena in conductor-backed CPW. *Lo, Wen-Teng, + , MWSYM 93 Vol. 3 1199-1202*
 resonant phenomena in conductor-backed CPW. *Lo, Wen-Teng, + , T-MTT Dec 93 2099-2108*
 rigorous analysis of higher-order modes and attenuation of stripline of arbitrary dimensions using transverse resonance diffraction technique. *Burchett, M. H., + , MWSYM 93 Vol. 3 1451-1454*
 rigorous analysis of higher-order modes and attenuation of stripline of arbitrary dimensions using transverse resonance diffraction technique. *Burchett, M. Hugh, + , T-MTT Dec 93 2074-2080*
 use of side wall images to compute package effects in method of moments analysis of MMIC circuits. *Jackson, Robert W., T-MTT Mar 93 406-414*
Resonance; cf. Tunnel diode...
Resonator filters
 high temperature superconducting 8.45-GHz bandpass filter for Deep Space Network. *Mattaei, G. L., + , MWSYM 93 Vol. 3 1273-1276*
 staggered resonator array superconducting 2.3-GHz bandpass filter. *Matthaei, G. L., + , MWSYM 93 Vol. 3 1269-1272*
 staggered resonator array superconducting 2.3-GHz bandpass filter. *Matthaei, George L., + , T-MTT Dec 93 2345-2352*
Resonator filters; cf. Acoustic resonator filters; Dielectric-resonator filters; UHF resonator filters
Resonators; cf. Acoustic resonators; Cavity resonators; Dielectric resonators; Microwave resonators; Millimeter-wave resonators; Superconducting resonators
Rib waveguides
 rigorous boundary integral equation solution for general isotropic and uniaxial anisotropic dielectric waveguides in multilayered media including losses, gain and leakage. *Olyslager, Frank, + , T-MTT Aug 93 1385-1392*
Ridge waveguides
 CAD of circular ridge waveguide evanescent-mode bandpass filters using frequency-domain TLM method. *Huang, Jifu, + , MWSYM 93 Vol. 1 459-462*
 characterization of microstrip-ridge structures in frequency domain by integral equation—mode matching technique and in time domain by Fourier transforms. *Engel, Andrew G., Jr., + , T-MTT Aug 93 1251-1262*
 double ridged waveguide phase shifters for broadband applications. *El-Sharaway, El-Badawy, MWSYM 93 Vol. 1 473-475*
 double ridged waveguide phase shifters for broadband applications. *El-Sharaway, El-Badawy, T-MTT Dec 93 2161-2165*
 magnetic field integral equation analysis and design of ridge waveguides. *Sun, Weimin, + , T-MTT Nov 93 1965-1971*
 waveguide and ridge waveguide T-junctions for wide band applications. *Yao, Hui-Wen, + , MWSYM 93 Vol. 2 601-604*
 waveguide and ridge waveguide T-junctions for wide band applications. *Yao, Hui-Wen, + , T-MTT Dec 93 2166-2173*

Road transportation, automated highways

intelligent vehicle highway systems; institutional barriers and challenge for future. *Sussman, Joseph M.*, *MWSYM 93 Vol. 1* 101-104

Road vehicle radar

Doppler measurement of lateral and longitudinal velocity for automobiles at millimeter waves. *Kees, Norbert*, +, *MWSYM 93 Vol. 2* 805-808

low cost 77-GHz monolithic transmitter for automotive collision avoidance systems. *Raffaelli, Lamberto*, +, *MCS 93* 63-66

Roots; cf. Poles and zeros**Rotating waves; cf. Cavity resonators; Electromagnetic radiation****Rough surfaces; cf. Electromagnetic scattering, rough surfaces****Russia**

ISTOK achievements in solid-state microwave devices. *Zaytsev, S. A.*, +, *MWSYM 93 Vol. 2* 1129

ISTOK Russian microwave R&D facility. *Korolyov, A. N.*, *MWSYM 93 Vol. 2* 1127

multiple-beam microwave tubes developed at ISTOK. *Pobedonostsev, A. S.*, +, *MWSYM 93 Vol. 2* 1131-1134

S**Sampling methods; cf. Signal sampling/reconstruction****Satellite communication**

high-end microwave technologies in global communications. *Mahle, C.*, *MWSYM 93 Vol. 2* 571-573

high power 14-GHz solid state power amplifier for satellite communications applications. *Mallavarpu, R.*, +, *MWSYM 93 Vol. 3* 1217-1220

IRIDIUM global digital satellite-based personal communications system. *Leopold, Raymond J.*, +, *MWSYM 93 Vol. 2* 575-578

Satellite communication, broadcast

signal-to-noise enhancer using two magnetostatic surface wave filters; application to noise reduction in DBS reception. *Nomoto, Toshihiro*, +, *T-MTT Aug 93* 1316-1322

Satellite communication, earth terminals

RF front end for portable satellite terminal. *Shemesh, Yair*, +, *MWSYM 93 Vol. 2* 801-804

signal-to-noise enhancer using two magnetostatic surface wave filters; application to noise reduction in DBS reception. *Nomoto, Toshihiro*, +, *T-MTT Aug 93* 1316-1322

Satellite communication, onboard systems

4-GHz dielectric contiguous output multiplexer for communications satellite transponders. *Holme, C. J.*, +, *MWSYM 93 Vol. 1* 443-446

Satellite navigation systems; cf. Global Positioning System**SAW (surface acoustic waves); cf. Acoustic surface wave...****Scattering; cf. Electromagnetic scattering...; Waveguide discontinuities****Scattering matrices**

computation of scattering matrix of 2-D lossless network; synthesis of incommensurate line networks. *Zhu, Lizhong*, +, *MWSYM 93 Vol. 2* 1073-1076

efficient $TE_{0,n}$ -to- $TE_{0,n} + p$ -mode converter in circular waveguides. *Jöstingmeier, A.*, +, *MWSYM 93 Vol. 2* 939-941

mode conversion at diffracting apertures in millimeter and submillimeter wave optical systems. *Murphy, J. Anthony*, +, *T-MTT Oct 93* 1700-1702

transverse scattering matrix formulation for class of waveguide eigenvalue problems. *Ma, Zhewang*, +, *T-MTT Jun/Jul 93* 1044-1051

Scattering matrices; cf. Transmission-line-matrix methods**Scattering parameters**

computation of S-parameters of rectangular waveguide with rectangular or cylindrical dielectric obstacle. *Abdulnour, Jawad*, +, *T-MTT Nov 93* 1988-1994

invariance of S_{21}/S_{12} and K-factor under parallel operation of linear two-port devices. *Ohtomo, Motoharu*, *T-MTT Nov 93* 2031-2034

S-parameter analysis of microstrip discontinuities on cylindrical dielectric surfaces using full-wave frequency domain TLM method. *Huang, Jifu*, +, *MWSYM 93 Vol. 3* 1299-1302

time-domain analysis of via holes and shorting pins in microstrip using 3-D symmetrical condensed mode TLM. *Eswarappa, Channabasappa*, +, *MWSYM 93 Vol. 2* 917-920

transient analysis of coupled, tapered transmission lines with arbitrary nonlinear terminations. *Oh, Kyung S.*, +, *T-MTT Feb 93* 268-273

Scattering parameters measurement

300-GHz-bandwidth network analysis using time-domain electro-optic sampling. *Cheng, H.*, +, *MWSYM 93 Vol. 3* 1355-1358

corrections to 'A new implementation of a multiport network analyzer' (Nov 92 2078-2085). *Ferrero, Andrea*, +, *T-MTT Jun/Jul 93* 1074

efficient full-wave 3-D and 2-D waveguide eigenvalue analysis and S-matrix computation using direct FDTD wave equation formulation. *Krupezevic, Dragan V.*, +, *T-MTT Dec 93* 997-1000

expression for S-parameters of arbitrarily oriented microstrip lines. *Howard, Lincoln Cole*, +, *MWSYM 93 Vol. 3* 1543-1546

full two-port on-wafer vector network analysis to 120 GHz using active probes. *Yu, Ruai*, +, *MWSYM 93 Vol. 3* 1339-1342

full-wave space-domain analysis of open microstrip discontinuities including singular current-edge behavior. *Sercu, Jeannick*, +, *T-MTT Sep 93* 1581-1588

GaAs MESFET characterization using least-squares approximation by rational functions. *Nagatomo, Kazuo*, +, *T-MTT Feb 93* 199-205

noninvasive waveform probing for nonlinear network analysis; application to GaAs power FET. *Wei, C. J.*, +, *MWSYM 93 Vol. 3* 1347-1350

nonlinear termination networks for coupled lossy and dispersive transmission lines. *Pan, George W.*, +, *T-MTT Mar 93* 531-535

probe for W-band on-wafer measurements. *Liu, S. M. Joseph*, +, *MWSYM 93 Vol. 3* 1335-1338

robust six- to four-port reduction algorithm. *Potter, C. M.*, +, *MWSYM 93 Vol. 3* 1263-1266

scattering parameters measurement of nonreciprocal coupling structure. *Kwan, P.*, +, *T-MTT Apr 93* 652-657

semi-automatic three-port network analyzer. *Schöön, Martin*, *T-MTT Jun/Jul 93* 974-978

simulation of HEMT DC drain current and 1 to 50 GHz S-parameters as function of gate bias. *Mahon, Simon J.*, +, *T-MTT Jun/Jul 93* 1065-1067

technique for measuring small signal S-parameters of RF/microwave transistor power amplifying stage for use in power amplifier stability analysis. *Collinson, Glenn*, +, *MWSYM 93 Vol. 3* 1255-1258

technique for obtaining frequency dependent scattering parameters of CPW discontinuities. *Radisic, Vesna*, +, *T-MTT Sep 93* 1524-1533

time-domain network analysis of millimeter-wave circuits based on photoconductive-probe sampling technique. *Kim, J.*, +, *MWSYM 93 Vol. 3* 1359-1362

transmission characteristics of finite-width conductor-backed CPW; theoretical and experimental results. *Tien, Ching-Cheng*, +, *T-MTT Sep 93* 1616-1624

triangular-domain basis functions for full-wave analysis of microstrip discontinuities. *Kipp, Robert*, +, *T-MTT Jun/Jul 93* 1187-1194

Schottky devices

11-GHz bandwidth GaAs MESFET/MSM OEIC receivers. *Wang, J. S.*, +, *MWSYM 93 Vol. 2* 1047-1050

Schottky diode frequency converters

comments, with reply, on 'Modeling of planar varactor frequency multiplier devices with blocking barriers' by U. Lieneweg et al. *Hwu, R. J.*, *T-MTT Feb 93* 361-363 (Original paper, May 92 839-845)

cooled Schottky varactor frequency multipliers at submillimeter wavelengths. *Louhi, Jyrki T.*, +, *T-MTT Apr 93* 565-571

Schottky diode mixers

110-GHz ozone radiometer with cryogenically cooled planar Schottky mixer. *Koistinen, O.*, +, *MWSYM 93 Vol. 2* 775-778

110-GHz ozone radiometer with cryogenically cooled planar Schottky mixer. *Koistinen, Olli P.*, +, *T-MTT Dec 93* 775-778

215-GHz subharmonically pumped waveguide mixer using planar back-to-back air-bridge Schottky diodes. *Siegel, Peter H.*, +, *T-MTT Nov 93* 1913-1921

86-106 GHz quasi-integrated horn antenna Schottky receiver. *Ali-Ahmad, Walid Y.*, +, *T-MTT Apr 93* 558-564

determination of Schottky diode sampling mixer frequency response from diode conductance waveforms. *Raleigh, G. G.*, +, *T-MTT Apr 93* 723-726

GaAs Schottky barrier diodes for mixing applications in THz frequency range. *Jelenski, Andrzej*, +, *T-MTT Apr 93* 549-557

submillimeter-wave planar low noise Schottky receiver based on quasi-integrated horn antenna. *Ali-Ahmad, Walid Y.*, +, *MWSYM 93 Vol. 2* 527-530

Schottky diodes

low-noise 86-90 GHz uniplanar Schottky-receiver based on CPW double-slot antenna. *Gauthier, Gildas*, +, *MWSYM 93 Vol. 1* 325-328

monolithic diode array millimeter-wave beam transmittance controller. *Sjogren, Lance B.*, +, *T-MTT Oct 93* 1782-1790

monolithic W-band preamplified diode detector. *Wang, H.*, +, *MCS 93* 167-170

monolithic W-band preamplified diode detectors. *Wang, H.*, +, *MWSYM 93 Vol. 1* 365-368

MSM/MODFET monolithic receiver for detecting 44-GHz modulation signals transmitter by optical carrier. *Litvin, K.*, +, *MWSYM 93 Vol. 2* 1063-1066

- Schottky FET logic circuits;** cf. MESFET integrated circuits; MODFET integrated circuits
- Search methods**
efficient FET model parameter extraction using multi-plane data-fitting and bidirectional search technique. *Lin, Fujiang, +*, *MWSYM 93 Vol. 2* 1021-1024
- Security;** cf. Access control
- Semiconductor device breakdown;** cf. MODFETs, power
- Semiconductor device doping;** cf. MESFETs; UHF FETs, power
- Semiconductor device economics;** cf. Integrated circuit economics
- Semiconductor device fabrication**
manufacturability of 0.1- μ m millimeter-wave low-noise InP HEMTs. *Nguyen, Loi, +*, *MWSYM 93 Vol. 1* 345-347
- Semiconductor device measurements;** cf. Integrated circuit measurements; MESFETs, power; MESFETs; Microwave bipolar transistors; Millimeter-wave bipolar transistors; MODFETs; UHF bipolar transistors, power
- Semiconductor device modeling;** cf. MESFETs, power; MESFETs; Microwave bipolar transistors; Microwave FETs; Millimeter-wave bipolar transistors; MODFETs; Semiconductor lasers; Tunnel diodes
- Semiconductor device noise**
evaluation of noise parameter extraction methods. *Escotte, Laurent, +*, *T-MTT Mar 93* 382-387
extraction of device noise sources from measured data using circuit simulator software. *Ikalainen, Pertti K.,* *T-MTT Feb 93* 340-343
method for measuring noise parameters of MESFETs and HEMTs. *Dambrine, Gilles, +*, *T-MTT Mar 93* 375-381
- Semiconductor device noise;** cf. FETs; Integrated circuit noise; MESFETs; MODFETs
- Semiconductor device packaging;** cf. Integrated circuit packaging
- Semiconductor devices;** cf. Integrated circuits; Semiconductor diodes; Vacuum microelectronics
- Semiconductor device thermal factors**
characterization of thermal effects on microwave transistor performance using efficient physical model. *Atherton, John S., +*, *MWSYM 93 Vol. 3* 1181-1184
- Semiconductor device thermal factors;** cf. Cryogenic electronics; IMPATT diode oscillators; MESFET oscillators; MESFETs; MODFET oscillators; p-i-n diodes; Semiconductor device noise
- Semiconductor diodes**
measurement-based large-signal diode model and associated automated data acquisition system and model generator system for simulation of diodes. *Root, David E., +*, *MWSYM 93 Vol. 1* 261-264
measurement-based large-signal diode model and associated automated data acquisition system and model generator system for simulation of diodes. *Root, David E., +*, *T-MTT Dec 93* 2211-2217
- Semiconductor diodes;** cf. p-i-n diodes; Varactors
- Semiconductor diode switches;** cf. p-i-n diodes
- Semiconductor heterojunctions;** cf. Microwave bipolar transistors; Microwave FETs; Millimeter-wave bipolar transistor...; Millimeter-wave FETs; UHF FETs
- Semiconductor-insulator-semiconductor devices;** cf. p-i-n diodes
- Semiconductor lasers**
large signal equivalent circuit model for multielectrode laser and microwave semiconductor lasers for CAD applications. *Elkadi, H., +*, *MWSYM 93 Vol. 1* 217-220
- Semiconductor lasers;** cf. Optical fiber transmitters, lasers
- Semiconductor materials measurements**
millimeter-wave confocal resonators for vertical structure profiling in semiconducting and superconducting materials. *Martens, J. S., +*, *MWSYM 93 Vol. 3* 1243-1246
- Semiconductor noise;** cf. Semiconductor device noise
- Semiconductor plasma devices**
frequency-dependent FDTD modeling of optically controlled dielectric resonators. *Shen, Ying, +*, *T-MTT Jun/Jul 93* 1005-1010
- Semiconductor switches;** cf. FET switches
- Septa;** cf. Waveguide discontinuities
- Shielding;** cf. Electromagnetic shielding
- Shifted power method;** cf. Eigenvalues/eigenfunctions
- Signal analysis;** cf. Harmonic analysis; Spectral analysis
- Signal detection;** cf. Correlators; Schottky diodes
- Signal generators;** cf. Impulse generation; Pulse generation
- Signal processing;** cf. Array processing; Filters
- Signal sampling/reconstruction**
2-D mapping of microwave potential on MMICs using electrooptic sampling. *Hjelme, Dag Roar, +*, *T-MTT Jun/Jul 93* 1149-1158
300-GHz-bandwidth network analysis using time-domain electro-optic sampling. *Cheng, H., +*, *MWSYM 93 Vol. 3* 1355-1358
- calibration of external electrooptic sampling using field simulation and system transfer function analysis. *Wu, Xiaohua, +*, *MWSYM 93 Vol. 1* 221-224
- characterization and optimization of electrooptic sampling by volume-integral-method; application to evaluation of space-harmonic potential. *Rottenkolber, M., +*, *MWSYM 93 Vol. 1* 265-268
- characterization and optimization of electrooptic sampling by volume-integral method; application to evaluation of space-harmonic potential. *Thomann, W., +*, *T-MTT Dec 93* 2392-2399
- determination of Schottky diode sampling mixer frequency response from diode conductance waveforms. *Raleigh, G. G., +*, *T-MTT Apr 93* 723-726
- picosecond photoconductive switches designed for on-wafer characterization of high frequency interconnects. *Golob, L. P., +*, *MWSYM 93 Vol. 3* 1395-1398
- probe tip invasiveness at indirect electro-optic sampling of MMIC. *Mertin, W., +*, *MWSYM 93 Vol. 3* 1351-1354
- real-time broadband waveform sampling using optic-microwave phase-locking. *Huang, S. L., +*, *MWSYM 93 Vol. 3* 1387-1390
- time-domain network analysis of millimeter-wave circuits based on photoconductive-probe sampling technique. *Kim, J., +*, *MWSYM 93 Vol. 3* 1359-1362
- Silicon materials/devices;** cf. Lens antennas; Light-triggered switches; Millimeter-wave resonators; Optical fiber
- Simulated annealing**
parameter extraction of microwave transistors using hybrid gradient descent and tree annealing approach. *Skaggs, Steven G., +*, *T-MTT Apr 93* 726-729
- Simulation;** cf. Circuit simulation; *Specific topic*
- SIS mixers;** cf. Superconductor-insulator-superconductor mixers
- Size measurement**
method for measuring properties of nonhomogeneous materials using two-polarization forward-scattering measurement. *Toropainen, Anssi P.,* *MWSYM 93 Vol. 1* 257-260
method for measuring properties of nonhomogeneous materials using two-polarization forward-scattering measurement. *Toropainen, Anssi P.,* *T-MTT Dec 93* 2081-2086
- Size measurement;** cf. Thickness measurement
- Skin effect**
causal skin-effect model of microstrip lines. *He, Jianqing, +*, *MWSYM 93 Vol. 2* 865-868
nonlinear termination networks for coupled lossy and dispersive transmission lines. *Pan, George W., +*, *T-MTT Mar 93* 531-535
theory for cylindrical pillbox accelerator cavity using layered structures for reducing skin-effect losses. *Sailor, W. C., +*, *T-MTT Aug 93* 1471-1474
- Slab waveguides;** cf. Optical planar waveguide...
- Slot antennas**
full-wave analysis of wide rectangular radiating slot excited by microstrip line, using method of moments and matrix pencil method. *Kahrizi, Masoud, +*, *T-MTT Jan 93* 29-37
low-noise 86-90 GHz uniplanar Schottky-receiver based on CPW double-slot antenna. *Gauthier, Gildas, +*, *MWSYM 93 Vol. 1* 325-328
quasi-optical planar arrays with FETs and slots. *Kawasaki, Shigeo, +*, *T-MTT Oct 93* 1838-1844
- Slot arrays**
double-slot antennas on extended hemispherical and elliptical silicon dielectric lenses. *Filipovic, Daniel F., +*, *T-MTT Oct 93* 1738-1749
spatial power amplification with active linearly tapered slot antenna array. *Simons, Rainee N., +*, *MWSYM 93 Vol. 2* 623-626
- Slotline**
characterization of asymmetric CPW discontinuities. *Dib, Nihad I., +*, *T-MTT Sep 93* 1549-1558
spectral-domain analysis of open and shielded slotlines printed on various anisotropic substrates. *Chen, Yinchao, +*, *T-MTT Nov 93* 1872-1877
TE and TM modes in circularly shielded slot waveguides. *Tsalamengas, John L., +*, *T-MTT Jun/Jul 93* 966-973
- Slotline components**
FET active slotline notch antennas for quasi-optical power combining. *Leverich, W. Kent, +*, *T-MTT Sep 93* 1515-1518
slotline annular ring elements; applications to resonator, filter and coupler design. *Ho, Chien-Hsun, +*, *T-MTT Sep 93* 1648-1650
tapered slotline antennas at 802 GHz. *Acharya, Pranay R., +*, *T-MTT Oct 93* 1715-1719
- Slotline couplers**
broadband uniplanar slotline hybrid ring and branchline couplers with over one octave bandwidth. *Ho, Chien-Hsun, +*, *T-MTT Dec 93* 2116-2125
broadband uniplanar slotline hybrid ring coupler with over one octave bandwidth. *Ho, Chien-Hsun, +*, *MWSYM 93 Vol. 2* 585-588

- coupling phenomena in conductor-backed slotline structures. *Liu, Yaozhong*, + , *MWSYM 93 Vol. 3* 1203-1206
- slotline annular ring elements; applications to resonator, filter and coupler design. *Ho, Chien-Hsun*, + , *T-MTT Sep 93* 1648-1650
- Slotline filters**
slotline annular ring elements; applications to resonator, filter and coupler design. *Ho, Chien-Hsun*, + , *T-MTT Sep 93* 1648-1650
- Slotline resonators**
slotline annular ring elements; applications to resonator, filter and coupler design. *Ho, Chien-Hsun*, + , *T-MTT Sep 93* 1648-1650
- tunable uniplanar ring resonators consisting of slotline and CPW ring resonators integrated with varactor diodes. *Navarro, Julio A.*, + , *T-MTT May 93* 760-766
- Slotline transitions**
CPW-slotline transitions for uniplanar MICs. *Ho, Chien-Hsun*, + , *MWSYM 93 Vol. 2* 877-880
- CPW-slotline transitions for uniplanar MICs. *Ho, Chien-Hsun*, + , *T-MTT Dec 93* 2116-2125
- CPW transitions to slotline; design and microprobe characterization. *Grammer, Wes*, + , *T-MTT Sep 93* 1653-1658
- generalized multiport reciprocity analysis of surface-to-surface transitions between multiple printed transmission lines. *Das, Nirod K.*, *T-MTT Jun/Jul 93* 1164-1177
- Slots; cf. Apertures**
- Slow-wave structures**
field-analysis model for predicting dispersion property of coupled-cavity circuits. *Dai, Fa*, + , *MWSYM 93 Vol. 2* 901-904
- slow-wave resonant electrode design for optical modulators. *Yu, Mark*, + , *MWSYM 93 Vol. 1* 237-239
- Slow-wave structures; cf. Planar transmission lines**
- Solid lasers; cf. Semiconductor lasers**
- Space vehicle communication**
low-noise HEMT Ka-band amplifiers for deep space communication. *Laskar, J.*, + , *MWSYM 93 Vol. 2* 1095-1098
- passive GaAs MESFET MMIC linearizers for use with space-born TWTAs at C, X, and Ku band. *Katz, Allen*, + , *MWSYM 93 Vol. 1* 353-356
- Spain**
overview of microwave ferrite-related activity in France, Germany, Spain, Poland and UK. *Davis, Lionel E.*, *MWSYM 93 Vol. 1* 199-202
- Spatial amplifiers; cf. MMIC amplifiers, power**
- Special issues/sections**
International Microwave Symposium, 1993 IEEE MTT-S. *T-MTT Dec 93* 2051-2399
- microwave education (special section). *T-MTT Jun/Jul 93* 911-953
- modeling and design of coplanar monolithic microwave and millimeter-wave integrated circuits. *T-MTT Sep 93* 1481-1658
- quasi-optical techniques. *T-MTT Oct 93* 1661-1863
- space terahertz technology (special section). *T-MTT Apr 93* 549-722
- Spectral analysis**
spectral analysis considerations relevant to radiation and leaky modes of open-boundary microstrip transmission line. *Grimm, Jerry Michael*, + , *T-MTT Jan 93* 150-153
- Spectral analysis; cf. Eigenvalues/eigenfunctions; Harmonic analysis**
- Spectral-domain method; cf. Moment methods**
- Spheres**
dry phantom utilizing microwave ceramic powder for estimation of specific absorption rate in biological systems; application to irradiation at UHF. *Kobayashi, Takehiko*, + , *T-MTT Jan 93* 136-140
- ultrawideband transient microwave scattering measurements using optoelectronically switched antennas. *Carin, Lawrence*, + , *T-MTT Feb 93* 250-254
- Spherical antennas**
resonance in spherical-circular microstrip structure with air gap; analysis using Green's function and Galerkin's moment method. *Wong, Kin-Lu*, + , *T-MTT Aug 93* 1466-1468
- Spiral antennas**
monolithic, photoconductive ultra-wideband RF radiating device. *Kim, A.*, + , *MWSYM 93 Vol. 3* 1221-1224
- Spread-spectrum communication; cf. Frequency-hop communication**
- Stability**
comments on 'Unconditional stability' (comments on 'A new criterion for linear 2-port stability using a single geometrically derived parameter' by M. L. Edwards and J. H. Sinsky). *Kurokawa, K.*, *T-MTT Aug 93* 1475 (Original paper, Dec 92 2303-2311)
- Stability; cf. Circuit stability**
- Statistics**
efficient statistical analysis of microwave circuit performance using design of experiments. *Virga, Kathleen L.*, + , *MWSYM 93 Vol. 1* 123-126
- Statistics; cf. Specific topic**
- Stochastic processes; cf. Autoregressive processes**
- Strip conductors**
ultrawideband transient microwave scattering measurements using optoelectronically switched antennas. *Carin, Lawrence*, + , *T-MTT Feb 93* 250-254
- Stripline**
broadband frequency selective limiter fabricated with YIG films in stripline configuration providing over 14 dB of limiting across more than octave bandwidth. *Adam, J. D.*, + , *MWSYM 93 Vol. 1* 477-478
- broadband frequency selective limiter fabricated with YIG films in stripline configuration providing over 14 dB of limiting across more than octave bandwidth. *Adam, J. Douglas*, + , *T-MTT Dec 93* 2227-2231
- CAD-oriented analytical model for losses of general asymmetric coplanar lines in hybrid and monolithic MICs. *Ghione, Giovanni*, *T-MTT Sep 93* 1499-1510
- comments, with reply, on 'An analytic algorithm for unbalanced stripline impedance' by P. Robrish. *Costamagna, E.*, + , *T-MTT Jan 93* 173-174 (Original paper, Aug 90 1011-1016)
- end-effects in quasi-TEM transmission lines. *Getsinger, William J.*, *T-MTT Apr 93* 666-672
- locally conformed FDTD algorithm of modeling arbitrary shape planar metal strips. *Fang, Jiayuan*, + , *T-MTT May 93* 830-838
- packaging and interconnection mutual coupling effects in planar structures and discontinuities. *Amrani, C.*, + , *MWSYM 93 Vol. 2* 843-846
- rigorous analysis of higher-order modes and attenuation of stripline of arbitrary dimensions using transverse resonance diffraction technique. *Burchett, M. H.*, + , *MWSYM 93 Vol. 3* 1451-1454
- rigorous analysis of higher-order modes and attenuation of stripline of arbitrary dimensions using transverse resonance diffraction technique. *Burchett, M. Hugh*, + , *T-MTT Dec 93* 2074-2080
- rigorous boundary integral equation solution for general isotropic and uniaxial anisotropic dielectric waveguides in multilayered media including losses, gain and leakage. *Olyslager, Frank*, + , *T-MTT Aug 93* 1385-1392
- spectral-domain analysis of slow-wave transmission lines on multilayered semiconductor structures including conductor loss. *Liou, Jenn-Chorng*, + , *T-MTT May 93* 824-829
- Stripline antennas**
active inverted stripline circular patch antennas for spatial power combining. *Navarro, Julio A.*, + , *T-MTT Oct 93* 1856-1863
- ultrawideband transient microwave scattering measurements using optoelectronically switched antennas. *Carin, Lawrence*, + , *T-MTT Feb 93* 250-254
- Stripline circulators**
losses in Y-junction stripline and microstrip ferrite circulators. *Neidert, Robert E.*, + , *T-MTT Jun/Jul 93* 1081-1086
- Stripline components**
K-band quasi-planar tapped combline filter and diplexer. *Lo, Wen-Teng*, + , *T-MTT Feb 93* 215-223
- Stripline couplers**
analysis of branch line coupler in suspended stripline with finite metallization thickness. *Alessandri, F.*, + , *MWSYM 93 Vol. 2* 1089-1092
- Stripline discontinuities**
folded stubs for compact suspended stripline circuits. *Menzel, Wolfgang*, + , *MWSYM 93 Vol. 2* 593-596
- Stripline filters**
high temperature superconducting 8.45-GHz bandpass filter for Deep Space Network. *Mattaei, G. L.*, + , *MWSYM 93 Vol. 3* 1273-1276
- K-band quasi-planar tapped combline filter and diplexer. *Lo, Wen-Teng*, + , *T-MTT Feb 93* 215-223
- method for electromagnetic coupling air-dielectric stripline interdigital or comb line bandpass filter to planar microwave circuit. *Johnson, Gerald E.*, + , *MWSYM 93 Vol. 3* 1309-1311
- staggered resonator array superconducting 2.3-GHz bandpass filter. *Mattaei, G. L.*, + , *MWSYM 93 Vol. 3* 1269-1272
- staggered resonator array superconducting 2.3-GHz bandpass filter. *Mattaei, George L.*, + , *T-MTT Dec 93* 2345-2352
- Stripline resonators**
small dielectric TEM mode resonator with crossing slot; application to cellular radio VCO. *Uwano, Tomoki*, *T-MTT Apr 93* 639-646
- Stripline transitions**
modeling and analysis of vias in multilayered ICs. *Gu, Qizheng*, + , *T-MTT Feb 93* 206-214
- Strip scatterers**
electromagnetic scattering by finite strip array on dielectric slab. *Lu, Cai-Cheng*, + , *T-MTT Jan 93* 97-100
- ultrawideband transient microwave scattering measurements using optoelectronically switched antennas. *Carin, Lawrence*, + , *T-MTT Feb 93* 250-254

- Strip transmission lines**; cf. Finline...; Microstrip...; Planar transmission lines
- Submillimeter-wave (300–3000 GHz)**; cf. Millimeter-wave (30–300 GHz)
- Submillimeter-wave antennas**
design of conical corrugated feed horns for wide-band high-frequency applications. *Zhang, Xiaolei, T-MTT Aug 93 1263-1274*
quasi-integrated horn antennas for millimeter and submillimeter-wave applications. *Eleftheriades, George V., +, T-MTT Jun/Jul 93 954-965*
tapered slotline antennas at 802 GHz. *Acharya, Pranay R., +, T-MTT Oct 93 1715-1719*
- Submillimeter-wave components**
space terahertz technology (special section). *T-MTT Apr 93 549-722*
- Submillimeter-wave detectors**; cf. Submillimeter-wave mixers
- Submillimeter-wave frequency conversion**
resonant tunneling devices as sources for millimeter and submillimeter wavelengths. *Bouregba, R., +, T-MTT Nov 93 2025-2027*
- Submillimeter-wave frequency conversion**; cf. Schottky diode frequency converters; Submillimeter-wave mixers
- Submillimeter-wave generation**; cf. Submillimeter-wave oscillators
- Submillimeter-wave integrated circuits**
resonances of tuning stubs integrated with SIS mixers in log-periodic antenna. *Dierichs, M. M. T. M., +, T-MTT Apr 93 605-608*
- Submillimeter-wave mixers**
embedding impedance approximations in analysis of SIS mixers. *Kerr, Anthony R., +, T-MTT Apr 93 590-594*
optimum source conductance for high frequency SIS quasiparticle receivers. *Ke, Qing, +, T-MTT Apr 93 600-604*
performance of two-junction array SIS mixer operating around 345 GHz. *Honingh, C. E., +, T-MTT Apr 93 616-623*
resonances of tuning stubs integrated with SIS mixers in log-periodic antenna. *Dierichs, M. M. T. M., +, T-MTT Apr 93 605-608*
wide-bandwidth electron bolometric mixers; 2DEG prototype and potential for low-noise THz receivers. *Yang, Jian-Xun, +, T-MTT Apr 93 581-589*
- Submillimeter-wave mixers**; cf. Schottky diode mixers
- Submillimeter-wave modulation/demodulation**; cf. Submillimeter-wave mixers
- Submillimeter-wave oscillators**
millimeter and submillimeter-wave quasi-optical oscillator with Gunn diodes. *Bae, Jongsuck, +, T-MTT Oct 93 1851-1855*
- Submillimeter-wave power dividers/combiners**
millimeter and submillimeter-wave quasi-optical oscillator with Gunn diodes. *Bae, Jongsuck, +, T-MTT Oct 93 1851-1855*
- Submillimeter-wave propagation**; cf. Submillimeter-wave waveguides
- Submillimeter-wave radio receivers**
hybrid antenna for integrated array optics in quasi-optical millimeter-wave and submillimeter-wave receivers. *Buttgenbach, Thomas H., T-MTT Oct 93 1750-1761*
- Submillimeter-wave radio receivers**; cf. Schottky diode mixers; Submillimeter-wave mixers
- Submillimeter-wave technology**
quasi-optical techniques (special issue). *T-MTT Oct 93 1661-1863*
- Submillimeter-wave waveguides**
hybrid dielectric slab-beam waveguide for submillimeter wave region. *Mink, J. W., +, T-MTT Oct 93 1720-1729*
mode conversion at diffracting apertures in millimeter and submillimeter wave optical systems. *Murphy, J. Anthony, +, T-MTT Oct 93 1700-1702*
- Subscriber sets**; cf. Land mobile radio transmitters/receivers
- Superconducting device noise**; cf. Josephson device noise
- Superconducting devices**
cryogenic GaAs HBT microwave amplifier; application to superconductor digital IC; integration of amplifier with HTS superconductor logic gate. *Kobayashi, K. W., +, MWSYM 93 Vol. 1 377-380*
high-temperature superconducting matching networks for electrically short monopole antennas. *Piatnicia, A. Y., +, MWSYM 93 Vol. 3 1417-1420*
hybrid high temperature superconductor/GaAs 10-GHz microwave oscillator; temperature and bias effects. *Rohrer, Norman J., +, T-MTT Nov 93 1865-1871*
propagation characteristics of waveguiding structures with very thin superconductors; application to CPW $\text{YBa}_2\text{Cu}_3\text{O}_{7-x}$ resonators. *Klopman, Boele B. G., +, T-MTT May 93 781-791*
superconductive digital instantaneous frequency-measurement subsystem. *Liang, G.-C., +, MWSYM 93 Vol. 3 1413-1416*
superconductive digital instantaneous frequency-measurement subsystem. *Liang, Guo-chun, +, T-MTT Dec 93 2368-2375*
- Superconducting films**
high-temperature superconducting thin films in frequency selective surfaces (FSS) at millimeter-wave frequencies; superconducting FSS as quasi-optical millimeter-wave bandpass filters. *Zhang, Dawei, +, T-MTT Jun/Jul 93 1032-1036*
- Superconducting films**; cf. Superconducting device...
Superconducting filters
dual-plane bandpass elliptic coupled-line filter suitable for high-temperature superconducting thin-film implementation. *Yao, Shih-Jih, +, MWSYM 93 Vol. 1 181-184*
dual-plane bandpass elliptic coupled-line filter suitable for high-temperature superconducting thin-film implementation. *Yao, Shih-Jih, +, T-MTT Dec 93 2182-2189*
high temperature superconducting 8.45-GHz bandpass filter for Deep Space Network. *Mattaei, G. L., +, MWSYM 93 Vol. 3 1273-1276*
high temperature superconducting hybrid-coupled multiplexers and diplexers using asymmetrical superconducting filters. *Mansour, R. R., +, MWSYM 93 Vol. 3 1281-1284*
high-temperature superconducting thin films in frequency selective surfaces (FSS) at millimeter-wave frequencies; superconducting FSS as quasi-optical millimeter-wave bandpass filters. *Zhang, Dawei, +, T-MTT Jun/Jul 93 1032-1036*
high temperature superconductor narrow bandpass X-band microstrip filters for multiplexing applications. *Fathy, A., +, MWSYM 93 Vol. 3 1277-1280*
narrowband YBCO superconducting parallel-coupled CPW bandpass filters at 10 GHz. *Weigel, R., +, MWSYM 93 Vol. 3 1285-1288*
staggered resonator array superconducting 2.3-GHz bandpass filter. *Matthaei, G. L., +, MWSYM 93 Vol. 3 1269-1272*
staggered resonator array superconducting 2.3-GHz bandpass filter. *Matthaei, George L., +, T-MTT Dec 93 2345-2352*
- Superconducting materials, high-temperature**; cf. Superconducting...
Superconducting materials, measurements
millimeter-wave confocal resonators for vertical structure profiling in semiconducting and superconducting materials. *Martens, J. S., +, MWSYM 93 Vol. 3 1243-1246*
- Superconducting resonators**
tunable high temperature superconductor microstrip resonators. *Beall, James A., +, MWSYM 93 Vol. 3 1421-1423*
- Superconducting transmission lines**
finite-difference approach for rigorous full-wave analysis of superconducting microwave structures. *Megahed, Mohamed A., +, MWSYM 93 Vol. 2 963-966*
full-wave analysis of superconducting microstrip lines on sapphire substrates. *Lee, L. H., +, MWSYM 93 Vol. 1 385-388*
full-wave analysis of superconducting microstrip lines on sapphire substrates. *Lee, Laurence H., +, T-MTT Dec 93 2359-2367*
- Superconductor-insulator-superconductor mixers**
547-GHz SIS receiver employing submicron Nb junction with integrated matching circuit. *Febvre, P., +, MWSYM 93 Vol. 2 771-774*
embedding impedance approximations in analysis of SIS mixers. *Kerr, Anthony R., +, T-MTT Apr 93 590-594*
optimum source conductance for high frequency SIS quasiparticle receivers. *Ke, Qing, +, T-MTT Apr 93 600-604*
performance of two-junction array SIS mixer operating around 345 GHz. *Honingh, C. E., +, T-MTT Apr 93 616-623*
planar quasi-optical SIS receiver operating at 230 GHz. *Stimson, Philip A., +, T-MTT Apr 93 609-615*
resonances of tuning stubs integrated with SIS mixers in log-periodic antenna. *Dierichs, M. M. T. M., +, T-MTT Apr 93 605-608*
- Superconductor-insulator-superconductor mixers**; cf. Josephson mixers/frequency converters
- Surface mounting**
shunt-mounted harmonically-tuned power rectifier for distributed power converters. *Garrison, D. P., +, MWSYM 93 Vol. 3 1229-1232*
- Surface waves**; cf. Electromagnetic surface waves; Magnetostatic surface waves
- Switches/switching**; cf. Light-triggered switches; Microwave switches; Millimeter-wave switches; UHF switches
- Synchronization**
clock-recovery GaAs ICs for high-speed optical communication systems. *Imai, Yuhki, +, T-MTT May 93 745-751*
nonlinear synchronized LC oscillators; theory and simulation. *Odyniec, Michal, T-MTT May 93 774-780*

T

Target recognition; cf. Inverse problems

Technology; cf. Microwave technology; Millimeter-wave technology

Technology forecasting

MPM applications; forecast of near- and long-term applications. *Cosby, Lynwood, MWSYM 93 Vol. 1 111-114*

Telephone systems; cf. Communication systems

Testing; cf. Radar testing

Thermal factors; cf. Ablation; Cryogenic electronics; Dielectric materials/devices, thermal factors; Semiconductor device thermal factors

Thickness measurement

narrow band FM-CW system for measurement of ice thickness. *Adler, D.*, +, *MWSYM 93 Vol. 2* 809-812

Thin-film devices; cf. Microwave filters

Thin-film waveguides

propagation characteristics of waveguiding structures with very thin superconductors; application to CPW $\text{YBa}_2\text{Cu}_3\text{O}_{7-x}$ resonators. *Klopman, Boele B. G.*, +, *T-MTT May 93* 781-791

Time-domain analysis; cf. Finite-difference methods; Transient...

Time-domain measurements

300-GHz-bandwidth network analysis using time-domain electro-optic sampling. *Cheng, H.*, +, *MWSYM 93 Vol. 3* 1355-1358

broad-band time-domain technique for measurement of frequency dependent complex permittivity in lossy transmission line. *Lape, Kristine M.*, +, *MWSYM 93 Vol. 3* 1235-1238

calibration techniques for characterization of general one- and two-port networks using time-domain network analysis. *Hayden, Leonard A.*, +, *T-MTT Mar 93* 415-420

systematic error analysis of HP8510 network analyzer time-domain gating techniques with experimental verification. *Lu, Ke*, +, *MWSYM 93 Vol. 3* 1259-1262

time-domain network analysis of millimeter-wave circuits based on photoconductive-probe sampling technique. *Kim, J.*, +, *MWSYM 93 Vol. 3* 1359-1362

ultrawideband characterization of lossy materials; short-pulse microwave measurements. *Kralj, David*, +, *MWSYM 93 Vol. 3* 1239-1242

Time-domain measurements; cf. Pulse measurements

Time series; cf. Autoregressive processes

Tomography, electromagnetic

improved diffraction tomography for imaging of high-contrast dielectric objects. *Suh, Kyoung-Whoo*, +, *MWSYM 93 Vol. 2* 1141-1144

Tracking loops; cf. Phase-locked loops

Transceivers; cf. TR devices

Transfer functions

calibration of external electrooptic sampling using field simulation and system transfer function analysis. *Wu, Xiaohua*, +, *MWSYM 93 Vol. 1* 221-224

realization of resistively matched three-ports and ramp-waveform responses of resistive, signal-split three-port transmission-line networks. *Sakagami, Iwata*, +, *T-MTT Feb 93* 234-243

Transforms

comments, with reply, on 'An analytic algorithm for unbalanced stripline impedance' by P. Robrish. *Costamagna, E.*, +, *T-MTT Jan 93* 173-174 (Original paper, Aug 90 1011-1016)

impedances and charge distributions in slab lines and rectangularly shielded lines obtained by inverse Schwarz-Christoffel conformal transformation. *Costamagna, E.*, +, *T-MTT Jan 93* 156-159

use of Levin's T-transform in accelerating summation of series representing free-space periodic Green's functions. *Singh, Surendra*, +, *T-MTT May 93* 884-886

Transforms; cf. Fourier transforms; Hilbert transforms

Transient analysis

convolution-based black-box approach for incorporating linear circuit blocks described by frequency-domain data into nonlinear transient time-domain simulator. *Halloran, Patrick*, +, *MWSYM 93 Vol. 3* 1189-1192

Transient analysis; cf. Circuit transient analysis; Electromagnetic transient analysis

Transient propagation; cf. Electromagnetic transient propagation

Transient scattering; cf. Electromagnetic transient scattering

Transistors; cf. Bipolar transistors; FETs; Power transistors

Transitions; cf. Finline transitions; Microstrip transitions; Slotline transitions; Stripline transitions; Waveguide transitions

Transmission coefficient measurement; cf. Scattering parameters measurement

Transmission-line discontinuities

3-D mode matching technique for efficient analysis of coplanar MMIC discontinuities with finite metallization thickness. *Alessandri, Ferdinando*, +, *T-MTT Sep 93* 1625-1629

analysis of single-step and multistep discontinuities for shielded three-layer CPW. *Rahman, Khwaja M.*, +, *T-MTT Sep 93* 1484-1488

characterization of asymmetric CPW discontinuities. *Dib, Nihad I.*, +, *T-MTT Sep 93* 1549-1558

comments, with reply, on 'Deterministic approach to full-wave analysis of discontinuities in MIC's using the method of lines' by Z. Chen and B.

Gao. *Jiang, Xiao-hong*, +, *T-MTT Jun/Jul 93* 1239-1240 (Original paper, Mar 89 606-611)

end-effects in quasi-TEM transmission lines. *Getsinger, William J.*, *T-MTT Apr 93* 666-672

finite-difference analysis of open and short circuits in coplanar MMICs. *Beilenhoff, Klaus*, +, *T-MTT Sep 93* 1534-1537

full-wave analysis of CPW discontinuities using frequency domain TLM method. *Jin, Hang*, +, *T-MTT Sep 93* 1538-1542

full-wave analysis of CPW discontinuities with finite conductor thickness using extended version of spectral-domain approach. *Tran, Allen M.*, +, *T-MTT Sep 93* 1611-1615

full-wave analysis of discontinuities in conductor-backed CPW using method of lines. *Chung, Shyh-Jong*, +, *T-MTT Sep 93* 1601-1605

full-wave analysis of discontinuities in uniplanar and multiplanar transmission lines using frequency-domain TLM method. *Jin, Hang*, +, *MWSYM 93 Vol. 2* 713-716

full-wave mixed transmission line interconnects using the frequency-domain TLM method. *Jin, Hang*, +, *T-MTT Dec 93* 2248-2255

lossy transmission lines; time domain formulation and simulation model. *Yeung, Patrick S.*, *T-MTT Aug 93* 1275-1279

moment method analysis for CPW discontinuity inductances. *Chiu, Chien-Wen*, +, *T-MTT Sep 93* 1511-1514

packaging and interconnection mutual coupling effects in planar structures and discontinuities. *Amrani, C.*, +, *MWSYM 93 Vol. 2* 843-846

quasistatic technique for analysis of coplanar and microstrip transmission-line discontinuities. *Yu, Ming*, +, *T-MTT Sep 93* 1638-1640

technique for obtaining frequency dependent scattering parameters of CPW discontinuities. *Radisic, Vesna*, +, *T-MTT Sep 93* 1524-1533

Transmission-line discontinuities; cf. Finline discontinuities; Microstrip discontinuities; Stripline discontinuities

Transmission-line filters; cf. Microstrip filters; Slotline filters; Stripline filters

Transmission-line-matrix methods

2-D TLM simulation of electromagnetic fields in rectangular section of discretized GaAs MESFET channel with arbitrary doping profile. *Dindo, Salam*, +, *MWSYM 93 Vol. 3* 1455-1458

3-D condensed node TLM scattering. *So, Poman P. M.*, +, *MWSYM 93 Vol. 3* 1443-1446

absorbing and connecting boundary conditions for TLM method. *Chen, Zhizhang*, +, *T-MTT Nov 93* 2016-2024

analysis of millimeter waveguides on anisotropic substrates using 3-D TLM method. *Bulutay, Ceyhan*, +, *T-MTT Jun/Jul 93* 1119-1125

CAD of circular ridge waveguide evanescent-mode bandpass filters using frequency-domain TLM method. *Huang, Jifu*, +, *MWSYM 93 Vol. 1* 459-462

class of symmetrical condensed node TLM methods derived directly from Maxwell's equations. *LoVetri, Joe*, +, *T-MTT Aug 93* 1419-1428

comments, with reply, on 'A new finite-difference time-domain formulation and its equivalence with the TLM symmetrical condensed node' by Z. Chen et al. *Celuch-Marcysiak, M.*, +, *T-MTT Jan 93* 168-172 (Original paper, Dec 91 2160-2169)

efficient TLM diakoptics for separable structures. *Righi, M.*, +, *MWSYM 93 Vol. 1* 425-428

full-wave analysis of CPW discontinuities using frequency domain TLM method. *Jin, Hang*, +, *T-MTT Sep 93* 1538-1542

full-wave analysis of discontinuities in uniplanar and multiplanar transmission lines using frequency-domain TLM method. *Jin, Hang*, +, *MWSYM 93 Vol. 2* 713-716

full-wave analysis of guiding structures using 2-D array of 3-D TLM nodes. *Jin, Hang*, +, *T-MTT Mar 93* 472-477

full-wave mixed transmission line interconnects using the frequency-domain TLM method. *Jin, Hang*, +, *T-MTT Dec 93* 2248-2255

generalized dispersion analysis and spurious modes of 2-D and 3-D TLM formulations. *Nielsen, John S.*, +, *T-MTT Aug 93* 1375-1384

performance study of one-way absorbing boundary equations in 3-D TLM for dispersive guiding structures. *Eswarappa, Channabasappa*, +, *MWSYM 93 Vol. 3* 1439-1442

reduction of edge reflections in TLM model. *Gosling, Ian G.*, *T-MTT Jun/Jul 93* 1057-1064

S-parameter analysis of microstrip discontinuities on cylindrical dielectric surfaces using full-wave frequency domain TLM method. *Huang, Jifu*, +, *MWSYM 93 Vol. 3* 1299-1302

time-domain analysis of via holes and shorting pins in microstrip using 3-D symmetrical condensed mode TLM. *Eswarappa, Channabasappa*, +, *MWSYM 93 Vol. 2* 917-920

transformed symmetrical condensed node for effective TLM analysis of guided wave problems. *Celuch-Marcysiak, Malgorzata*, +, *T-MTT May 93* 820-823

Transmission-line resonators; cf. Microstrip resonators; Slotline resonators; Stripline resonators

Transmission lines

- broad-band time-domain technique for measurement of frequency dependent complex permittivity in lossy transmission line. *Lape, Kristine M.*, +, *MWSYM 93 Vol. 3* 1235-1238
- experimental results on microshield transmission line circuits. *Weller, T. M.*, +, *MWSYM 93 Vol. 2* 827-830
- finite difference approach that employs asymptotic boundary condition on rectangular outer boundary for modeling 2-D transmission line structures. *Gordon, Richard K.*, +, *T-MTT Aug 93* 1280-1286
- impedances and charge distributions in slab lines and rectangularly shielded lines obtained by inverse Schwarz-Christoffel conformal transformation. *Costamagna, E.*, +, *T-MTT Jan 93* 156-159
- transients on lossless exponential transmission lines using Allen's method. *Bouchard, Pierre*, +, *T-MTT Jun/Jul 93* 1178-1182

Transmission lines; cf. Coaxial transmission lines; Coupled transmission lines; Finline...; Microstrip...; Multiconductor transmission lines; Planar transmission lines; Superconducting transmission lines

Transmitters; cf. TV transmitters

Traveling-wave amplifiers

- graphical design method for traveling wave amplifier based on filter theory. *Paoloni, Claudio*, +, *MWSYM 93 Vol. 1* 273-276

Traveling-wave amplifiers; cf. Traveling-wave tubes

Traveling-wave devices

- analysis of LiNbO₃ optical modulator using coplanar-type electrodes. *Kitazawa, Toshihide*, +, *MWSYM 93 Vol. 1* 213-216
- technique for velocity-matched traveling-wave electrooptic modulator in AlGaAs/GaAs. *Khan, M. Nisa*, +, *T-MTT Feb 93* 244-249
- traveling-wave HEMT providing high gain, high bandwidth performance at millimeter-wave frequencies. *Anand, M. B.*, +, *T-MTT Apr 93* 624-631

Traveling wave tubes

- high-power millimeter-wave tubes. *Lopin, M. I.*, +, *MWSYM 93 Vol. 2* 1119-1121
- introduction to MPM (microwave power module) which incorporating solid-state and vacuum-electronics technology. *Abrams, R. H., Jr.*, +, *MWSYM 93 Vol. 1* 107-110
- MPM applications; forecast of near- and long-term applications. *Cosby, Lynwood*, *MWSYM 93 Vol. 1* 111-114
- MPM technology developments; industry perspective. *Christensen, J. A.*, +, *MWSYM 93 Vol. 1* 115-118
- multiple-beam microwave tubes developed at ISTOK. *Pobedonostsev, A. S.*, +, *MWSYM 93 Vol. 2* 1131-1134
- passive FET MMIC linearizers for use with spaceborne TWTAs at C-, X-, and Ku-band. *Katz, Allen*, +, *MCS 93* 155-158
- passive GaAs MESFET MMIC linearizers for use with space-born TWTAs at C, X, and Ku band. *Katz, Allen*, +, *MWSYM 93 Vol. 1* 353-356

Traveling-wave tubes; cf. Backward-wave oscillators

TR devices

- 2.4-GHz single chip transceiver. *Devlin, L. M.*, +, *MCS 93* 23-26
- acoustooptic control of MMIC T/R modules for phased array beamsteering. *Jemison, William D.*, +, *MWSYM 93 Vol. 2* 1051-1054
- breakdown in inhomogeneous electric field of microwave transmit-receive switch. *Semenov, V.*, +, *T-MTT May 93* 879-881
- comparison of CPU level data mixing to T/R level data mixing architectures in optically controlled phased arrays. *Saedi, R.*, +, *MWSYM 93 Vol. 2* 501-504
- dual 6.8-10.7 GHz T/R module using 72 MMICs for EW system. *Garbe, G.*, +, *MWSYM 93 Vol. 3* 1329-1332
- highly integrated MMIC K-band transmit/receive chip. *Fudem, Howard*, +, *MCS 93* 119-122
- highly integrated MMIC k-band transmit/receive chip operating in 15-25 GHz range. *Fudem, Howard*, +, *MWSYM 93 Vol. 1* 137-140
- L-band high power transmit/receive module for electronically scanned cylindrical array radar. *Issogna, P.*, +, *MWSYM 93 Vol. 2* 497-500
- low voltage high power T/R switch MMIC using LC resonators. *Tokumitsu, Tsuneo*, +, *MCS 93* 27-30
- planar 94-GHz transceiver with switchable polarization. *Niehenke, Edward C.*, +, *MWSYM 93 Vol. 1* 167-170
- push-pull self-oscillating mixer for optically fed phased arrays. *Zhou, Xuesong*, +, *MWSYM 93 Vol. 1* 321-324
- W-band single-chip MMIC transceiver for FM/CW radar. *Chang, K. W.*, +, *MCS 93* 41-44

TR devices; cf. Land mobile radio transmitters/receivers

Tumors

- dielectric imaging for localization and detection of breast tumours. *Preece, Alan W.*, +, *MWSYM 93 Vol. 2* 1145-1146
- nonlinear dynamical formulation for describing growth of cancer cells based on intracellular constituents. *Krowne, Clifford M.*, +, *MWSYM 93 Vol. 2* 1159-1162

Tunable devices

- 6.5 GHz-11.5 GHz source using grid amplifier with twist reflector. *Kim, Moonil*, +, *T-MTT Oct 93* 1772-1774
- design of tunable recursive active filters using power dividers. *Billonnet, L.*, +, *MWSYM 93 Vol. 1* 185-188
- fast-tuned, injection locked, DDS-based local oscillator for 3.6 to 4.1 GHz frequency range. *Cohen, Leonard D.*, +, *MWSYM 93 Vol. 2* 659-662
- full-wave analysis of transversely magnetized ferrite nonradiative dielectric waveguide. *César, Amílcar Careli*, +, *T-MTT Apr 93* 647-651
- fully integrated narrowband tunable active MMIC bandpass and notch filters at X-band. *Katzin, P.*, +, *MCS 93* 141-144
- L-band tuned MMIC linearized amplifier using active feedback. *Pedro, José Carlos*, +, *MCS 93* 113-116
- L-band tuned MMIC linearized amplifier using active feedback. *Pedro, José Carlos*, +, *MWSYM 93 Vol. 1* 95-98
- MIC active bandstop filter using GaAs MESFETs with adjustable center frequency. *Arnold, R. G.*, +, *MWSYM 93 Vol. 3* 1313-1316
- narrow-band active X-band MMIC filters with automatic tuning and Q-factor control. *Katzin, P.*, +, *MWSYM 93 Vol. 1* 403-406
- nonreciprocal tunable waveguide directional filter using turnstile open gyromagnetic resonator. *Helszajn, J.*, +, *T-MTT Nov 93* 1950-1958
- numerical optimization of microwave oscillators and VCOs. *Rizzoli, Vittorio*, +, *MWSYM 93 Vol. 2* 629-632
- reduced phase noise of varactor tunable oscillator; numerical calculations and experimental results. *Günzgerich, V.*, +, *MWSYM 93 Vol. 2* 561-564
- resonances of tuning stubs integrated with SIS mixers in log-periodic antenna. *Dierichs, M. M. T. M.*, +, *T-MTT Apr 93* 605-608
- tunable high temperature superconductor microstrip resonators. *Beall, James A.*, +, *MWSYM 93 Vol. 3* 1421-1423
- tunable uniplanar ring resonators consisting of slotline and CPW ring resonators integrated with varactor diodes. *Navarro, Julio A.*, +, *T-MTT May 93* 760-766
- two-mode tuning method for injection-locked oscillators at 3.5 GHz; use in lock-in discriminator. *Biswas, B. N.*, +, *T-MTT Mar 93* 388-394
- YIG-tuned nonlinear transmission line multiplier. *Van Der Weide, D. W.*, *MWSYM 93 Vol. 2* 557-560

Tuners; cf. Varactor tuners; Voltage-controlled oscillators; YIG tuners

Tuning

- computer based multivariate discrimination methods for production tuning of microwave components. *Stoneking, D. E.*, *MWSYM 93 Vol. 1* 127-130

Tunnel diode oscillators

- negative differential resistance frequency conversion with gain. *Hwu, R. J.*, +, *T-MTT May 93* 890-893
- oscillator scheme that substantially increases millimeter-wave power generation capabilities of quantum-well resonant tunneling diode by device-level series integration. *Yang, Cheng Chih*, +, *MWSYM 93 Vol. 1* 329-332
- quasioptical resonant-tunneling-diode oscillator operating above 200 GHz. *Brown, E. R.*, +, *T-MTT Apr 93* 720-722
- resonant tunneling devices as sources for millimeter and submillimeter wavelengths. *Bouregba, R.*, +, *T-MTT Nov 93* 2025-2027

Tunnel diodes

- accurate small-signal modeling of double-barrier resonant tunneling diode. *Sammur, C. V.*, +, *MWSYM 93 Vol. 2* 1041-1044
- microwave measurement technique for characterizing I-V relationship for negative differential conductance devices. *Huang, P.*, +, *T-MTT Aug 93* 1455-1458
- resonant tunneling devices as sources for millimeter and submillimeter wavelengths. *Bouregba, R.*, +, *T-MTT Nov 93* 2025-2027

TV; cf. Cable TV

TV cameras; cf. TV image sensors

TV image sensors

- GaAs FET direct frequency-modulators for 42-GHz-band HDTV radio cameras and 7-GHz-band field pick-up transmitters. *Mitsumoto, Hideo*, +, *MWSYM 93 Vol. 2* 663-666

TV transmitters

- GaAs FET direct frequency-modulators for 42-GHz-band HDTV radio cameras and 7-GHz-band field pick-up transmitters. *Mitsumoto, Hideo*, +, *MWSYM 93 Vol. 2* 663-666

Two-dimensional...; cf. Multidimensional...

Two-dimensional electron gas devices; cf. Submillimeter-wave mixers

Two-port circuits

- CAD of microwave junctions by polynomial curve fitting. *Liang, Ji-Fuh*, +, *MWSYM 93 Vol. 1* 451-454
- calibration techniques for characterization of general one- and two-port networks using time-domain network analysis. *Hayden, Leonard A.*, +, *T-MTT Mar 93* 415-420
- comments on 'Unconditional stability' (comments on 'A new criterion for linear 2-port stability using a single geometrically derived parameter' by

M. L. Edwards and J. H. Sinsky). *Kurokawa, K.*, *T-MTT Aug 93* 1475 (Original paper, Dec 92 2303-2311)
 full two-port on-wafer vector network analysis to 120 GHz using active probes. *Yu, Ruai*, +, *MWSYM 93 Vol. 3* 1339-1342
 instabilities diagnosis and role of K in microwave circuits. *Platzker, Aryeh*, +, *MWSYM 93 Vol. 3* 1185-1188
 invariance of S_{21}/S_{12} and K -factor under parallel operation of linear two-port devices. *Ohtomo, Motoharu*, *T-MTT Nov 93* 2031-2034
 two-port to three-port noise-wave transformation for CAD applications. *Grosch, Theodore O.*, +, *T-MTT Sep 93* 1543-1548
TWT; cf. Traveling-wave tubes

U

UHF (300–3000 MHz); cf. Microwave (3–30 GHz)
UHF amplifiers, power; cf. UHF bipolar transistor amplifiers, power; UHF FET amplifiers, power
UHF bipolar transistor amplifiers, power
 high-efficiency AlGaAs/GaAs HBT power amplifier MMIC for 1.9 GHz digital cordless phone. *Hara, S.*, +, *MCS 93* 19-22
UHF bipolar transistors, power
 GaAs/GaAlAs power HBTs for mobile communications at 1.8 GHz. *Wang, H.*, +, *MWSYM 93 Vol. 2* 549-552
 technique for measuring small signal S -parameters of RF/microwave transistor power amplifying stage for use in power amplifier stability analysis. *Collinson, Glenn*, +, *MWSYM 93 Vol. 3* 1255-1258
UHF devices
 L-band high power transmit/receive module for electronically scanned cylindrical array radar. *Issogna, P.*, +, *MWSYM 93 Vol. 2* 497-500
 limiting filter for application in GPS receiver. *Tan, Robert*, +, *MWSYM 93 Vol. 2* 881-883
UHF FET amplifiers; cf. MESFET amplifiers; MODFET amplifiers
UHF FET amplifiers, power
 high efficiency single and push-pull power amplifiers. *Toyoda, Sachihiro*, *MWSYM 93 Vol. 1* 277-280
UHF FET amplifiers, power; cf. MMIC amplifiers, power
UHF FET integrated circuits; cf. MMIC...
UHF FET oscillators; cf. MESFET oscillators
UHF FETs; cf. MOSFETs
UHF FETs, power
 3-V L-band power double-doped AlGaAs/InGaAs/GaAs heterojunction FETs. *Iwata, Naotaka*, +, *MWSYM 93 Vol. 3* 1465-1468
UHF filters
 compact 900-MHz hairpin-line filters using high-dielectric-constant microstrip line. *Pramanick, Protap*, *MWSYM 93 Vol. 2* 885-888
 dual-plane bandpass elliptic coupled-line filter suitable for high-temperature superconducting thin-film implementation. *Yao, Shih-Jih*, +, *MWSYM 93 Vol. 1* 181-184
 dual-plane bandpass elliptic coupled-line filter suitable for high-temperature superconducting thin-film implementation. *Yao, Shih-Jih*, +, *T-MTT Dec 93* 2182-2189
 high Q microwave acoustic resonators and filters. *Lakin, K. M.*, +, *MWSYM 93 Vol. 3* 1517-1520
 high Q microwave acoustic resonators and filters. *Lakin, Kenneth M.*, +, *T-MTT Dec 93* 2139-2146
 MIC active bandstop filter using GaAs MESFETs with adjustable center frequency. *Arnold, R. G.*, +, *MWSYM 93 Vol. 3* 1313-1316
UHF filters; cf. UHF resonator filters
UHF frequency conversion
 negative differential resistance frequency conversion with gain. *Hwu, R. J.*, +, *T-MTT May 93* 890-893
 technique for design of filter-based parametric frequency dividers combining basic divider analysis with nonlinear simulation. *Sloan, George R.*, *T-MTT Feb 93* 224-228
UHF frequency conversion; cf. MMIC frequency converters
UHF integrated circuits
 GHz-band ceramic multilayer substrate application to hybrid IC. *Taguchi, Yutaka*, +, *MWSYM 93 Vol. 3* 1325-1328
UHF measurements
 measuring temperature sensitivity of coaxial-probe complex permittivity measurements from 100 MHz to 26.5 GHz. *Colpitts, Bruce G.*, *T-MTT Feb 93* 229-233
UHF modulation/demodulation
 high-performance fiber-optic links for microwave applications. *Cox, C. H., III*, *MWSYM 93 Vol. 2* 719-722
 maximum dynamic range operation of microwave external modulation fiber-optic link. *Ackerman, Edward*, +, *T-MTT Aug 93* 1299-1306

UHF radiation effects; cf. Biological radiation effects, electromagnetic
UHF receivers; cf. Land mobile radio transmitters/receivers; MMIC receivers
UHF resonator filters
 dual-mode microstrip ring resonator filter with active devices for loss compensation. *Karacaoglu, U.*, +, *MWSYM 93 Vol. 1* 189-192
UHF switches
 solid state 6×6 transfer switch for cylindrical array radar. *Knox, M. E.*, +, *MWSYM 93 Vol. 3* 1225-1228
UHF transmitters
 12-kW S-band solid-state transmitter for radar systems. *Hanczor, Michael*, +, *MWSYM 93 Vol. 3* 1213-1216
 12-kW S-band solid-state transmitter for radar systems. *Hanczor, Michael*, +, *T-MTT Dec 93* 2237-2242
UHF transmitters; cf. Land mobile radio transmitters/receivers; MMIC transmitters
Ultrafast electronics
 characterization and simulation of biquadratic CPW tapers for time-domain applications. *Thomann, W.*, +, *MWSYM 93 Vol. 2* 835-838
 characterization of picosecond pulse crosstalk between coupled microstrip lines with arbitrary conductor width. *Qian, Yongxi*, +, *T-MTT Jun/Jul 93* 1011-1016
 picosecond photoconductive switches designed for on-wafer characterization of high frequency interconnects. *Golob, L. P.*, +, *MWSYM 93 Vol. 3* 1395-1398
 picosecond pulse propagation on coplanar striplines fabricated on lossy semiconductor substrates; modeling and experiments. *Son, Joo-Hiuk*, +, *T-MTT Sep 93* 1574-1580
Ultrafast optics
 cavity dumping power from millimeter-wave open cavity using laser-illuminated silicon quasi-optical switch; generation of short high-power pulses. *Smith, G. M.*, +, *MWSYM 93 Vol. 1* 155-158
 real-time broadband waveform sampling using optic-microwave phase-locking. *Huang, S. L.*, +, *MWSYM 93 Vol. 3* 1387-1390
 time-domain network analysis of millimeter-wave circuits based on photoconductive-probe sampling technique. *Kim, J.*, +, *MWSYM 93 Vol. 3* 1359-1362
Ultra-high-frequency (300–3000 MHz); cf. UHF...
Underground object detection; cf. Buried-object detection
United Kingdom
 overview of microwave ferrite-related activity in France, Germany, Spain, Poland and UK. *Davis, Lionel E.*, *MWSYM 93 Vol. 1* 199-202
United States
 educating microwave engineers in United States. *Henning, Rudolf E.*, +, *T-MTT Jun/Jul 93* 913-919
 status of ferrite technology for microwave applications in United States. *Webb, D. C.*, *MWSYM 93 Vol. 1* 203-206
US; cf. Governmental activities/factors; United States

V

Vacuum microelectronics
 introduction to MPM (microwave power module) which incorporating solid-state and vacuum-electronics technology. *Abrams, R. H., Jr.*, +, *MWSYM 93 Vol. 1* 107-110
 MPM applications; forecast of near- and long-term applications. *Cosby, Lynwood*, *MWSYM 93 Vol. 1* 111-114
 MPM technology developments; industry perspective. *Christensen, J. A.*, +, *MWSYM 93 Vol. 1* 115-118
Varactors
 200-GHz tripler using single barrier varactor. *Choudhury, Debabani*, +, *T-MTT Apr 93* 595-599
 cooled Schottky varactor frequency multipliers at submillimeter wavelengths. *Louhi, Jyrki T.*, +, *T-MTT Apr 93* 565-571
 GaAs, InGaAs, and InAs-based single barrier varactor diodes for 750-GHz tripler multiplier. *Nilsen, Svein M.*, +, *T-MTT Apr 93* 572-580
 quasi-optical VCOs consisting of MESFET oscillator array, variable capacitance array and mirror. *Mader, Thomas*, +, *T-MTT Oct 93* 1775-1781
 symmetric-varactor-frequency triplers; analytical model. *Krishnamurthi, Kathiravan*, +, *MWSYM 93 Vol. 2* 649-652
 W-band integrated power module using MMIC MESFET power amplifiers and varactor diodes. *Ho, Thomas C.*, +, *T-MTT Dec 93* 2288-2294
Varactors; cf. Schottky diode frequency converters
Varactor tuners
 reduced phase noise of varactor tunable oscillator; numerical calculations and experimental results. *Güntherich, V.*, +, *MWSYM 93 Vol. 2* 561-564
 tunable uniplanar ring resonators consisting of slotline and CPW ring resonators integrated with varactor diodes. *Navarro, Julio A.*, +, *T-MTT May 93* 760-766

Variational methods

calculating resonant frequency of uncovered and covered rectangular microstrip patches using modified Wolff model. *Verma, Anand K.*, +, *T-MTT Jan 93* 109-116

Vectors

FDTD method applied to analysis of circuits described by 2-D vector wave equation. *Gwarek, Wojciech K.*, +, *T-MTT Feb 93* 311-317

synthesis of vector parasites in finite-element Maxwell solutions. *Lynch, Daniel R.*, +, *T-MTT Aug 93* 1439-1448

Voltage breakdown; cf. Dielectric breakdown**Voltage-controlled oscillators**

fast-tuned, injection locked, DDS-based local oscillator for 3.6 to 4.1 GHz frequency range. *Cohen, Leonard D.*, +, *MWSYM 93 Vol. 2* 659-662

InP-based HBT millimeter-wave microstrip amplifiers and oscillators working up to 40 GHz. *Kobayashi, K. W.*, +, *MCS 93* 85-88

monolithic dielectrically stabilized VCO for millimeter-wave range. *Güttich, U.*, +, *MWSYM 93 Vol. 2* 667-670

numerical optimization of microwave oscillators and VCOs. *Rizzoli, Vittorio*, +, *MWSYM 93 Vol. 2* 629-632

quasi-optical VCOs consisting of MESFET oscillator array, variable capacitance array and mirror. *Mader, Thomas*, +, *T-MTT Oct 93* 1775-1781

small dielectric TEM mode resonator with crossing slot; application to cellular radio VCO. *Uwano, Tomoki*, *T-MTT Apr 93* 639-646

VCO-based chirp generation for broad bandwidth compressive receiver applications. *Levy, J. S.*, +, *MWSYM 93 Vol. 2* 1113-1115

Voltage measurement

improvements in millimeter-wave system for Josephson junction array voltage standard system. *Yoshida, Haruo*, +, *MWSYM 93 Vol. 1* 389-392

improvements in millimeter-wave system for Josephson junction array voltage standard system. *Yoshida, Haruo*, +, *T-MTT Dec 93* 2353-2358

Volterra series

comments, with reply, on 'Mechanisms determining third-order intermodulation distortion in AlGaAs/GaAs heterojunction bipolar transistors' by A. Samelis and D. Pavlidis. *Maas, S. A.*, +, *T-MTT Nov 93* 2038-2040 (Original paper, Dec 92 2374-2380)

Volume waves; cf. Magnetostatic volume waves**W****Waveform analysis; cf. Spectral analysis****Waveguide bends**

effects of air-bridges and mitering on CPW 90° bends; theory and experiment. *Omar, A. A.*, +, *MWSYM 93 Vol. 2* 823-826

equivalent circuits for multiconductor microstrip bend discontinuities. *Harms, Paul H.*, +, *T-MTT Jan 93* 62-69

full-wave analysis of various coplanar bends and T-junctions with respect to different types of air-bridges. *Becks, Thomas*, +, *MWSYM 93 Vol. 2* 697-700

rigorously modeling short bent, graded-index dielectric slab. *Bastiaansen, Harrie J. M.*, +, *T-MTT Nov 93* 1972-1980

theoretical and experimental study of straight and bent CPW shunt stubs. *Dib, Nihad I.*, +, *T-MTT Jan 93* 38-44

Waveguide components

double ridged waveguide phase shifters for broadband applications. *El-Sharaway, El-Badawy*, *MWSYM 93 Vol. 1* 473-475

double ridged waveguide phase shifters for broadband applications. *El-Sharaway, El-Badawy*, *T-MTT Dec 93* 2161-2165

field theory CAD of L-shaped iris coupled-mode launchers and dual-mode filters. *Ihmels, R.*, +, *MWSYM 93 Vol. 2* 765-768

integrated T-septum waveguide diplexer for compact front-end applications. *Labay, Vladimir A.*, +, *MWSYM 93 Vol. 1* 463-466

matched diplexer configuration in E-plane technology. *Morini, Antonio*, +, *MWSYM 93 Vol. 2* 1077-1080

Waveguide components; cf. Directional couplers; Schottky diode mixers**Waveguide discontinuities**

18/36 GHz (M)MIC GaAs FET frequency doublers fabricated in CPW taking into consideration effects of coplanar discontinuities. *Abdo-Tuko, M.*, +, *T-MTT Aug 93* 1307-1315

analysis and measurements of CPW discontinuities. *Radišić, Vesna*, +, *MWSYM 93 Vol. 2* 951-954

analysis of microstrip discontinuities based on edge-element 3-D FEM formulation and absorbing boundary conditions. *Wang, J. S.*, +, *MWSYM 93 Vol. 2* 745-748

combined numerical and analytical methods for rigorous analysis of waveguide circuits with discontinuities. *Wu, Ke-Li*, +, *MWSYM 93 Vol. 2* 975-978

computation of S-parameters of rectangular waveguide with rectangular or cylindrical dielectric obstacle. *Abdulnour, Jawad*, +, *T-MTT Nov 93* 1988-1994

continuous spectrum, characteristic modes, and leaky waves of open waveguides. *Mongiardo, Mauro*, +, *T-MTT Aug 93* 1329-1335

corrections to 'Moment method formulation of thick diaphragms in a rectangular waveguide' (Mar 92 592-595). *Datta, Amlan*, +, *T-MTT Apr 93* 738-739

effects of ground equalization on electrical performance of asymmetric CPW shunt stubs. *Dib, Nihad*, +, *MWSYM 93 Vol. 2* 701-704

electric fields of H-plane tapered iris calculated using moment method. *Natzke, John R.*, +, *T-MTT Aug 93* 1463-1466

field-theoretical treatment of H-plane waveguide junctions with anisotropic ferrite and composite ferrite posts. *Tsai, Yu-Yuan*, +, *T-MTT Feb 93* 274-281

field theory CAD of L-shaped iris coupled-mode launchers and dual-mode filters. *Ihmels, R.*, +, *MWSYM 93 Vol. 2* 765-768

field theory design of corrugated septum orthomode transducers. *Ihmels, R.*, +, *MWSYM 93 Vol. 2* 909-912

impedance, attenuation and power-handling characteristics of double L-septa waveguides. *Saha, Pradip Kumar*, +, *T-MTT May 93* 881-884

investigation of multiple rectangular aperture irises in rectangular waveguide using TE_{mn}^* -modes. *Yang, Rong*, +, *T-MTT Aug 93* 1369-1374

method for reduction of surface integral to contour integral; application to calculation of electromagnetic coupling of circular cavities by rectangular iris. *Guillot, P.*, +, *MWSYM 93 Vol. 1* 455-458

method for reduction of surface integral to contour integral; application to calculation of electromagnetic coupling of circular cavities by rectangular iris. *Guillot, Philippe*, +, *T-MTT Dec 93* 2156-2160

mode conversion at diffracting apertures in millimeter and submillimeter wave optical systems. *Murphy, J. Anthony*, +, *T-MTT Oct 93* 1700-1702

modeling multiple discontinuities in rectangular waveguide partially filled with nonreciprocal ferrites. *Solano, Miguel A.*, +, *T-MTT May 93* 797-802

multimode equivalent network representation of capacitive discontinuities in parallel-plate waveguide; use in analysis of planar transmission lines. *Guglielmi, Marco*, +, *T-MTT Jun/Jul 93* 1195-1206

reciprocity formulation for EM scattering by obstacle within large open cavity. *Pathak, Prabhakar H.*, +, *T-MTT Apr 93* 702-707

recurrence modal analysis for multiple waveguide discontinuities and its application to circular structures. *Gesell, Glenn A.*, +, *T-MTT Mar 93* 484-490

semi-discrete finite-element analysis of zero-thickness inductive strips in rectangular waveguide. *Crawford, Devin*, +, *T-MTT Mar 93* 523-526

theoretical and experimental study of straight and bent CPW shunt stubs. *Dib, Nihad I.*, +, *T-MTT Jan 93* 38-44

thin inclined rectangular aperture with arbitrary location in rectangular waveguide. *Yang, Ron*, +, *T-MTT Aug 93* 1461-1463

wideband circuit modelling of waveguide discontinuities by FDTD methods. *Moglie, Franco*, +, *MWSYM 93 Vol. 2* 967-970

Waveguide discontinuities; cf. Finline discontinuities; Transmission-line discontinuities; Waveguide bends; Waveguide junctions; Waveguide transitions**Waveguide filters**

CAD of circular ridge waveguide evanescent-mode bandpass filters using frequency-domain TLM method. *Huang, Jifu*, +, *MWSYM 93 Vol. 1* 459-462

CAD of T-septum waveguide evanescent-mode filters. *Labay, Vladimir A.*, +, *T-MTT Apr 93* 731-733

CAD technique for wideband couplers and high-quality filters using periodic topology. *Wu, Ke*, +, *MWSYM 93 Vol. 2* 1085-1088

experimental results on microshield transmission line circuits. *Weller, T. M.*, +, *MWSYM 93 Vol. 2* 827-830

field theoretical CAD of rectangular and circular iris coupled rectangular or circular waveguide cavity filters. *Papziner, Uwe*, +, *T-MTT Mar 93* 462-471

field theory CAD of L-shaped iris coupled-mode launchers and dual-mode filters. *Ihmels, R.*, +, *MWSYM 93 Vol. 2* 765-768

high performance direct-coupled bandpass filters on CPW. *Everard, Jeremy K. A.*, +, *T-MTT Sep 93* 1568-1573

nonreciprocal tunable waveguide directional filter using turnstile open gyromagnetic resonator. *Helszajn, J.*, +, *T-MTT Nov 93* 1950-1958

Waveguide filters; cf. Cavity-resonator filters**Waveguide junctions**

analysis of general coaxial-line/radial-line region junction. *Keam, R. B.*, +, *T-MTT Mar 93* 516-520

CAD of T-septum waveguide evanescent-mode filters. *Labay, Vladimir A.*, +, *T-MTT Apr 93* 731-733

equivalent networks with simple closed-form expressions for open and slit-coupled E-plane tee junctions. *Lampariello, Paolo*, +, *T-MTT May 93* 839-847

field theoretical CAD of rectangular and circular iris coupled rectangular or circular waveguide cavity filters. *Papziner, Uwe*, +, *T-MTT Mar 93* 462-471

field-theoretical treatment of *H*-plane waveguide junctions with anisotropic ferrite and composite ferrite posts. *Tsai, Yu-Yuan*, +, *T-MTT Feb 93* 274-281

full-wave analysis of various coplanar bends and T-junctions with respect to different types of air-bridges. *Becks, Thomas*, +, *MWSYM 93 Vol. 2* 697-700

influence of metallization thickness on characteristics of cascaded junction discontinuities of shielded coplanar type transmission line. *Huang, Tian-Wei*, +, *T-MTT Apr 93* 693-697

integrated T-septum waveguide diplexer for compact front-end applications. *Labay, Vladimir A.*, +, *MWSYM 93 Vol. 1* 463-466

reciprocity relations in waveguide junctions. *Williams, Dylan F.*, +, *T-MTT Jun/Jul 93* 1105-1110

transverse and longitudinal modes in waveguide-coupled resonators. *Hunt, William D.*, +, *MWSYM 93 Vol. 3* 1509-1512

versatile moment method solution of conventional and modified CPW T-junctions. *Omar, Amjad A.*, +, *T-MTT Apr 93* 687-692

waveguide and ridge waveguide T-junctions for wide band applications. *Yao, Hui-Wen*, +, *MWSYM 93 Vol. 2* 601-604

waveguide and ridge waveguide T-junctions for wide band applications. *Yao, Hui-Wen*, +, *T-MTT Dec 93* 2166-2173

Waveguide junctions; cf. Hybrid junctions; Multiport circuits

Waveguide mounts

characteristics of CPW HEMT mount on GaAs substrate. *Mirshekar-Syähkal, D.*, +, *T-MTT Sep 93* 1494-1498

Waveguide obstacles; cf. Waveguide discontinuities

Waveguides

continuous spectrum, characteristic modes, and leaky waves of open waveguides. *Mongiardo, Mauro*, +, *T-MTT Aug 93* 1329-1335

efficient full-wave 3-D and 2-D waveguide eigenvalue analysis and S-matrix computation using direct FDTD wave equation formulation. *Krupezevic, Dragan V.*, +, *T-MTT Dec 93* 997-1000

efficient full-wave 3-D and 2-D waveguide eigenvalue analysis by using direct FDTD wave equation formulation. *Brankovic, V. J.*, +, *MWSYM 93 Vol. 2* 897-900

efficient TLM diacoptics for separable structures. *Righi, M.*, +, *MWSYM 93 Vol. 1* 425-428

full-wave analysis of 3-D planar and waveguide structures. *Lerer, Alexander M.*, +, *T-MTT Nov 93* 2002-2015

full-wave analysis of guiding structures using 2-D array of 3-D TLM nodes. *Jin, Hang*, +, *T-MTT Mar 93* 472-477

modeling of cylindrical dielectric resonators in rectangular waveguides and cavities. *Liang, Xiao-Peng*, +, *MWSYM 93 Vol. 2* 597-600

modeling of cylindrical dielectric resonators in rectangular waveguides and cavities. *Liang, Xiao-Peng*, +, *T-MTT Dec 93* 2174-2181

rigorous analysis of iris coupling problem in waveguide. *Yang, Rong*, +, *T-MTT Feb 93* 349-352

rigorous CAD design of rectangular waveguide sidewall aperture couplers. *Sieverding, T.*, +, *MWSYM 93 Vol. 2* 761-764

shape function optimization in finite-element analysis of waveguides. *Hernández-Figueroa, H. E.*, +, *T-MTT Jun/Jul 93* 1235-1238

transformed symmetrical condensed node for effective TLM analysis of guided wave problems. *Celuch-Marcysiak, Malgorzata*, +, *T-MTT May 93* 820-823

transverse scattering matrix formulation for class of waveguide eigenvalue problems. *Ma, Zhewang*, +, *T-MTT Jun/Jul 93* 1044-1051

Waveguides; cf. Circular waveguides; Coaxial waveguides; Coplanar waveguides; Corrugated waveguides; Dielectric waveguides; Millimeter-wave waveguides; Optical waveguides; Parallel-plate waveguides; Rib waveguides; Ridge waveguides; Strip transmission lines; Submillimeter-wave waveguides; Thin-film waveguides; Transmission lines

Waveguide transitions

characterization and simulation of biquadratic CPW tapers for time-domain applications. *Thomann, W.*, +, *MWSYM 93 Vol. 2* 835-838

circular waveguide tapers based on subdivision of structure and controlling field resolution. *Jöstingmeier, A.*, +, *MWSYM 93 Vol. 2* 995-996

continuous spectrum of inset dielectric guide and its application to waveguide transitions. *Sewell, Phillip D.*, +, *T-MTT Feb 93* 282-289

CPW transitions to slotline; design and microprobe characterization. *Grammer, Wes*, +, *T-MTT Sep 93* 1653-1658

efficient TE_{0,n}-to-TE_{0,n} + *p*-mode converter in circular waveguides. *Jöstingmeier, A.*, +, *MWSYM 93 Vol. 2* 939-941

electric fields of *H*-plane tapered iris calculated using moment method. *Natzke, John R.*, +, *T-MTT Aug 93* 1463-1466

experimental results on microshield transmission line circuits. *Weller, T. M.*, +, *MWSYM 93 Vol. 2* 827-830

generalized multiport reciprocity analysis of surface-to-surface transitions between multiple printed transmission lines. *Das, Nirod K.*, *T-MTT Jun/Jul 93* 1164-1177

role of higher-order modes in characterization of shielded transition to dielectric waveguide. *Engel, A. G., Jr.*, +, *MWSYM 93 Vol. 2* 831-834

W-band wafer probe using ridge-trough waveguide to transition from rectangular waveguide input to CPW. *Godshalk, Edward M.*, *MWSYM 93 Vol. 1* 171-174

Wedges

multiple microstrip lines on multilayered cylindrical dielectric substrate on perfectly conducting wedge. *Auda, Hesham A.*, +, *T-MTT Jun/Jul 93* 1037-1043

scattering and reception by flanged parallel-plate waveguide; TE-mode analysis. *Park, Tah J.*, +, *T-MTT Aug 93* 1458-1460

Wiener-Hopf theory

application of Wiener-Hopf technique to electrostatic field problems in interdigital transducers. *Molisch, Andreas F.*, +, *T-MTT Feb 93* 318-324

Wire communication; cf. Optical fiber communication

Wiring; cf. Integrated circuit interconnections

Y

Yield optimization

multilevel multidimensional quadratic modeling for yield-driven electromagnetic optimization. *Bandler, J. W.*, +, *MWSYM 93 Vol. 2* 1017-1020

multilevel multidimensional quadratic modeling for yield-driven electromagnetic optimization. *Bandler, John W.*, +, *T-MTT Dec 93* 2269-2278

YIG films/devices

broadband frequency selective limiter fabricated with YIG films in stripline configuration providing over 14 dB of limiting across more than octave bandwidth. *Adam, J. D.*, +, *MWSYM 93 Vol. 1* 477-478

broadband frequency selective limiter fabricated with YIG films in stripline configuration providing over 14 dB of limiting across more than octave bandwidth. *Adam, J. Douglas*, +, *T-MTT Dec 93* 2227-2231

YIG materials/devices

numerical analysis and computer simulation of magnetostatic wave propagation in YIG-loaded waveguide. *Radmanesh, Matthew M.*, +, *T-MTT Jan 93* 89-96

YIG tuners

YIG-tuned nonlinear transmission line multiplier. *Van Der Weide, D. W.*, *MWSYM 93 Vol. 2* 557-560

Yttrium iron garnet; cf. YIG...

Yttrium materials/devices; cf. Superconducting devices; YIG...