

# 1992 Index

## IEEE Transactions on Microwave Theory and Techniques, Vol. 40 and IEEE MTT-S Sponsored Conferences

The indexed papers are identified by the acronyms:

|                  |                                                                                                    |
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| <b>CORNEL 91</b> | 1991 IEEE/Cornell Conference on Advanced Concepts in High Speed Semiconductor Devices and Circuits |
| <b>MCS 92</b>    | 1992 IEEE Microwave and Millimeter-Wave Monolithic Circuits Symposium Digest                       |
| <b>MWSYM 92</b>  | 1992 IEEE MTT-S International Microwave Symposium Digest                                           |
| <b>T-MTT</b>     | 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.

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**Difference methods; cf.** Finite-difference methods

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**Digital communication; cf.** Digital radio; Image communication

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- Digital integrated circuits; cf.** Bipolar integrated circuits; Very-large-scale integration
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- Discharges; cf.** Gas discharges
- Discontinuities; cf.** Transmission-line discontinuities; Waveguide discontinuities
- Discrete Fourier transforms**  
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- Discrete transforms**  
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- Dissipative circuits; cf.** Lossy circuits
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- Doppler radar**  
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- Electromagnetic propagation, anisotropic media; cf.** Electromagnetic propagation, magnetic media; Electromagnetic propagation, nonhomogeneous media; Optical propagation, anisotropic media
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- Electromagnetic propagation, dispersive media; cf.** Transmission lines; Waveguides
- Electromagnetic propagation, magnetic media**  
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- Electromagnetic propagation, magnetic media; cf.** Electromagnetic propagation, nonhomogeneous media; Ferrite-loaded waveguides
- Electromagnetic propagation, nonhomogeneous media**  
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- Electromagnetic propagation, nonhomogeneous media; cf.** Electromagnetic scattering, nonhomogeneous media; Nonhomogeneously loaded waveguides; Optical propagation, nonhomogeneous media
- Electromagnetic propagation, nonlinear media**  
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- Electromagnetic propagation, semiconducting media**  
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- Electromagnetic pulse...; cf.** Electromagnetic transient...
- Electromagnetic radiation**  
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- Electromagnetic radiation; cf. Antennas**
- Electromagnetic radiation effects; cf. Biological radiation effects, electromagnetic; Biomedical radiation applications, electromagnetic; MESFETs; Semiconductor device radiation effects**
- Electromagnetic reflection**
- polarimetric submillimeter-wave reflectometry using real-time quasi-optical system. *Brune, J.*, *MWSYM 92 Vol. 1* 357-360
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- Electromagnetic scattering**
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- improved finite-difference formulation in frequency domain for 3-D scattering problems of arbitrary geometry. *Beilenhoff, Klaus*, +, *T-MTT Mar 92* 540-546
- scattering and coupling in overmoded waveguides using FD-TD method. *Roper, D. H.*, +, *MWSYM 92 Vol. 1* 401-404
- Electromagnetic scattering; cf. Electromagnetic diffraction; Electromagnetic reflection; Electromagnetic transient scattering; Waveguide discontinuities**
- Electromagnetic scattering, absorbing media**
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- Electromagnetic scattering, anisotropic media**
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- Electromagnetic scattering, dispersive media**
- time-domain modeling of dispersive characteristics of impedance boundary condition for thin coatings over perfect conductors using FD-TD method. *Lee, C. F.*, +, *T-MTT Sep 92* 1847-1850
- Electromagnetic scattering, inverse problem**
- TLM synthesis of microwave structures using time reversal. *Forest, Michel*, +, *MWSYM 92 Vol. 2* 779-782
- Electromagnetic scattering, magnetic media; cf. Electromagnetic scattering, nonhomogeneous media**
- Electromagnetic scattering, nonhomogeneous media**
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- 3-D TLM condensed node structures for improved simulation of conductor strips. *Nielsen, John S.*, +, *MWSYM 92 Vol. 3* 1221-1223
- absorbing boundary conditions in 3-D TLM condensed node model. *Chen, Zhizhang*, +, *MWSYM 92 Vol. 1* 369-372
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- frequency-dependent FD-TD method for biological applications; evaluation for 40-433-MHz frequencies and hyperthermia simulation. *Sullivan, Dennis M.*, *T-MTT Mar 92* 532-539
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- Electromagnetic transient scattering**
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- Electromagnetic transient scattering; cf. Scattering parameters measurement**
- Electromechanical devices; cf. Micromechanical devices**
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- Electron tubes**
- SUPER-RELTRON, high-efficiency high-power UHF/microwave tube; analysis and experiments. *Miller, R. Bruce*, +, *MWSYM 92 Vol. 1* 237-240
- Electron tubes; cf. Klystrons; Traveling-wave tubes**
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- voltage calibration factors for direct electrooptic sampling technique for HF MMIC measurements; theory and experiment. *Hjelme, Dag R.*, +, *T-MTT Oct 92* 1941-1950
- Electrooptic modulation**
- high-speed modulation of InP-based strained-quantum-well lasers with integrated electroabsorption modulator. *Nichols, D.*, +, *CORNEL 91* 219-228
- Electrooptic switches**
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- Electrothermal materials/devices**
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- comments on 'Modes of elliptical waveguides: A correction' by D. A. Goldberg et al. *Wiltse, J. C.*, +, *T-MTT Jan 92* 175-176 (Original paper, Nov 90 1603-1608)
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- analysis and realization of *L*-band dielectric resonator filters for communication satellite applications. *Madrangas, Valérie*, +, *T-MTT Jan 92* 120-127

**Endfire antennas**

- integrated submillimeter-wave antennas; current status. *Rebeiz, Gabriel M.*, *MWSYM 92 Vol. 2* 1145-1148

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- uncertainty analysis of error-corrected permittivity measurements using open-ended sensors and reference liquid calibration. *Nyshadham, Adiseshu*, +, *T-MTT Feb 92* 305-314

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- applications of microwaves and millimeter waves for vehicle communications and control in Europe. *Meinel, Holger H.*, *MWSYM 92 Vol. 2* 609-612
- recent developments in microwave components, subsystems, and applications in Europe. *Seeds, A. J.*, *MWSYM 92 Vol. 2* 749-752

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- microwave amplifier design using expert systems. *Parks, G.*, +, *MWSYM 92 Vol. 2* 861-864

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- unified process for fabricating quantum-well lasers, detectors, modulators, and waveguides on single substrates. *Burton, R. S.*, +, *CORNEL 91* 245-251

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- multielement millimeter- and submillimeter-wave quasi-optical oscillator using Fabry-Perot resonator. *Kondo, Hirotaka*, +, *T-MTT May 92* 857-863
- study of Fabry-Perot cavity in microwave frequency range by boundary-element method. *Cam, Hervé*, +, *T-MTT Feb 92* 298-304

**Fast Fourier transforms; cf. Discrete Fourier transforms****FD-TD (finite-difference-time-domain) methods; cf. Finite-difference methods****Feedback amplifiers**

- tutorial review of 'Power gain in feedback amplifiers' by S. J. Mason (1954) and summary of subsequent advances. *Gupta, Madhu S.*, *T-MTT May 92* 864-879
- ultraflat, low-power, process-insensitive *Ku*-band HEMT feedback MMIC amplifier. *Helms, D. R.*, +, *MCS 92* 17-19

**Feedback circuits**

- 2-22-GHz, low-phase-noise YIG-tuned, Si bipolar oscillator using composite feedback. *Khanna, A. P. S.*, +, *MWSYM 92 Vol. 3* 1297-1299
- GaAs analog frequency dividers based on nonlinear feedback control of MESFET in forced oscillation mode. *Amine, Hicham*, +, *T-MTT Dec 92* 2345-2351
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- planar MESFET grid oscillators using gate feedback; *X*- and *Ku*-band realizations. *Weikle, Robert W., II*, +, *T-MTT Nov 92* 1997-2003

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- circulation conditions and predicted performance for symmetrical Y-junction and asymmetrical W disk ferrite circulators; 11-GHz design example. *Borjak, Assad M.*, +, *T-MTT Dec 92* 2352-2358

circulation conditions and predicted performance for symmetrical Y-junction ring and asymmetrical W disk ferrite circulators. *Borjak, A. M.*, +, *MWSYM 92 Vol. 3* 1393-1396

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**Ferrite materials/devices; cf.** Electromagnetic propagation, magnetic media; Electromagnetic surface waves; YIG films/devices; YIG materials/devices

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**FET amplifiers; cf.** MESFET amplifiers; Microwave FET amplifiers; MODFET amplifiers; Power FET amplifiers; UHF FET amplifiers

**FET integrated circuits; cf.** FETs; MESFET integrated circuits

**FET integrated circuits, analog; cf.** Microwave FET integrated circuits; Millimeter-wave FET integrated circuits

**FET oscillators; cf.** MESFET oscillators; Microwave FET oscillators; Millimeter-wave FET oscillators; MODFET oscillators

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**FETs; cf.** Gallium FETs; MESFETs; Microwave FETs; Millimeter-wave FETs; MISFETs; MODFETs; MOSFETs; Power FETs

**FET switches**

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**FET switches; cf.** MESFET switches; Power FET switches

**FFT (fast Fourier transform); cf.** Discrete Fourier transforms

**Films; cf.** Conducting films

**Filtering; cf.** Limiting

**Filters; cf.** Active filters; Bandpass filters; Bandstop filters; Chebyshev filters; Digital filters; Ferrite filters; High-pass filters; Impedance matching; Low-pass filters; Maximally-flat-magnitude filters; Microwave filters; Millimeter-wave filters; Notch filters; Piezoelectric-resonator filters; Resonator filters; Transversal filters; Tunable devices; UHF filters; Waveguide filters

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- efficient 2-D graded-mesh FD-TD algorithm for shielded or open millimeter-wave and optical waveguide structures. *Brankovic, Veselin J.*, +, *T-MTT Dec 92* 2272-2277
- efficient FD-TD analysis of dielectric resonators with tuning screw or with multilayer structure. *Shen, Ying*, +, *MWSYM 92 Vol. 2* 967-970
- enhancing FD-TD analysis of dielectric resonators using spectrum estimation and digital filtering techniques. *Bi, Zhiqiang*, +, *MWSYM 92 Vol. 2* 869-872
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- fast FD-TD analysis of resonators using digital filtering and spectrum estimation techniques. *Bi, Zhiqiang*, +, *T-MTT Aug 92* 1611-1619
- FD-TD analysis of power deposition patterns of array of interstitial antennas for use in microwave hyperthermia. *Cherry, Paul C.*, +, *T-MTT Aug 92* 1692-1700
- finite-difference analysis of open and short circuits in coplanar MMICs including finite metallization thickness and mode conversion. *Beilenhoff, Klaus*, +, *MWSYM 92 Vol. 1* 103-106
- finite-difference calculation of S-parameters of arbitrary 3-D structures with dielectric and conductor losses. *Haffa, Steffen*, +, *T-MTT Aug 92* 1602-1610
- frequency-dependent FD-TD method for biological applications; evaluation for 40-433-MHz frequencies and hyperthermia simulation. *Sullivan, Dennis M.*, *T-MTT Mar 92* 532-539
- frequency-dependent FD-TD method for induced-current calculations for heterogeneous model of human body. *Gandhi, O. P.*, +, *MWSYM 92 Vol. 3* 1283-1286
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- harmonic characterization of microstrip bend using FD-TD method. *Feix, Noël*, +, *T-MTT May 92* 955-961
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- iterative solution of eigenvalue problem for dielectric waveguide. *Galick, Albert T.*, +, *T-MTT Apr 92* 699-705
- losses in GaAs microstrip and coplanar waveguides using finite-difference TLM method. *Zhang, Minya*, +, *MWSYM 92 Vol. 2* 971-974
- modeling 3-D discontinuities in waveguides using nonorthogonal FD-TD algorithm. *Lee, Jin-Fa*, +, *T-MTT Feb 92* 346-352†
- modeling discontinuities in general coaxial waveguide structures by FD-TD method. *Van Hese, Jan*, +, *T-MTT Mar 92* 547-556
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- scattering and coupling in overmoded waveguides using FD-TD method. *Roper, D. H.*, +, *MWSYM 92 Vol. 1* 401-404
- time-domain electromagnetic analysis of via in multilayer computer chip package using FD-TD or TLM method. *Becker, W. D.*, +, *MWSYM 92 Vol. 3* 1229-1232
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- 3-D finite-element analysis of  $n$ -port waveguide junctions using edge elements. *Wong, M. F.*, +, *MWSYM 92 Vol. 1* 417-420
- accurate finite-element modeling of axisymmetric two-port junctions in coaxial lines. *Scott, Waymond R., Jr.*, *T-MTT Aug 92* 1712-1716
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- characterizing microwave planar circuits by coupled finite-boundary-element method. *Wu, Ke-Li*, +, *MWSYM 92 Vol. 2* 865-868

- characterizing microwave planar circuits using coupled finite-element-boundary-element method. *Wu, Ke-Li*, +, *T-MTT Oct 92* 1963-1966
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- computation of cavity resonances using edge-based finite elements. *Chatterjee, A.*, +, *T-MTT Nov 92* 2106-2108
- cutoff space of cloverleaf resonators with electric and magnetic walls using finite-element approach. *Helszajn, J.*, +, *T-MTT Aug 92* 1620-1629
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- simple, efficient finite-element analysis of microwave and optical waveguides. *Koshiba, Masanori*, +, *T-MTT Feb 92* 371-377
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- computing TM and TE modes in dielectric-loaded waveguides based on surface integral formulation. *Swaminathan, Madhavan*, +, *T-MTT Feb 92* 285-297
- full-wave analysis of bilateral finlines on anisotropic substrates. *Ho, Think Quoc*, +, *T-MTT Feb 92* 405-409

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- characterization of shielded coplanar-type transmission line junction discontinuities incorporating finite metallization thickness effect. *Kuo, Chih-Wen*, +, *T-MTT Jan 92* 73-80
- full-wave analysis of cascaded coplanar-waveguide- or coplanar-transmission-line-to-finline transitions including effect of finite metallization thickness. *Huang, Tian-Wei*, +, *MWSYM 92 Vol. 2* 995-998

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- compact bandpass filters with improved stopband characteristics using planar multilayer structures; X-band stripline and Ka-band finline implementations. *Schwab, Wolfgang*, +, *MWSYM 92 Vol. 3* 1207-1209

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- optoelectronic millimeter-wave finline switches on Teflon substrates. *Xu, De-ming*, +, *MWSYM 92 Vol. 1* 361-364
- optoelectronic millimeter-wave finline switches on Teflon substrates. *Xu, Deming*, +, *T-MTT Dec 92* 2393-2396

#### Finline transitions

- characterization of shielded coplanar-type transmission line junction discontinuities incorporating finite metallization thickness effect. *Kuo, Chih-Wen*, +, *T-MTT Jan 92* 73-80

#### Flow graphs; cf. Signal flow graphs

#### FM noise

- noise behavior of subharmonically injection-locked local oscillators; theoretical and experimental study using nonlinear model. *Zhang, Xiangdong*, +, *T-MTT May 92* 895-902

#### FM radar

- 60-GHz FM-CW radar module with HEMT front-end switching heterodyne receiver with high SNR. *Saito, T.*, +, *MWSYM 92 Vol. 2* 713-716
- FM-CW microwave radar with improved road-vehicle profile discrimination. *Roe, H.*, +, *MWSYM 92 Vol. 2* 717-720
- millimeter-wave FM-CW and pulse-coded radars with quasi-optical antennas and mixers for automotive applications. *Williams, D. A.*, *MWSYM 92 Vol. 2* 721-724

#### Fourier transforms

- Fourier-domain analysis of coupled slotline on double-layered substrate containing magnetized ferrite using Galerkin's method. *Geshiro, Masahiro*, +, *T-MTT Apr 92* 765-768

#### Fourier transforms; cf. Discrete Fourier transforms

#### Frequency calculations

- unified analytical expressions for calculating resonant frequencies, transimpedances, and equivalent-input-noise current densities of tuned optical receiver front ends. *Liu, Qing Zhong*, *T-MTT Feb 92* 329-337

**Frequency control;** cf. Oscillator stability  
**Frequency conversion;** cf. Heterodyning; Josephson mixers/frequency converters; Microwave frequency conversion; Millimeter-wave frequency conversion; Optical frequency conversion; Schottky diode frequency converters; Submillimeter-wave frequency conversion; UHF frequency conversion  
**Frequency division;** cf. Frequency conversion  
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## G

**Galerkin's method;** cf. Moment methods

**Gallium FETs**

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**Gallium materials/devices;** cf. Bipolar transistor...; Coplanar waveguides; Microwave integrated circuits; MMIC...; Schottky diode...; Semiconductor optical amplifiers; Tunnel diodes

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- full-wave analysis of 3-D metallization for microstrip structures using spectral domain technique; application to spiral inductor. *Becks, Thomas*, + , *T-MTT Dec 92* 2219-2227

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- Integrated optoelectronics**  
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- Magnetic-material-loaded waveguides;** cf. Ferrite-loaded waveguides
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- millimeter-array radio astronomy instrument. *Thompson, A. R.*, *MWSYM 92 Vol. 3* 1247-1250

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- spectral-domain analysis of planar millimeter-wave slot antennas. *Biebl, Erwin M.*, +, *MWSYM 92 Vol. 1* 381-384

**Millimeter-wave bipolar transistor oscillators**

- 60-GHz sources using optically driven HBTs configured as photodetectors. *Scott, D. C.*, +, *MWSYM 92 Vol. 2* 811-814

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- fabrication, HF performance and effects of heavily-carbon-doped base on submicrometer AlGaAs/GaAs HBTs. *Yang, L. W.*, +, *CORNEL 91* 295-304

- third-order intermodulation distortion in GaAs/AlGaAs HBTs at millimeter-wave frequencies. *Teeter, Douglas A.*, +, *MWSYM 92 Vol. 1* 263-266

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- fiber-optic millimeter-wave-subcarrier transmission links for personal radio communication. *Ogawa, Hiroyo*, +, *MWSYM 92 Vol. 2* 555-558

- fiber-optic millimeter-wave-subcarrier transmission links for personal radio communication. *Ogawa, Hiroyo*, +, *T-MTT Dec 92* 2285-2293

- three fiber-optic microwave links using balanced laser harmonic generation and balanced/image-cancellation laser mixing. *Ogawa, Hiroyo*, +, *MWSYM 92 Vol. 2* 559-562

- three fiber-optic microwave links using balanced laser harmonic generation and balanced/image-cancellation laser mixing. *Ogawa, Hiroyo*, +, *T-MTT Dec 92* 2278-2284

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- accurate on-wafer power and harmonic measurements of millimeter-wave amplifiers and devices. *Hughes, Brian*, +, *MWSYM 92 Vol. 2* 1019-1022

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- millimeter-wave subharmonically pumped resistive mixer based on heterostructure FET technology. *Zirath, H.*, +, *MWSYM 92 Vol. 2* 599-602

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- 40-GHz quasi-optical second-harmonic spatial power combiner using FETs and slots. *Kawasaki, Shigeo*, +, *MWSYM 92 Vol. 3* 1543-1546

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- compact bandpass filters with improved stopband characteristics using planar multilayer structures; X-band stripline and Ka-band finline implementations. *Schwab, Wolfgang*, +, *MWSYM 92 Vol. 3* 1207-1209

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- heterostructure varactor diodes for millimeter- and submillimeter-wave multiplier applications; design and fabrication. *Peatman, W. C. B.*, + , *CORNEL 91* 49-57
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- periodic second-harmonic spatial-power-combining oscillator for millimeter- and submillimeter-wave frequencies. *Mortazawi, Amir*, + , *T-MTT May 92* 851-856
- V-band up/downconverter for spaceborne communication systems. *Piloni, M.*, + , *MWSYM 92 Vol. 2* 691-694
- W-band image-rejection downconverter MMIC based on pseudomorphic InGaAs/GaAs HEMT technology. *Chang, Kwo Wei*, + , *T-MTT Dec 92* 2332-2336
- Millimeter-wave frequency conversion; cf.** Millimeter-wave mixers; MMIC frequency converters; Schottky diode frequency converters
- Millimeter-wave generation**
- 18- to 36-GHz GaAs FET frequency doublers using (M)MIC CPW technology. *Tuko, Mohammed Abdo*, + , *MWSYM 92 Vol. 3* 1167-1170
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- Millimeter-wave imaging/mapping**
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- Millimeter-wave integrated circuits**
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- full-wave electromagnetic model of cylindrical and conical via hole grounds in microstrip for use in interactive MIC and MMIC design. *Jansen, R. H.*, *MWSYM 92 Vol. 3* 1233-1236
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- trends in millimeter-wave packaging. *Kuno, H. J.*, + , *MWSYM 92 Vol. 3* 1507-1508
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- Millimeter-wave measurements**
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- on-wafer RF measurement setup for characterizing HEMTs and high- $T_c$  superconductors at temperatures down to 20 K. *Meschede, Herbert*, + , *T-MTT Dec 92* 2325-2331
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- permittivities of prospective substrates for high- $T_c$  superconductors up to 40 GHz. *Konopka, Janusz*, + , *T-MTT Dec 92* 2418-2423
- Millimeter-wave mixers**
- 200-GHz planar-diode subharmonically pumped waveguide mixer with state-of-the-art performance. *Siegel, Peter H.*, + , *MWSYM 92 Vol. 2* 595-598
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- Millimeter-wave phase shifters**
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- Millimeter-wave radar**
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- 61-GHz Doppler radar for road-vehicle speed measurement using inverted strip dielectric waveguide. *Li, Zong-Wen*, + , *MWSYM 92 Vol. 2* 629-632
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200-GHz planar-diode subharmonically pumped waveguide mixer with state-of-the-art performance. *Siegel, Peter H.*, +, *MWSYM 92 Vol. 2* 595-598

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attenuation in millimeter-wave coplanar lines on GaAs and InP from 1–60 GHz. *Haydl, W. H.*, +, *MWSYM 92 Vol. 1* 349-352

conductor loss in hollow waveguides using surface integral formulation and power loss method. *Swaminathan, Madhavan*, +, *T-MTT Nov 92* 2034-2041

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**Minimization methods; cf.** Optimization methods

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broadband, 0.25- $\mu$ m ion-implanted, low-noise MMIC FET amplifiers on GaAs for 2–18-GHz band. *Sanctuary, J.*, +, *MCS 92* 25-28

enhanced GaAs MMIC transimpedance amplifier with DC–1.6/1.7-GHz bandwidth for use in low-noise, high-speed optical communications. *Casao, J. A.*, +, *MCS 92* 123-126

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38-GHz high-power MMIC FET amplifier module for satellite onboard use. *Shigaki, Masafumi*, +, *T-MTT Jun 92* 1215-1222

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5.9–16.3-GHz agile tuning VCO assembly using wideband millimeter-wave MMICs. *Dietz, G.*, +, *MCS 92* 61-64

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- 100-element planar Schottky diode grid mixer suitable for millimeter- and submillimeter-wave applications. *Hacker, Jonathan B.*, +, *T-MTT Mar 92* 557-562
- 210-GHz subharmonically pumped GaAs MMIC mixer incorporating Schottky diode pair. *Siegel, Peter H.*, +, *MWSYM 92 Vol. 2* 603-606
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- 23-GHz monolithic MESFET DRO as self-oscillating mixer. *Güttich, U.*, *MWSYM 92 Vol. 3* 1309-1311
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**MODFET integrated circuits; cf.** Millimeter-wave FET integrated circuits; MODFET amplifiers; MODFETs

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- pseudomorphic inverted HEMT for low-operating-voltage applications. *Kasashima, Masaaki, +*, *T-MTT Dec 92* 2381-2386
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**MODFETs; cf.** MODFET integrated circuits

**MODFETs, power**

- millimeter-wave power performance of InAlAs/InGaAs/InP HEMTs. *Kao, M. Y., +*, *CORNEL 91* 469-477

**Modulation/demodulation; cf.** Digital modulation/demodulation; Microwave modulation/demodulation; Millimeter-wave modulation/demodulation; Optical modulation/demodulation

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**Multiport circuits; cf.** Hybrid junctions; Lumped-element microwave circuits; Scattering matrices; Scattering parameters measurement; Two-port circuits; Waveguide junctions

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**Nonlinear distortion; cf.** Harmonic distortion; Intermodulation distortion

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**Nonlinear optics; cf.** Optical mixers

**Nonlinear oscillators; cf.** Injection-locked oscillators

**Nonlinear transmission lines; cf.** Distributed-parameter circuits, nonlinear

**Nonlinear wave propagation; cf.** Electromagnetic propagation, nonlinear media

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**Optical amplifiers; cf.** Optical parametric amplifiers; Semiconductor optical amplifiers

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**Waveguides; cf.** Beam waveguides; Circular waveguides; Coaxial waveguides; Coplanar waveguides; Corrugated waveguides; Dielectric-loaded waveguides; Dielectric waveguides; Elliptical waveguides; Finline; Infrared waveguides; Loaded waveguides; Microstrip; Millimeter-wave waveguides; Optical fiber...; Optical waveguides; Parallel-plate waveguides; Planar waveguides; Ridge waveguides; Semiconductor waveguides; Slotline; Stripline; Submillimeter-wave waveguides

#### Waveguide transient propagation

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**Waveguide transitions; cf.** Microstrip transitions; Slotline transitions

#### Wiener-Hopf theory

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**Wire communication; cf.** Optical fiber communication

**Wiring; cf.** Integrated circuit interconnections

Y

#### Yagi-Uda arrays

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**YIG films/devices**

- magnetostatic wave resonators using YIG film with microstrip disk. *Tsutsumi, Makoto*, *T-MTT May 92* 933-937
- microwave filter with input and output ports constructed in microstrip configuration on YIG film substrate. *Tsutsumi, Makoto*, + , *MWSYM 92 Vol. 3* 1397-1400
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- tunable 8–10-GHz magnetostatic-wave notch filter using epitaxial YIG resonator. *Daniel, Michael R.*, + , *MWSYM 92 Vol. 3* 1401-1402

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- microstrip filters using YIG film. *Tsutsumi, Makoto*, + , *T-MTT Feb 92* 400-402

**YIG materials/devices**

- ferromagnetic tridisk-coupled resonator and magnetically tunable stripline Y circulator. *Nagao, Tsukasa*, + , *T-MTT Sep 92* 1812-1820

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- 2–22-GHz, low-phase-noise YIG-tuned, Si bipolar oscillator using composite feedback. *Khanna, A. P. S.*, + , *MWSYM 92 Vol. 3* 1297-1299
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