

1971 Index

IEEE Transactions on Microwave Theory and Techniques

Vol. MTT-19

This index covers all items—papers, correspondence, reviews, etc.—that appeared in this periodical during 1971, and items from prior years that were commented upon or corrected in 1971. The index is divided into an Author Index and a Subject Index, both arranged alphabetically.

The *Author Index* contains the primary entry for each item; this entry is listed under the name of the first author and includes coauthor names, title, location of the item, and notice of corrections and comments if any. Cross-references are given from each coauthor name to the name of the corresponding first author. The location of the item is specified by the journal name (abbreviated), year, month, inclusive pages, and microfiche code. [The microfiche code, given in parentheses following the inclusive pages, consists of four characters to be interpreted as follows: the first character identifies the microfiche number within the set of fiches for the issue; the second character identifies the row in which the first frame of the particular item is located; and the last two characters designate the position of that frame within the row.]

The *Subject Index* contains several entries for each item, each consisting of a subject heading, modifying phrase(s), first author's name, and location of the item. For information on coauthors, title, comments and corrections if any, etc., it is necessary to refer to the Author Index. Some generic subject headings are used in this index in addition to the usual technical headings, e.g., *Books* (books reviewed in this periodical), *Bibliographies* (both papers that are bibliographies and any other papers which contain more than 50 references), *Conferences* (technical meetings a substantial number of whose abstracts or papers have appeared in this periodical), and *Special Issues* (issues of this periodical devoted primarily to a specific subject). The Subject Index includes subject cross-references as required by the subject matter.

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Bioelectrical phenomena: organism regulation by electromagnetic fields; book (Review. *T-MTT 71 Feb 248*). *Pressman, A. S., Plenum Press (New York) 1970*

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Biological radiation effects; cf. Microwave radiation effects; RF radiation effects

Biological tissues: dielectric constant and conductivity at RF and microwave frequencies. *Schwan, Herman P., T-MTT 71 Feb 146-152 (1C10)*

Biological tissues: electromagnetic radiation effects; thermographic study of induced fields. *Guy, Arthur W., T-MTT 71 Feb 205-214 (2D04)*

Biological tissues: electromagnetic radiation effects; source in direct contact with tissue. *Guy, Arthur W., T-MTT 71 Feb 214-223 (2E01)*

Biological tissues: microwave heating of simulated human limbs; aperture sources. *Ho, Henry S., T-MTT 71 Feb 224-231 (2E11)*

Biological tissues; cf. Cranium; Eyes; Heart; Human limbs; Insect pupae; Tumors

Biomedical instrumentation: microwave radiation measurements; biological hazard quantification. *Wacker, Paul F., T-MTT 71 Feb 178-187 (2B01)*

Biomedical instrumentation: microwave thermal effects study; environmental chamber for air temperature control. *Samaras, George M., T-MTT 71 Feb 245-247 (3C02)*

Bolometers: power measurement at 3 GHz; international intercomparison of standards. *Engen, Glenn F., T-MTT 71 Apr 411-413 (2C07)*

Book reviews: biological effects of microwaves; safety standards (Review. *T-MTT 71 Feb 248*). *Marha, Karel, San Francisco Press (San Francisco, CA) 1971*

Book reviews: biological organism regulation by electromagnetic fields (Review. *T-MTT 71 Feb 248*). *Pressman, A. S., Plenum Press (New York) 1970*

Boundary-value problems: finite-difference methods for potential problems with boundary at infinity. *Sandy, F., T-MTT 71 May 484-486 (2B10)*

Boundary-value problems: finite-element computer program for two-dimensional field problems. *Konrad, A., T-MTT 71 Dec 952-954 (2B01)*

Boundary-value problems: Monte Carlo methods for potential theory problems. *Royer, George M., T-MTT 71 Oct 813-818 (1C11)*

Boundary-value problems: spatial complex variables for analysis. *Hashimoto, Masahiro, T-MTT 71 May 458-474 (1E02)*

Boundary-value problems: spherical cavity with impedance wall; eigenvalues. *Bhartia, P., T-MTT 71 Jan 110-111 (2F06)*

Boundary-value problems: thick-strip microstrip lines; Green's function. *Yamashita, Eikichi, T-MTT 71 Jan 120-122 (3B09)*

Boundary-value problems: waveguide walls with impedance boundary conditions. *Dybdal, Robert B., T-MTT 71 Jan 2-9 (1B04)*

Broadband matching: tables of normalized lumped lossless networks which approximate prescribed attenuation versus frequency characteristics. *Pitzalis, Octavio, Jr., T-MTT 71 Apr 381-386 (1E01)*

C

Capacitance coefficients: irregular finite conductors on dielectric sheet. *Patel, Parbhuhai D., T-MTT 71 Nov 862-869 (1C10)*

Cavity resonators: cylindrical reentering cavity, lumped-parameter equivalent circuit. *Rivier, Edouard, T-MTT 71 Mar 309-314 (1F05)*

Cavity resonators: microstrip circuits enclosed by conducting walls; resonant frequency calculations. *Robinson, Gerald H., T-MTT 71 Jul 665-666 (2E08)*

Cavity resonators: spherical cavity with impedance wall; eigenvalues. *Bhartia, P., T-MTT 71 Jan 110-111 (2F06)*

Chebyshev filters; commensurate line filters; roots of equiripple insertion-loss functions. *Gupta, Om P., T-MTT 71 Apr 410-411 (2C06)*

Circular waveguides: mode inversion; application to nonreciprocal latching ferrite phase shifter. *Ince, William J., T-MTT 71 Apr 393-400 (2B01)*

Circular waveguides, mode reordering in guides containing one or more dielectrics. *Tsandoulas, G. N., T-MTT 71 Apr 386-392 (1E06)*

Circular waveguides; oversize guides and transitions; millimeter-wave waveguides. *King, Howard E., T-MTT 71 Jan 116-119 (3B05)*

Circular waveguides; tapered transition design. *Christensen, P. S., T-MTT 71 Jan 99-100 (2E07)*

Circulators: lossy circulators; performance limitations. *Bex, H., T-MTT 71 May 493-494 (2C07)*

Circulators; cf. Ferrite circulators; Lumped-element circulators; Microstrip circulators; Stripline circulators

Coaxial components: application to balanced transmission-line measurements. *Dyson, John D., T-MTT 71 Jan 94-96 (2E02)*

Coaxial directional couplers: adjustable-slot-length coupler for 0.3 to 8.5 GHz range. *Hudson, Paul A., T-MTT 71 Sep 781-783 (1E07)*

Coaxial waveguides: shielded surface waves; scattering by wall impedance discontinuity. *Vijayaraghavan, S., T-MTT 71 Aug 736-739 (2B09)*

Comb filters; synthesis procedure for commensurate combline bandpass filters. *Wenzel, Robert J., T-MTT 71 Aug 678-686 (1B08)*

Complex variables: electromagnetic field analysis with spatial complex variables; application to scattering and waveguide problems. *Hashimoto, Masahiro, T-MTT 71 May 458-474 (1E02)*

Computer-aided circuit design: parametric amplifiers, single-tuned; voltage gain-bandwidth product performance index. *Maeda, Minoru, T-MTT 71 Dec 916-921 (1C02)*

Computer-aided microwave analysis: coupled thin-film conductors in suspended substrate; capacitance parameters. *Smith, John I., T-MTT 71 May 424-431 (1B04)*

Computer-aided microwave analysis: dielectric-loaded waveguides; fields above cutoff expanded in terms of cutoff modes. *Csendes, Zoltan J., T-MTT 71 Jun 504-509 (1B04)*

Computer-aided microwave analysis; dielectric-loaded waveguides; program for resonant frequencies and field components determination. *Csendes, Z., T-MTT 71 Sep 789 (1F03)*

Computer-aided microwave analysis; dual-series feed networks for waveguide phased arrays. *Jones, William R., T-MTT 71 May 451-458 (1D07)*

Computer-aided microwave analysis; ferrite isolators. *Gardioli, Fred E., T-MTT 71 Mar 315-322 (2B01)*

Computer-aided microwave analysis; ferrite isolators; optimization of geometry and material. *Decreton, Marc, T-MTT 71 Mar 322-331 (2B08)*

Computer-aided microwave analysis; finite-element program for two-dimensional field problems. *Konrad, A., T-MTT 71 Dec 952-954 (2B01)*

Computer-aided microwave analysis; Gunn diodes; dependence of large-signal electronic admittance on bias voltage and frequency in 8 to 13 GHz range. *Ito, Yukio, T-MTT 71 Dec 900-905 (1B08)*

Computer-aided microwave analysis; meander-line networks. *Sato, Risaburo, T-MTT 71 May 431-442 (1B11)*

Computer-aided microwave analysis; microstrip line parameters; computer program description. *Bryant, Thomas G., T-MTT 71 Apr 418-419 (2D02)*

Computer-aided microwave analysis; propagation in anisotropic plasma; dispersion relations and mode polarization. *Georges, George C., T-MTT 71 Sep 788-789 (1F02)*

Computer-aided microwave analysis; spectrum of Gaussian envelope pulse. *Saponas, Thomas A., T-MTT 71 Dec 938-943 (1E10)*

Computer-aided microwave analysis; waveguide analysis using positive definite successive overrelaxation; computer program description. *Beaubien, M., T-MTT 71 Oct 839-840 (1F01)*

Computer-aided microwave analysis; cf. Numerical methods

Computer-aided microwave design: parametric amplifiers, single-tuned; voltage gain-bandwidth product performance index. *Maeda, Minoru, T-MTT 71 Dec 916-921 (1C02)*

Computer-aided optimization; ferrite isolators; optimization of geometry and material. *Decreton, Marc, T-MTT 71 Mar 322-331 (2B08)*

Computer-aided optimization; razor search computer program for locating minimum of function of several variables. *Bandler, John W., T-MTT 71 Jul 667 (2E10)*

Computer program descriptions: dielectric-loaded waveguides; resonant frequencies and field components determination. *Csendes, Z., T-MTT 71 Sep 789 (1F03)*

Computer program descriptions; electromagnetic wave propagation in plasma; dispersion relations and mode polarizations for anisotropic plasma. *Georges, George C., T-MTT 71 Sep 788-789 (1F02)*

Computer program descriptions: field problems; finite-element program for two-dimensional problems. *Konrad, A., T-MTT 71 Dec 952-954 (2B01)*

Computer program descriptions; microstrip line parameters. *Bryant, Thomas G., T-MTT 71 Apr 418-419 (2D02)*

Computer program descriptions; razor search program for locating minimum of function of several variables. *Bandler, John W., T-MTT 71 Jul 667 (2E10)*

Computer program descriptions; thin-wire antennas; transient analysis. *Auckenthaler, Alethia M., T-MTT 71 Nov 892-893 (1F04)*

Computer program descriptions; waveguide analysis using positive definite successive overrelaxation. *Beaubien, M., T-MTT 71 Oct 839-840 (1F01)*

Computer simulation; cf. Digital computer simulation

Conducting screens; diffraction by screen perforated periodically with circular holes. *Chen, Chao-Chun, T-MTT 71 May 475-481 (2B01)*

Conductivity; biological tissues; RF and microwave frequencies. *Schwan, Herman P., T-MTT 71 Feb 146-152 (1C10)*

Conductor-dielectric mixtures; complex permittivity; concentration dependence. *Rothwell, W. S., T-MTT 71 Apr 413-414 (2C09)*

Conductors; cf. Multiconductor systems

Conferences; cf. International Microwave Symposium

Conformal transformations; cf. Schwarz-Christoffel transformation

Corrugated waveguides: ring-loaded corrugated guide with bandwidth 1.8 times broader than conventional corrugated guide; use in matching sections. *Takeuchi, Yoshihiro, T-MTT 71 Dec 947-950 (1F07)*

Coupled-mode analysis; guided wave propagation in nonhomogeneous dielectric medium. *Snyder, Allan W., T-MTT 71 Apr 402-403 (2B10)*

Coupled transmission lines; capacitance parameters for thin-film conductors in suspended substrate. *Smith, John I., T-MTT 71 May 424-431 (1B04)*

Coupled transmission lines; meander-line networks; design method using equivalent circuit transformations. *Sato, Risaburo, T-MTT 71 May 431-442 (1B11)*

Couplers; cf. Directional couplers; Microstrip couplers

Cranium; microwave radiation effects; induced fields and heating patterns. *Shapiro, Alan R., T-MTT 71 Feb 187-196 (2B10)*

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Delay equalizers; directional filter cascades for time-delay equalization in

- millimeter-wave waveguide systems *Standley, Robert D., T-MTT 71 May 497-498 (2C11)*
- Delay lines:** dielectric-filled waveguides; pulse-compression performance. *Minakovic, B., T-MTT 71 Jun 562-563 (2C04)*
- Delay lines.** cf Acoustic delay lines; Microwave acoustic delay lines
- Detectors.** cf Microwave detectors
- Device packaging:** cf Semiconductor device packaging
- Diathermy:** biological tissues in direct contact with electromagnetic source. *Guy, Arthur W., T-MTT 71 Feb 214-223 (2E01)*
- Diathermy:** human limbs, microwave heating using aperture sources *Ho, Henry S., T-MTT 71 Feb 224-231 (2E11)*
- Diathermy:** microwave heating of tumors; animals in hypothermia. *Zimmer, Robert P., T-MTT 71 Feb 238-245 (3B07)*
- Dielectric constant:** cf Permittivity
- Dielectric constant measurement:** cf. Permittivity measurement
- Dielectric-filled waveguides:** pulse-compression performance *Minakovic, B., T-MTT 71 Jun 562-563 (2C04)*
- Dielectric-loaded waveguides:** E-vector variational principle; reduction of vector Maxwell equations to matrix eigenvalue problem *English, William J., T-MTT 71 Jan 40-46 (1E06)*
- Dielectric-loaded waveguides:** mode inversion in circular waveguides *Tsandoulas, G. N., T-MTT 71 Apr 386-392 (1E06)*
- Dielectric-loaded waveguides:** mode inversion in circular waveguides; application to nonreciprocal latching ferrite phase shifter *Ince William J., T-MTT 71 Apr 393-400 (2B01)*
- Dielectric-loaded waveguides:** numerical solutions; expansion of fields above cutoff in terms of cutoff modes. *Csendes, Zoltan J., T-MTT 71 Jun 504-509 (1B04)*
- Dielectric-loaded waveguides:** resonant frequencies and field components determination, computer program description *Csendes, Z., T-MTT 71 Sep 789 (1F03)*
- Dielectric-loaded waveguides:** TEM propagation in inhomogeneously filled rectangular waveguide *Heeren, R. G., T-MTT 71 Nov 884-885 (1E08)*
- Dielectric-loaded waveguides:** variational techniques; hybrid-mode analysis. *English, William J., T-MTT 71 Jan 9-18 (1B11)*
- Dielectric loss measurement:** complex permittivity of arbitrarily shaped samples using resonant cavity methods *Rueggeberg, Werner, T-MTT 71 Jun 517-521 (1C05)*
- Dielectric loss measurement.** millimeter-wave measurement of liquids using transmitted-reflected wave method *Yamamoto, Hiroshi, T-MTT 71 Oct 827-829 (1E01)*
- Dielectric materials.** cf. Liquid dielectrics
- Dielectric media:** conductor-dielectric mixtures; complex permittivity *Rothwell, W. S., T-MTT 71 Apr 413-414 (2C09)*
- Dielectric media:** periodic arrays of dielectric slabs; propagation transverse to direction of periodicity. *Lewis, Lawrence R., T-MTT 71 Mar 276-286 (1C08)*
- Dielectric media:** cf Nonhomogeneous dielectric media
- Dielectric phase shifters:** liquid dielectric phase shifters; permittivity magnitude and anisotropy controlled by applied electric field *Buscher, H. T., T-MTT 71 Dec 950-951 (1F10)*
- Dielectric-resonator filters:** bandpass filters for microwave integrated circuits; design technique for Chebyshev and Butterworth filters *Iveland, Tor Dug, T-MTT 71 Jul 643-652 (2C10)*
- Dielectric resonators:** double dielectric resonators; effect of conducting walls on resonant frequencies *Fiedziuszko, Slawomir, T-MTT 71 Sep 779-781 (1E05)*
- Dielectric resonators:** resonators placed in microwave structures; effect of conducting walls on resonant frequencies *Fiedziuszko, Slawomir, T-MTT 71 Sep 778-779 (1E04)*
- Dielectric sheets:** irregular finite conductors on sheets, capacitance coefficients. *Patel, Parbhubhai D., T-MTT 71 Nov 862-869 (1C10)*
- Dielectric waveguides:** continuous mode spectrum of circular dielectric rods; radiating modes *Snyder, Allan W., T-MTT 71 Aug 720-727 (1F02)*
- Dielectric waveguides:** optical surface-wave excitation using shaped tunneling regions *Harris, Jay H., T-MTT 71 Mar 269-276 (1C01)*
- Dielectric waves:** Goubau lines; impedance and scattering properties of perfectly conducting plane annulus surrounding Goubau line *Gillespie, Edmond S., T-MTT 71 Oct 837-839 (1E11)*
- Difference methods:** cf Finite-difference methods
- Differential equations:** cf. Partial differential equations
- Differential phase-shift sections,** phase change, insertion loss, and polarization for three cascaded sections; application to new ferrite devices. *Sultan, Nizar B., T-MTT 71 Apr 348-357 (1B04)*
- Diffraction:** cf Electromagnetic wave diffraction
- Digital computer simulation:** Gunn diodes; dependence on large-signal electronics admittance on bias voltage and frequency in 8 to 13 GHz range. *Ito, Yukio, T-MTT 71 Dec 900-905 (1B08)*
- Diode switches.** microstrip SPDT power switch using *p-n*-terminated stubs; frequency adjustable over octave range. *Toussaint, Hans-Norbert, T-MTT 71 Jul 657-659 (2D12)*
- Directional couplers:** impedance-transforming couplers; even-odd mode analysis of mismatched couplers. *Ekinge, Roland B., T-MTT 71 Apr 415-416 (2C11)*
- Directional couplers:** cf Coaxial directional couplers; Microstrip couplers
- Directional filters:** time-delay equalizer using cascaded directional filters; millimeter-wave waveguide system. *Standley, Robert D., T-MTT 71 May 497-498 (2C11)*
- Discontinuities:** cf. Microstrip discontinuities; Waveguide discontinuities
- Dispersion:** electromagnetic wave propagation in anisotropic plasma; computer program description. *Georges, George C., T-MTT 71 Sep 788-789 (1F02)*
- Dispersion:** microstrip lines; empirically derived equation. *Chudobiak, Walter J., T-MTT 71 Sep 783-784 (1E09)*
- Dispersion:** microstrip lines, integral equation approach *Mitra, Raj, T-MTT 71 Jan 47-56 (1F01)*
- Dispersion:** periodic arrays of dielectric slabs; propagation transverse to direction of periodicity. *Lewis, Lawrence R., T-MTT 71 Mar 276-286 (1C08)*
- Dispersion:** waveguide filled with moving medium *Yee, Hung Yuet, T-MTT 71 Apr 400-401 (2B08)*
- Distortion:** cf. Intermodulation distortion
- Distributed filters:** minimum-phase filters with simultaneous conditions on amplitude and delay; degrees of freedom divided between providing flat amplitude and flat delay. *Scanlan, Sean O., T-MTT 71 Sep 749-759 (1B11)*
- Distributed filters:** cf. Active distributed filters, Distributed-lumped filters; Transmission-line filters, Transversal filters
- Distributed-lumped filters,** bandpass combline and capacitively-loaded interdigital filters; synthesis procedures. *Wenzel, Robert J., T-MTT 71 Aug 678-686 (1B08)*
- Distributed-lumped filters:** comb-line elliptic filter for VHF and UHF bands; bandpass filters. *Levy, Ralph, T-MTT 71 Jan 26-29 (1D04)*
- Distributed-lumped networks:** TEM-mode three-ports; broadband design. *Ekinge, Roland B., T-MTT 71 Jan 81-88 (2D01)*
- Distributed networks:** cf. Transmission lines
- Dosimetry:** microwave radiation hazards; measurement techniques *Wacker, Paul F., T-MTT 71 Feb 178-187 (2B01)*
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- Eastern Europe:** research in microwave radiation effects, safety standards *Marha, Karel, T-MTT 71 Feb 165-168 (1E05)*
- Eigenvalue problems,** microstrip lines; dispersion characteristics. *Mitra, Raj, T-MTT 71 Jan 47-56 (1F01)*
- Eigenvalue problems:** ridged waveguides; integral eigenvalue equation solution using Ritz-Galerkin method *Montgomery, James P., T-MTT 71 Jun 547-555 (2B01)*
- Eigenvalue problems,** spherical cavity with impedance wall *Bhartia, P., T-MTT 71 Jan 110-111 (2F06)*
- Electromagnetic field computations:** spatial complex variables; application to scattering and waveguide problems *Hashimoto, Masahiro, T-MTT 71 May 458-474 (1E02)*
- Electromagnetic radiation effects:** cf Microwave radiation effects; RF radiation effects
- Electromagnetic radiation meters:** characteristics; microwave-oven leakage measurement *Aslan, Edward E., T-MTT 71 Feb 249-250 (3C06)*
- Electromagnetic surface waveguides:** Goubau lines, impedance and scattering properties of perfectly conducting plane annulus surrounding Goubau line *Gillespie, Edmond S., T-MTT 71 Oct 837-839 (1E11)*
- Electromagnetic surface waves:** shielded surface waves in coaxial waveguides; scattering by wall impedance discontinuity *Vyayarghavan, S., T-MTT 71 Aug 736-739 (2B09)*
- Electromagnetic surface waves.** cf Magnetostatic surface waves; Optical surface waves
- Electromagnetic transients:** thin-wire antennas, computer program description. *Auckenthaler, Alethia M., T-MTT 71 Nov 892-893 (1F04)*
- Electromagnetic wave absorbers.** cf Microwave absorbers
- Electromagnetic wave diffraction.** conducting screen perforated periodically with circular holes *Chen, Chao-Chun, T-MTT 71 May 475-481 (2B01)*
- Electromagnetic wave diffraction:** open resonator losses as function of geometry. *Bisio, G. R., T-MTT 71 May 490-491 (2C04)*
- Electromagnetic wave propagation:** moving anisotropic media; radial transmission line representations *Fukai, Ichiro, T-MTT 71 Nov 882-883 (1E06)*
- Electromagnetic wave propagation.** random media; matrix methods *Rowe, Harrison E., T-MTT 71 Jan 73-80 (2C05)*
- Electromagnetic wave propagation:** cf Guided electromagnetic waves; Nonreciprocal electromagnetic wave propagation
- Electromagnetic wave propagation in plasma;** dispersion relations and mode polarizations for anisotropic plasma; computer program description *Georges, George C., T-MTT 71 Sep 788-789 (1F02)*
- Electromagnetic wave propagation in plasma:** cf Magnetoplasma-filled waveguides
- Electromagnetic wave scattering:** ferrimagnetic circular cylinder in rectangular waveguide *Okamoto, Nobuo, T-MTT 71 Jun 521-527 (1C09)*
- Electromagnetic wave scattering,** Goubau lines; perfectly conducting plane annulus surrounding Goubau line. *Gillespie, Edmond S., T-MTT 71 Oct 837-839 (1E11)*
- Electromagnetic wave scattering:** spatial complex variables for analysis. *Hashimoto, Masahiro, T-MTT 71 May 458-474 (1E02)*
- Electromagnetic wave scattering:** thin wires; computer program for transient analysis *Auckenthaler, Alethia M., T-MTT 71 Nov 892-893 (1F04)*
- Electromagnetic wave scattering:** cf. Waveguide discontinuities
- Electrophoresis:** cathoretic pumping in mercury-argon; noise temperature data *Guentzler, Ronald E., T-MTT 71 Mar 339-341 (2D01)*
- Elliptic filters:** distributed-lumped bandpass filters for VHF and UHF bands; comb-line type *Levy, Ralph, T-MTT 71 Jan 26-29 (1D04)*
- Equalizers:** cf Delay equalizers; Transversal filters
- Equiripple filters.** cf Chebyshev filters; Elliptic filters
- Equiprincipal functions,** even polynomials which complement Achieser-Zolotarev polynomials *Riblet, Henry J., T-MTT 71 Nov 891-892 (1F03)*
- Equivalent circuits:** cylindrical reentering cavity; lumped-parameter equivalent circuit *Rivier, Edouard, T-MTT 71 Mar 309-314 (1F05)*
- Equivalent circuits:** meander-line networks *Sato, Risaburo, T-MTT 71 May 431-442 (1B11)*
- Equivalent networks:** ray-optical and modal methods in propagation, guiding, and scattering studies *Felsen, Leopold B., T-MTT 71 Jan 107-109 (2F03)*
- Europe.
- Europe.** cf Eastern Europe
- Eyes:** microwave radiation effects; cataract production. *Neidlinger, Robert W., T-MTT 71 Feb 250-251 (3C07)*
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- Feed networks.** cf Antenna feed networks
- Ferrimagnetic components:** microwave integrated circuits *Harrison, Gordon R., T-MTT 71 Jul 577-588 (1B11)*
- Ferrimagnetic-loaded waveguides:** scattering by ferrimagnetic circular cylinder in rectangular waveguide *Okamoto, Nobuo, T-MTT 71 Jun 521-527 (1C09)*
- Ferrite absorbers:** matching frequency and matching thickness; microwave absorbers. *Naito, Yoshiyuki, T-MTT 71 Jan 65-72 (2B09)*
- Ferrite circulators:** broadband design of lumped and distributed circulators. *Konishi, Yoshihiro, T-MTT 71 Mar 260-269 (1B04)*
- Ferrite circulators:** broadbanding using quarter-wave transmission lines *Naito, Yoshiyuki, T-MTT 71 Apr 367-372 (1C11)*
- Ferrite circulators,** input impedance of stripline circulator. *Salay, Steven J., T-MTT 71 Jan 109-110 (2F05)*
- Ferrite circulators:** integrated microstrip circulator for 1.75- to 2.23-GHz range. *Poirier, A. L., T-MTT 71 Jul 661-662 (2E04)*
- Ferrite circulators:** microstrip circulator; inverted-microstrip configuration for

- 30-GHz range. *Trambarulo, Ralph F., T-MTT 71 Jul 662-664 (2E05)*
- Ferrite circulators**; mismatched terminations; comparison of coupled-line circulators and differential phase-shift circulators. *Gardioli, Fred E., T-MTT 71 Jun 561-562 (2C03)*
- Ferrite circulators**; S-band four-port E-plane junction circulator; 1-MW peak power, 1-kW average power. *DeCamp, Edward E., Jr., T-MTT 71 Jan 100-103 (2E08)*
- Ferrite circulators**; spurious spikes; resonant modes of ferrite-post open resonator. *Castillo, Joseph B., Jr., T-MTT 71 Jan 112-113 (3B01)*
- Ferrite circulators**; cf. Lumped-element circulators
- Ferrite devices**; use of differential phase-shift sections. *Sultan, Nizar B., T-MTT 71 Apr 348-357 (1B04)*
- Ferrite isolators**; broadband design. *Konishi, Yoshihiro, T-MTT 71 Mar 260-269 (1B04)*
- Ferrite isolators**; computer-aided optimization of geometry and material of E-plane resonance isolators. *Decreton, Marc, T-MTT 71 Mar 322-331 (2B08)*
- Ferrite isolators**; computer analysis of E-plane resonance isolators. *Gardioli, Fred E., T-MTT 71 Mar 315-322 (2B01)*
- Ferrite-loaded helical lines**; coaxial inner conductor filled with circumferentially magnetized gyromagnetic medium, characteristic equation. *Ivanov, K. P., T-MTT 71 Sep 784-786 (1E10)*
- Ferrite-loaded microstrip lines**; shielded microstrip on ferrite substrate; modal analysis. *Minor, James C., T-MTT 71 Jul 570-577 (1B04)*
- Ferrite-loaded waveguides**; azimuthally dependent magnetostatic modes in cylindrical ferrite; effect of adjacent dielectric. *Masuda, Masumitsu, T-MTT 71 Oct 834-836 (1E08)*
- Ferrite-loaded waveguides**; scattering by ferrimagnetic circular cylinder in rectangular waveguide. *Okamoto, Nobuo, T-MTT 71 Jun 521-527 (1C09)*
- Ferrite microstrip components**; circulators, duplexers, signal processing circuits, and phase shifters. *Harrison, Gordon R., T-MTT 71 Jul 577-588 (1B11)*
- Ferrite microstrip components**; reciprocal and nonreciprocal modes of propagation. *Hines, Marion E., T-MTT 71 May 442-451 (1C10)*
- Ferrite phase shifters**; latching phase shifters; toroid corner chamfering for improving figure of merit. *Ince, William J., T-MTT 71 Jun 563-564 (2C05)*
- Ferrite phase shifters**; millimeter-wave phase shifters; reciprocal dual-mode phase shifter. *Whicker, Lawrence R., T-MTT 71 Dec 944-945 (1F04)*
- Ferrite phase shifters**; nonreciprocal latching configurations; comparison of rectangular toroid and circumferentially magnetized circular rod. *Ince, William J., T-MTT 71 Jan 105-107 (2F01)*
- Ferrite phase shifters**; nonreciprocal latching phase shifter; mode inversion in dielectric-loaded circular waveguide. *Ince, William J., T-MTT 71 Apr 393-400 (2B01)*
- Ferrite phase shifters**; periodic loading for low-cost remanence phase shifters. *Spaulding, William G., T-MTT 71 Dec 922-928 (1D06)*
- Ferrite phase shifters**; yttrium-gadolinium garnets with manganese substitution; remanent phase shifters. *Hudson, Andrew S., T-MTT 71 Jan 119-120 (3B08)*
- Ferrite stripline components**; reciprocal and nonreciprocal modes of propagation. *Hines, Marion E., T-MTT 71 May 442-451 (1C10)*
- Ferrite switches**; millimeter-wave region; tetrahedral waveguide junction type. *Stiern, Richard A., T-MTT 71 Sep 786-788 (1E12)*
- FETs**; cf. MSFETs
- Field strength measurement**, cf. Electromagnetic radiation meters
- Filter design**; cf. Filters
- Filters**; cf. Active distributed filters; Bandpass filters; Chebyshev filters; Comb filters; Dielectric-resonator filters; Directional filters; Distributed filters; Distributed-lumped filters; Elliptic filters; Interdigital filters; Maximally-flat delay filters; Microwave filters; Millimeter-wave filters; Ring-type filters; Transmission-line filters; Transversal filters; Waveguide filters
- Finite-difference methods**; successive overrelaxation technique for potential problems with boundary at infinity. *Sandy, F., T-MTT 71 May 484-486 (2B10)*
- Finite-element methods**; application to dielectric-loaded waveguides, expansion of fields above cutoff in terms of cutoff modes. *Csendes, Zoltan J., T-MTT 71 Jun 504-509 (1B04)*
- Finite-element methods**; closed microstrip; hybrid-mode analysis. *Daly, P., T-MTT 71 Jan 19-25 (1C09)*
- Finite-element methods**; computer program for two-dimensional field problems. *Konrad, A., T-MTT 71 Dec 952-954 (2B01)*
- Fluorescent lamps**; noise temperature data for cathodically pumped lamps. *Guentzler, Ronald E., T-MTT 71 Mar 339-341 (2D01)*
- FM noise**; Gunn oscillators; correlation with AM noise. *Hashiguchi, Sumihisa, T-MTT 71 Aug 686-691 (1C04)*
- FM noise**; IMPATT oscillators; experimental and theoretical investigations. *Thaler, Hans-Jorg, T-MTT 71 Aug 692-705 (1C10)*
- FM signals**; pulse expansion and compression using acoustic surface-wave filter. *Grasse, Charles L., T-MTT 71 Jun 558-559 (2B12)*
- Fourier transforms**; application to microstrip propagation analysis. *Denlinger, Edgar J., T-MTT 71 Jan 30-39 (1D08)*
- Frequency converters**; cf. Varactor frequency converters

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- Gallium arsenide diodes**; IMPATT diode noise measure; lower limits. *Haus, Hermann A., T-MTT 71 Oct 801-813 (1B11)*
- Garnets**; cf. YIG; Yttrium-gadolinium garnets
- Gas discharge noise sources**; frequency dependence of microwave radiated power. *Olson, Keith W., T-MTT 71 Sep 776-778 (1E02)*
- Gas discharges**; noise temperature of mercury-argon discharge; cathodically pumped fluorescent lamp. *Guentzler, Ronald E., T-MTT 71 Mar 339-341 (2D01)*
- Gaussian pulses**; spectral analysis; computer-aided analysis and measurements on *p-i-n* diode modulator. *Saponas, Thomas A., T-MTT 71 Dec 938-943 (1E10)*
- Geometrical optics**; ray-optical and modal methods in propagation, guiding, and scattering studies. *Felsen, Leopold B., T-MTT 71 Jan 107-109 (2F03)*
- Green's function**; irregular finite conductors on dielectric sheet; capacitance coefficients. *Patel, Parbhuhai D., T-MTT 71 Nov 862-869 (1C10)*
- Green's function**; thick-strip microstrip lines. *Yamashita, Eikichi, T-MTT 71 Jan 120-122 (3B09)*
- Group theory**; application to periodic structures; propagation characteristics of helix. *Knorr, Jeffrey B., T-MTT 71 Nov 854-861 (1C02)*
- Group theory**; application to symmetrical waveguide junctions. *Knorr, Jeffrey B., T-MTT 71 Apr 414-415 (2C10)*

- Guided electromagnetic waves**; coupled-mode analysis of propagation in nonhomogeneous dielectric medium. *Snyder, Allan W., T-MTT 71 Apr 402-403 (2B10)*
- Guided electromagnetic waves**; periodic arrays of dielectric slabs; propagation transverse to direction of periodicity. *Lewis, Lawrence R., T-MTT 71 Mar 276-286 (1C08)*
- Guided electromagnetic waves**; periodic structures; group theoretical analysis; propagation characteristics of helix. *Knorr, Jeffrey B., T-MTT 71 Nov 854-861 (1C02)*
- Guided electromagnetic waves**; power-mode theorems for nonconservative systems, complex frequency excitation, and systems containing electron beams or plasma. *Chorney, Paul, T-MTT 71 Sep 767-772 (1D05)*
- Guided electromagnetic waves**; waveguide-filled with moving medium; dispersion relations. *Yee, Hung Yuet, T-MTT 71 Apr 400-401 (2B08)*
- Guided electromagnetic waves**; Yagi-Uda structures, current distribution, k - β diagram, cutoff frequencies. *Shen, Liang Chi, T-MTT 71 Jun 536-542 (1D12)*
- Guided electromagnetic waves**; cf. Waveguides
- Guided optical waves**; cf. Optical waveguides
- Guided waves**; ray-optical and modal methods; equivalent networks. *Felsen, Leopold B., T-MTT 71 Jan 107-109 (2F03)*
- Guided waves**; cf. Waveguides
- Gunn diodes**; electronic admittance measurement; dependence of large-signal admittance on bias voltage and frequency in 8 to 13 GHz range; comparison with computer simulation. *Ito, Yukio, T-MTT 71 Dec 900-905 (1B08)*
- Gunn oscillators**; electronic admittance measurement; dependence of large-signal admittance on bias voltage and frequency in 8 to 13 GHz range; comparison with computer simulation. *Ito, Yukio, T-MTT 71 Dec 900-905 (1B08)*
- Gunn oscillators**; electronically tunable oscillator for Ku-band microstrip monopulse receivers. *Osterwalder, J. Martin, T-MTT 71 Jul 627-633 (2B06)*
- Gunn oscillators**; microstrip transmitters; temperature-stabilized pulsed oscillator array for use in phased array systems. *Wasse, Michael P., T-MTT 71 Jul 616-622 (1F02)*
- Gunn oscillators**; noise parameters for AM and FM noise. *Hashiguchi, Sumihisa, T-MTT 71 Aug 686-691 (1C04)*
- Gunn oscillators**; with moving reflector; behavior as self-excited mixer when reflector velocity is large and as load variation detector when velocity is small. *Nagano, Shigemichi, T-MTT 71 Dec 906-910 (1C02)*

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- Head**, cf. Cranium
- Heart**; microwave irradiation of rabbits; heart-rate effects. *Kaplan, Ira T., T-MTT 71 Feb 168-173 (1E08)*
- Heat therapy**; cf. Diathermy
- Helical waveguides**, cf. Ferrite-loaded helical lines
- Helices**; group theoretical analysis of propagation characteristics. *Knorr, Jeffrey B., T-MTT 71 Nov 854-861 (1C02)*
- Helmholtz equation**; finite-element computer program for two-dimensional problems. *Konrad, A., T-MTT 71 Dec 952-954 (2B01)*
- Helmholtz equation**; spatial complex variables for solution. *Hashimoto, Masahiro, T-MTT 71 May 458-474 (1E02)*
- Human limbs**; microwave heating of simulated limbs by aperture sources. *Ho, Henry S., T-MTT 71 Feb 224-231 (2E11)*
- Hybrid couplers**; microstrip coupler for 2.5- to 10-GHz range. *Garcia, James A., T-MTT 71 Jul 660-661 (2E03)*
- Hybrid junctions**; n -port TEM-mode hybrids using tapered transmission lines; power dividers/summers. *Tetarenko, R. P., T-MTT 71 Nov 887-889 (1E11)*
- Hybrid junctions**; three-port hybrid for transforming identical complex load impedance at two ports to real level at third port. *Sobol, Harold, T-MTT 71 Sep 774-776 (1D12)*
- Hybrid-mode analysis**; microstrip lines; finite-element methods. *Daly, P., T-MTT 71 Jan 19-25 (1C09)*
- Hybrid tees**; TEM-mode three-ports; broadband design. *Ekinge, Roland B., T-MTT 71 Jan 81-88 (2D01)*

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- IEEE G-MTT**; National Lectureship; summary of 1971 lecture. *Blake, Carl, T-MTT 71 Dec 898-899 (1B06)*
- Image conversion**; cf. Millimeter-wave image conversion
- Immittance inverters**; realization technique; application to coaxial bandpass filter design. *Davis, W. Alan, T-MTT 71 Apr 373-380 (1D05)*
- IMPATT amplifiers**; noise characteristics; experimental and theoretical investigations. *Thaler, Hans-Jorg, T-MTT 71 Aug 692-705 (1C10)*
- IMPATT diodes**; noise measure for gallium arsenide diodes; lower limits. *Haus, Hermann A., T-MTT 71 Oct 801-813 (1B11)*
- IMPATT oscillators**; multiple-device oscillator using single cavity; stable operation free from moding problems. *Kurokawa, Kaneyuki, T-MTT 71 Oct 793-801 (1B03)*
- IMPATT oscillators**; noise characteristics; experimental and theoretical investigations. *Thaler, Hans-Jorg, T-MTT 71 Aug 692-705 (1C10)*
- Impedance-matching networks**; impedance-transforming directional couplers, even-odd mode analysis of mismatched couplers. *Ekinge, Roland B., T-MTT 71 Apr 415-416 (2C11)*
- Impedance-matching networks**; ring-loaded corrugated waveguide for broadband matching. *Takeichi, Yoshihiro, T-MTT 71 Dec 947-950 (1F07)*
- Impedance-matching networks**; tables of normalized lumped lossless networks which approximate prescribed attenuation versus frequency characteristics. *Pitzalis, Octavius, Jr., T-MTT 71 Apr 381-386 (1E01)*
- Impedance-matching networks**; tapered transmission-line transformer for n -port TEM-mode hybrids. *Tetarenko, R. P., T-MTT 71 Nov 887-889 (1E11)*
- Impedance-matching networks**; three-port hybrid for transforming identical complex load impedances at two ports to real level at third port. *Sobol, Harold, T-MTT 71 Sep 774-776 (1D12)*
- Impedance-matching networks**; tuning circuit for source or load matching in waveguide and transmission line systems. *Beatty, Robert W., T-MTT 71 Mar 337-338 (2C12)*
- Impedance measurement**; tuning circuit for source or load matching in waveguide and transmission line systems. *Beatty, Robert W., T-MTT 71 Mar 337-338 (2C12)*
- Indium antimonide devices**; isolator using coaxial solid-state plasma in

- longitudinal magnetic fields; 35 GHz. *McLeod, Bruce R., T-MTT 71 Jun 510-516 (1B10)*
- Inductance simulation**; inverted common-collector transistor circuit; frequency range of operation. *Fliegler, Emanuel, T-MTT 71 Jan 89-91 (2D09)*
- Injection-locked oscillators**; phase-locked loop model of driven oscillator with FM feedback. *Couch, Leon W., T-MTT 71 Apr 357-366 (1C01)*
- Insect pupae**; microwave irradiation; nonthermal effects. *Carpenter, Russell L., T-MTT 71 Feb 173-178 (1F01)*
- Instrumentation**; cf. Biomedical instrumentation
- Integral equations**; application to microstrip propagation analysis. *Denlinger, Edgar J., T-MTT 71 Jan 30-39 (1D08)*
- Integral equations**; application to microstrip lines; dispersion characteristics. *Mitra, Raj, T-MTT 71 Jan 47-56 (1F01)*
- Integral equations**; application to waveguide problems; relation to inversion of Schwarz-Christoffel transformation. *Lewin, Leonard, T-MTT 71 Jun 542-546 (2E06)*
- Integral equations**; irregular finite conductors on dielectric sheet; capacitance coefficients. *Patel, Parbhuhai D., T-MTT 71 Nov 862-869 (1C10)*
- Integral equations**; waveguide discontinuity problems; convergence of numerical solutions. *Lee, Shung Wu, T-MTT 71 Jun 528-536 (1D04)*
- Integrated circuits**; cf. Microwave integrated circuits
- Interdigital filters**; synthesis procedures for capacitively-loaded bandpass filters. *Wenzel, Robert J., T-MTT 71 Aug 678-686 (1B08)*
- Interdigital transducers**; acoustic surface-wave transducers, in-line and crossed-field three-port circuit models. *Smith, W. R., T-MTT 71 Apr 416-417 (2C12)*
- Interdigital transducers**; acoustic surface-wave filter for pulse expansion and compression of FM waveforms. *Grasse, Charles L., T-MTT 71 Jun 558-559 (2B12)*
- Interferometric techniques**; microwave magneto-Kerr effect in semiconductors; measurement using interferometric polarization analyzer. *Vernon, Ronald J., T-MTT 71 Mar 287-294 (1D07)*
- Intermodulation distortion**; varactor frequency converters; abrupt-junction current-pumped varactor. *Gardner, John Graham, T-MTT 71 Sep 741-749 (1B03)*
- International Microwave Symposium**; report on 1971 symposium. *Whicker, Lawrence R., T-MTT 71 Dec 896-898 (1B04)*
- Inverters**; cf. Immittance inverters
- Isolators**; cf. Ferrite isolators, Plasma isolators; Semiconductor isolators
- J**
- Junctions**; cf. Waveguide junctions; Waveguide transitions
- K**
- Kerr effect**; application to liquid dielectric phase shifters; permittivity magnitude and anisotropy controlled by applied electric field. *Buscher, H. T., T-MTT 71 Dec 950-951 (1F10)*
- Kerr effect**; microwave magneto-Kerr effect in semiconductors, measurement using interferometric polarization analyzer. *Vernon, Ronald J., T-MTT 71 Mar 287-294 (1D07)*
- L**
- Lamps**; cf. Fluorescent lamps
- Laplace equations**; finite-element computer program for two-dimensional problems. *Konrad, A., T-MTT 71 Dec 952-954 (2B01)*
- Large-signal analysis**; Gunn diodes; dependence of electronic admittance on bias voltage and frequency in 8 to 13 GHz range comparison of measurement and computer simulation. *Ito, Yukio, T-MTT 71 Dec 900-905 (1B08)*
- Laser resonators**; configuration whereby higher order Hermite-Gaussian mode becomes lowest loss mode. *Kawakami, Shojiro, T-MTT 71 Apr 403-406 (2B11)*
- Legs**; cf. Human limbs
- Limbs**; cf. Human limbs
- Liquid dielectrics**; millimeter-wave measurement of dielectric constant and loss tangent; transmitted-reflected wave method. *Yamamoto, Hiroshi, T-MTT 71 Oct 827-829 (1E01)*
- Liquid dielectrics**; waveguide phase shifters using liquid dielectrics; permittivity magnitude and anisotropy controlled by applied electric field. *Buscher, H. T., T-MTT 71 Dec 950-951 (1F10)*
- Locked oscillators**; cf. Injection-locked oscillators
- Losses**; cf. Dielectric losses
- Lossy media**; waveguide power-mode theorems for nonconservative waveguide systems. *Chorney, Paul, T-MTT 71 Sep 767-772 (1D05)*
- Lossy networks**; circulators; performance limitations. *Bex, H., T-MTT 71 May 493-494 (2C07)*
- Lossy networks**; scattering parameters of passive lossy nonreciprocal two-port networks. *Hindin, Harvey J., T-MTT 71 Sep 781 (1E07)*
- Lumped-distributed filters**; cf. Distributed-lumped filters
- Lumped-distributed networks**; cf. Distributed-lumped networks
- Lumped-element circuits**; lumped-element fabrication and use up to X-band; capacitors, inductors, resistors, and gyrators. *Atchison, Colin S., T-MTT 71 Dec 928-937 (1D12)*
- Lumped-element circuits**; microwave integrated circuits; design, fabrication, and performance of passive and active circuits. *Caulton, Martin, T-MTT 71 Jul 588-599 (1C10)*
- Lumped-element circulators**; broadband design. *Konishi, Yoshihiro, T-MTT 71 Mar 260-269 (1B04)*
- Lumped-element circulators**; changing of operating frequency using varactor diodes. *Naito, Yoshiyuki, T-MTT 71 Apr 367-372 (1C11)*
- Lumped-element circulators**; voltage-tuned circulator using varactor. *Helszajn, Joseph, T-MTT 71 Oct 825-826 (1D11)*
- M**
- Magnetoelastic delay lines**; cf. YIG delay lines
- Magnetoelastic wave propagation**; ray-optical and modal methods; equivalent networks. *Felsen, Leopold B., T-MTT 71 Jan 107-109 (2F03)*
- Magnetoplasma-filled waveguides**; orthogonality relations; adjoint modes. *Vassallo, Charles, T-MTT 71 Jan 93-94 (2E01)*
- Magnetoplasma-filled waveguides**; variational formulation using waveguide symmetry. *Champlin, Keith S., T-MTT 69 Jul 401*
- Magnetostatic surface waves**; ferrites; aximuthally dependent magnetostatic modes in cylindrical ferrite; effect of adjacent dielectric. *Masuda, Masamitsu, T-MTT 71 Oct 834-836 (1E08)*
- Matching**; cf. Impedance matching
- Matching networks**; cf. Impedance-matching networks
- Matrix methods**; dielectric-loaded waveguides; reduction of vector Maxwell equations to matrix eigenvalue problem. *English, William J., T-MTT 71 Jan 40-46 (1E06)*
- Matrix methods**; microstrip lines; dispersion characteristics. *Mitra, Raj, T-MTT 71 Jan 47-56 (1F01)*
- Matrix methods**; ridged waveguide eigenvalue spectrum; integral eigenvalue equation solution using Ritz-Galerkin method. *Montgomery, James P., T-MTT 71 Jun 547-555 (2B01)*
- Matrix methods**; wave propagation in random media. *Rowe, Harrison E., T-MTT 71 Jan 73-80 (2C05)*
- Matrix methods**; cf. Moment methods
- Maximally-flat delay filters**; minimum-phase distributed filters with simultaneous conditions on amplitude and delay; degrees of freedom divided between flat amplitude and flat delay. *Scanlan, Sean O., T-MTT 71 Sep 749-759 (1B11)*
- Measurements**; cf. Microwave measurements; Millimeter-wave measurements
- Measurement standards**; microwave power at 3 GHz, international intercomparison of standards. *Engen, Glenn F., T-MTT 71 Apr 411-413 (2C07)*
- MESFETs**; use in transversal filters as coupling element. *Jutzi, Wilhelm, T-MTT 71 Sep 760-767 (1C10)*
- Metal semiconductor FETs**; cf. MESFETs
- Microstrip**; cf. Stripline
- Microstrip circuits**; circuits enclosed by conducting walls; resonant frequency calculations. *Robinson, Gerald H., T-MTT 71 Jul 665-666 (2E08)*
- Microstrip circuits**; dielectric-resonator filters; design technique for bandpass Chebyshev and Butterworth filters. *Iveland, Tor Dag, T-MTT 71 Jul 643-652 (2C10)*
- Microstrip circuits**; Gunn diode X-band transmitter; temperature stabilized pulsed oscillator array for use in phased array systems. *Wasse, Michael P., T-MTT 71 Jul 616-622 (1F02)*
- Microstrip circuits**; mixers; balanced mixer for 20-GHz band. *Araki, Tohru, T-MTT 71 Jul 638-643 (2C05)*
- Microstrip circuits**; monopulse receiver for Ku-band using electronically tunable Gunn oscillator. *Osterwalder, J. Martin, T-MTT 71 Jul 627-633 (2B06)*
- Microstrip circuits**; parametric amplifier with self-contained solid-state pump source; S-band. *Okean, Herman C., T-MTT 71 May 491-493 (2C05)*
- Microstrip circuits**; tuning using microcantilever air gaps. *Heng, T. M. S., T-MTT 71 Jul 652-654 (2D07)*
- Microstrip circulators**; ferrite circulator incorporated as integral part of microstrip circuit; 1.75- to 2.23-GHz range. *Poirier, A. L., T-MTT 71 Jul 661-662 (2E04)*
- Microstrip circulators**; inverted-microstrip configuration for 30-GHz range. *Trambarulo, Ralph F., T-MTT 71 Jul 662-664 (2E05)*
- Microstrip components**; cf. Ferrite microstrip components; Microstrip circulators; Microstrip couplers, Microstrip switches
- Microstrip couplers**; wideband quadrature hybrid coupler for 2.5- to 10-GHz range. *Garcia, James A., T-MTT 71 Jul 660-661 (2E03)*
- Microstrip couplers**; cf. Microstrip directional couplers
- Microstrip directional couplers**; junction reactance and dimensional tolerance; rat-race and branch-line couplers. *Leighton, William H., Jr., T-MTT 71 Oct 818-824 (1D04)*
- Microstrip discontinuities**; end effect of open-circuit microstrip lines. *Napoli, Louis S., T-MTT 71 Jun 559-561 (2C01)*
- Microstrip lines**; cantilever air gaps for tuning and matching applications. *Heng, T. M. S., T-MTT 71 Jul 652-654 (2D07)*
- Microstrip lines**; capacitance parameters for coupled thin-film conductors in suspended substrate. *Smith, John I., T-MTT 71 May 424-431 (1B04)*
- Microstrip lines**; dispersion characteristics; integral equation approach. *Mitra, Raj, T-MTT 71 Jan 47-56 (1F01)*
- Microstrip lines**; dispersion, empirically derived equation. *Chudobiuk, Walter J., T-MTT 71 Sep 783-784 (1E09)*
- Microstrip lines**; finite-element methods, hybrid-mode analysis for closed microstrip. *Daly, P., T-MTT 71 Jan 19-25 (1C09)*
- Microstrip lines**; frequency-dependent solutions; dielectric and demagnetized ferrite substrates. *Denlinger, Edgar J., T-MTT 71 Jan 30-39 (1D08)*
- Microstrip lines**; Green's function for thick-strip lines. *Yamashita, Eikichi, T-MTT 71 Jan 120-122 (3B09)*
- Microstrip lines**; lumped capacitance calculation using moment methods. *Farrar, Andrew, T-MTT 71 May 495-497 (2C09)*
- Microstrip lines**; on silicon-silicon dioxide system; parallel-plate waveguide model; analysis and experimental results. *Hasegawa, Hideki, T-MTT 71 Nov 869-881 (1D05)*
- Microstrip lines**; open-circuit microstrip stub, radiation conductance. *Sobol, H., T-MTT 71 Nov 885-887 (1E09)*
- Microstrip lines**; parameter computation, computer program description. *Bryant, Thomas G., T-MTT 71 Apr 418-419 (2D02)*
- Microstrip lines**; shielded microstrip on ferrite substrate, modal analysis. *Minor, James C., T-MTT 71 Jul 570-577 (1B04)*
- Microstrip switches**; SPDT power switch using $p-i-n$ -terminated stubs; frequency adjustable over octave range. *Toussaint, Hans-Norbert, T-MTT 71 Jul 657-659 (2D12)*
- Microstrip switches**; SPDT switch on plastic substrate; switches 10-W CW carriers into common load with 90-dB isolation in 1.7- to 2.3-GHz range. *Hallford, Ben R., T-MTT 71 Jul 654-657 (2D09)*
- Microwave absorbers**; ferrite; matching frequency and matching thickness. *Naito, Yoshiyuki, T-MTT 71 Jan 65-72 (2B09)*
- Microwave absorbers**; cf. Waveguide attenuators
- Microwave acoustic delay lines**; design method for optimization of bandwidth phase linearity and spurious signal suppression; application to 4 μ s L-band unit. *Sperry, W. R., T-MTT 71 Dec 945-947 (1F05)*
- Microwave acoustic delay lines**; cf. YIG delay lines
- Microwave acoustics**; ray-optical and modal methods; equivalent networks. *Felsen, Leopold B., T-MTT 71 Jan 107-109 (2F03)*
- Microwave amplifiers**; cf. Avalanche diode amplifiers; IMPATT amplifiers, Parametric amplifiers
- Microwave analysis**; cf. Computer-aided microwave analysis
- Microwave antennas**; illumination system for biological-exposure experiments

- Bassett, Harold L., *T-MTT 71 Feb 197-205 (2C08)*
- Microwave attenuation measurement:** SSB modulator that frequency-shifts 10 GHz signal by 1 kHz. *Brooker, P. G., T-MTT 71 Oct 829-834 (1E03)*
- Microwave attenuators:** cf. Waveguide attenuators
- Microwave detectors:** Gunn oscillator with moving reflector; behavior as load variation detector when reflector velocity is small. *Nagano, Shigemichi, T-MTT 71 Dec 906-910 (1C02)*
- Microwave devices:** packaging of semiconductor devices; low-inductance package eliminating springs and ribbons. *Spwak, Robert R., T-MTT 71 Aug 732-733 (2B05)*
- Microwave devices:** solid-state power sources; summary of 1971 IEEE G-MTT National Lectureship. *Blake, Carl, T-MTT 71 Dec 898-899 (1B06)*
- Microwave devices:** waveguide mounts; circuit impedance at terminals of device mounted in shunt across guide. *Eisenhart, Robert L., T-MTT 71 Aug 706-719 (1D12)*
- Microwave filters:** design equations for resonator filters, interdigital filters, and stub filters; bandpass filters. *Cristal, Edward G., T-MTT 71 May 486-490 (2B12)*
- Microwave filters:** cf. Dielectric-resonator filters; Distributed filters; Filters; Millimeter-wave filters; Transmission-line filters; Waveguide filters
- Microwave heat therapy:** cf. Diathermy
- Microwave integrated circuits:** dielectric constant measurement for substrates. *Napoli, Louis S., T-MTT 71 Jul 664-665 (2E07)*
- Microwave integrated circuits:** dielectric-resonator filters; design technique for bandpass Chebyshev and Butterworth filters. *Iveland, Tor Dag, T-MTT 71 Jul 643-652 (2C10)*
- Microwave integrated circuits:** ferrimagnetic components. *Harrison, Gordon R., T-MTT 71 Jul 577-588 (1B11)*
- Microwave integrated circuits:** IFF receivers; front end for L-band receiver. *Giannini, Richard J., T-MTT 71 Jul 622-627 (2B01)*
- Microwave integrated circuits:** introduction to special issue. *Horton, John B., Guest ed., T-MTT 71 Jul 569 (1B03)*
- Microwave integrated circuits:** lumped-element circuits; design, fabrication, and performance of passive and active circuits. *Caulton, Martin, T-MTT 71 Jul 588-599 (1C10)*
- Microwave integrated circuits:** lumped-element fabrication and use up to X-band; capacitors, inductors, resistors, and gyrators. *Atchison, Colin S., T-MTT 71 Dec 928-937 (1D12)*
- Microwave integrated circuits:** mixers; low-noise 4-GHz mixer using Schottky-barrier diode. *Katoh, Motohobu, T-MTT 71 Jul 634-637 (2C01)*
- Microwave integrated circuits:** parametric amplifier with self-contained solid-state pump source; S-band. *Okean, Herman C., T-MTT 71 May 491-493 (2C05)*
- Microwave integrated circuits:** phased array power module; 10-W S-band module. *Vaccaro, Frank E., T-MTT 71 Jul 609-616 (1E07)*
- Microwave integrated circuits:** special issue IEEE G-MTT. *T-MTT 71 Jul*
- Microwave integrated circuits:** superheterodyne receiver; low-noise X-band sweeping receiver. *Meier, Paul J., T-MTT 71 Jul 600-609 (1D10)*
- Microwave integrated circuits:** cf. Microstrip circuits; Microstrip lines
- Microwave measurements:** active inductors; frequency range for inverted common-collector transistor circuit. *Fliegler, Emanuel, T-MTT 71 Jan 89-91 (2D09)*
- Microwave measurements:** antennas for biological-exposure experiments. *Bassett, Harold L., T-MTT 71 Feb 197-205 (2C08)*
- Microwave measurements:** biological hazard measurements. *Wacker, Paul F., T-MTT 71 Feb 178-187 (2B01)*
- Microwave measurements:** radiation meter; microwave-oven leakage measurement. *Aslan, Edward E., T-MTT 71 Feb 249-250 (3C06)*
- Microwave measurements:** scattering parameter measurements with imperfect test set. *Kruppa, W., T-MTT 71 Jan 122-123 (2B11)*
- Microwave measurements:** cf. Impedance measurement; Interferometric techniques; Millimeter-wave measurements; Permittivity measurement; Phase measurement; Power measurement; Reflection coefficient measurement; Transmission-line measurements
- Microwave mixers:** conversion loss with reactively terminated image; 4-GHz integrated-circuit mixer. *Katoh, Motohobu, T-MTT 71 Jul 634-637 (2C01)*
- Microwave mixers:** Gunn oscillator with moving reflector; behavior as self-excited mixer when reflector velocity is large. *Nagano, Shigemichi, T-MTT 71 Dec 906-910 (1C02)*
- Microwave mixers:** microstrip balanced mixer for 20-GHz band. *Araki, Tohru, T-MTT 71 Jul 638-643 (2C05)*
- Microwave mixers:** Schottky-barrier diode mixers; noise figure. *Gewartowski, James W., T-MTT 71 May 481 (2B07)*
- Microwave mixers:** cf. Millimeter-wave mixers
- Microwave modulators:** cf. p-n diode modulators
- Microwave oscillators:** grid-separated triode; analysis and design. *Chaffin, Roger J., T-MTT 71 Jan 91-93 (2D11)*
- Microwave oscillators:** multiple-device oscillator using single cavity; stable operation free from moding problems. *Kurokawa, Kaneyuki, T-MTT 71 Oct 793-801 (1B03)*
- Microwave oscillators:** resonator-feedback oscillator; temperature stabilization. *Kim, Johng R., T-MTT 71 Mar 331-332 (2C05)*
- Microwave oscillators:** cf. Gunn oscillators; IMPATT oscillators
- Microwave ovens:** leakage measurement, radiation meter. *Aslan, Edward E., T-MTT 71 Feb 249-250 (3C06)*
- Microwave phase measurement:** cf. Phase measurement
- Microwave radiation effects:** anaesthetic effect in laboratory animals. *McAfee, R. D., T-MTT 71 Feb 251-253 (3C08)*
- Microwave radiation effects:** antennas for biological-exposure experiments. *Bassett, Harold L., T-MTT 71 Feb 197-205 (2C08)*
- Microwave radiation effects:** biological effects; editor's note in special issue. *Haddad, George I., T-MTT 71 Feb 128 (1B04)*
- Microwave radiation effects:** biological effects; guest editorial in special issue. *Osepchuk, John M., T-MTT 71 Feb 128-129 (1B04)*
- Microwave radiation effects:** biological effects; introductory remarks in special issue. *Mumford, William W., T-MTT 71 Feb 130 (1B06)*
- Microwave radiation effects:** biological effects of microwaves; special issue. *IEEE G-MTT, T-MTT 71 Feb*
- Microwave radiation effects:** biological effects, Tri-Service Program. *Michaelson, Sol M., T-MTT 71 Feb 131-146 (1B07)*
- Microwave radiation effects:** biological systems; research and safety standards in Eastern Europe. *Marha, Karel, T-MTT 71 Feb 165-168 (1E05)*
- Microwave radiation effects:** biological tissues in direct contact with source; heating patterns. *Guy, Arthur W., T-MTT 71 Feb 214-223 (2E01)*
- Microwave radiation effects:** biological tissues; thermal and nonthermal effects. *Schwan, Herman P., T-MTT 71 Feb 146-152 (1C10)*
- Microwave radiation effects:** thermographic study of induced fields. *Guy, Arthur W., T-MTT 71 Feb 205-214 (2D04)*
- Microwave radiation effects:** cataract production. *Neudinger, Robert W., T-MTT 71 Feb 250-251 (3C07)*
- Microwave radiation effects:** cranial structure of monkeys; induced fields and heating patterns. *Shapiro, Alan R., T-MTT 71 Feb 187-196 (2B10)*
- Microwave radiation effects:** heart-rate effects in rabbits during low-level irradiation. *Kaplan, Ira T., T-MTT 71 Feb 168-173 (1E08)*
- Microwave radiation effects:** heating of tumors; animals in hypothermia. *Zimmer, Robert P., T-MTT 71 Feb 238-245 (3B07)*
- Microwave radiation effects:** human limbs; heating of simulated limbs by aperture sources. *Ho, Henry S., T-MTT 71 Feb 224-231 (2E11)*
- Microwave radiation effects:** nonthermal effects in insect pupae. *Carpenter, Russell L., T-MTT 71 Feb 173-178 (1F01)*
- Microwave radiation effects:** thermal effects study; environmental chamber for air temperature control. *Samarus, George M., T-MTT 71 Feb 245-247 (3C02)*
- Microwave radiation effects:** cf. Microwave radiation hazards; RF radiation effects
- Microwave radiation hazards:** quantification; instrument design and measurement techniques. *Wacker, Paul F., T-MTT 71 Feb 178-187 (2B01)*
- Microwave radiation hazards:** safety standards; book (Review, *T-MTT 71 Feb 248*). *Marha, Karel, San Francisco Press (San Francisco, CA) 1971*
- Microwave radiation hazards:** safety standards in Eastern Europe. *Marha, Karel, T-MTT 71 Feb 165-168 (1E05)*
- Microwave radiation hazards:** US Navy ships; determination and elimination. *Glaser, Zorach R., T-MTT 71 Feb 232-238 (3B01)*
- Microwave receivers:** IFF receivers; microwave integrated circuit front end for L-band receiver. *Giannini, Richard J., T-MTT 71 Jul 622-627 (2B01)*
- Microwave receivers:** integrated superheterodyne receiver; low-noise X-band sweeping receiver. *Meier, Paul J., T-MTT 71 Jul 600-609 (1D10)*
- Microwave receivers:** cf. Radar receivers
- Microwave switches:** cf. Diode switches; Microstrip switches
- Microwave Symposium:** report on 1971 International Microwave Symposium. *Whicker, Lawrence R., T-MTT 71 Dec 896-898 (1B04)*
- Microwave Theory and Techniques Group:** cf. IEEE G-MTT
- Microwave transmitters:** microstrip Gunn diode transmitter; temperature-stabilized pulsed oscillator array for use in phased array systems. *Wasse, Michael P., T-MTT 71 Jul 616-622 (1F02)*
- Microwave triodes:** grid-separated triode oscillator; analysis and design. *Chaffin, Roger J., T-MTT 71 Jan 91-93 (2D11)*
- Microwave tubes:** cf. Microwave triodes
- Millimeter-wave devices:** packaging of semiconductor devices; low-inductance package eliminating springs and ribbons. *Spwak, Robert R., T-MTT 71 Aug 732-733 (2B05)*
- Millimeter-wave filters:** directional filter cascades for time-delay equalization in waveguide systems. *Standley, Robert D., T-MTT 71 May 497-498 (2C11)*
- Millimeter-wave filters:** two-cavity ring-type channel-dropping filters for multiplexers. *Ootomo, Isao, T-MTT 71 May 481-484 (2B07)*
- Millimeter-wave image conversion:** millimeter-wave images into visual displays using semiconductor panel; transmission and reflection modes of operation. *Mavaddat, R., T-MTT 71 Jun 555-558 (2B09)*
- Millimeter-wave measurements:** dielectric constant and loss tangent of liquids; transmitted-reflected wave method. *Yamamoto, Hiroshi, T-MTT 71 Oct 827-829 (1E01)*
- Millimeter-wave measurements:** phase measurement of signals in free space; varying reference phase. *Cleveland, Frederick H., T-MTT 71 Apr 406-410 (2C02)*
- Millimeter-wave mixers:** microstrip balanced mixer for 20-GHz band. *Araki, Tohru, T-MTT 71 Jul 638-643 (2C05)*
- Millimeter-wave phase shifters:** reciprocal ferrite phase shifters; dual-mode geometry. *Whicker, Lawrence R., T-MTT 71 Dec 944-945 (1F04)*
- Millimeter-wave switches:** ferrite switches; tetrahedral waveguide junction type. *Stern, Richard A., T-MTT 71 Sep 786-788 (1E12)*
- Millimeter-wave waveguides:** oversize circular waveguides and transitions. *King, Howard E., T-MTT 71 Jan 116-119 (3B05)*
- Mixers:** cf. Microwave mixers
- Mode analysis:** cf. Hybrid-mode analysis
- Mode coupling:** cf. Coupled-mode analysis
- Mode inversion:** circular waveguides; application to nonreciprocal latching ferrite phase shifter. *Ince, William J., T-MTT 71 Apr 393-400 (2B01)*
- Mode inversion:** circular waveguides containing one or more dielectrics. *Tsandoulas, G. N., T-MTT 71 Apr 386-392 (1E06)*
- Mode-matching techniques:** waveguide discontinuity problems; convergence. *Lee, Shung Wu, T-MTT 71 Jun 528-536 (1D04)*
- Modulators:** cf. Phase modulators; SSB modulators
- Moment methods:** diffraction by conducting screen perforated periodically with circular holes. *Chen, Chao-Chun, T-MTT 71 May 475-481 (2B01)*
- Moment methods:** microstrip problems; lumped capacitance calculation. *Farrar, Andrew, T-MTT 71 May 495-497 (2C09)*
- Moment methods:** waveguide discontinuity problems; convergence. *Lee, Shung Wu, T-MTT 71 Jun 528-536 (1D04)*
- Monopulse radar:** microstrip receiver for Ku-band using electronically tunable Gunn oscillator. *Osterwalder, J. Martin, T-MTT 71 Jul 627-633 (2B06)*
- Monte Carlo methods:** application to potential theory problems. *Royer, George M., T-MTT 71 Oct 813-818 (1C11)*
- Moving media:** fields in moving anisotropic media; radial transmission line representations. *Fukai, Ichiro, T-MTT 71 Nov 882-883 (1E06)*
- Moving media:** waveguide filled with moving medium; dispersion relations. *Yee, Hung Yuet, T-MTT 71 Apr 400-401 (2B08)*
- Multiconductor systems:** capacitance coefficients for system of irregular finite conductors on dielectric sheet; Green's function-integral equation approach. *Patel, Parbhubhai D., T-MTT 71 Nov 862-869 (1C10)*
- Multiplexers:** millimeter-wave filters; two-cavity ring-type channel-dropping filter. *Ootomo, Isao, T-MTT 71 May 481-484 (2B07)*

Neurophysiology: cf. Analeptic effect
Nickel-iron films: cf. Permalloy films
Noise: cf. AM noise; FM noise; Semiconductor noise
Noise sources: cf. Gas discharge noise sources
Noise temperature: mercury-argon discharge; cathoretically pumped fluorescent lamp. *Guentzler, Ronald E., T-MTT 71 Mar 339-341 (2D01)*
Nonhomogeneous dielectric media: guided wave propagation; coupled-mode analysis. *Snyder, Allan W., T-MTT 71 Apr 402-403 (2B10)*
Nonlinear oscillators: driven oscillator with FM feedback; phase-locked loop model. *Couch, Leon W., T-MTT 71 Apr 357-366 (1C01)*
Nonreciprocal electromagnetic wave propagation: semiconductor-loaded waveguides in presence of transverse magnetic field. *Arnold, Richard M., T-MTT 71 Jan 57-65 (2B01)*
Nonreciprocal networks: scattering parameters of passive lossy nonreciprocal two-port networks. *Hindin, Harvey J., T-MTT 71 Sep 781 (1E07)*
Numerical methods: cf. Approximation techniques; Eigenvalue problems; Finite-difference methods; Finite-element methods; Integral equations; Matrix methods; Mode-matching techniques; Moment methods; Monte Carlo methods; Relaxation methods; Variational techniques

O

Oceanography: complex dielectric constant calculations for saline water. *Stogryn, A., T-MTT 71 Aug 733-736 (2B06)*
Optical surface wave excitation: coupling into thin-film waveguide using shaped tunneling regions. *Harris, Jay H., T-MTT 71 Mar 269-276 (1C01)*
Optical waveguides: circular dielectric rods; continuous mode spectrum, radiation from guide. *Snyder, Allan W., T-MTT 71 Aug 720-727 (1F02)*
Optical waveguides: surface-wave excitation using shaped tunneling regions; thin-film waveguides. *Harris, Jay H., T-MTT 71 Mar 269-276 (1C01)*
Optics: cf. Geometrical optics
Optimization techniques: cf. Computer-aided optimization
Oscillators: cf. Injection-locked oscillators; Microwave oscillators; Nonlinear oscillators

P

Packaging: cf. Semiconductor device packaging
Parametric amplifiers: computer-aided design of single-tuned amplifiers, voltage gain-bandwidth product performance index. *Maeda, Minoru, T-MTT 71 Dec 916-921 (1C02)*
Parametric amplifiers: integrated S-band modules with self-contained solid-state pump source. *Okean, Herman C., T-MTT 71 May 491-493 (2C05)*
Parametric amplifiers: noise figure optimization; effect of frequency dependence of apparent varactor resistance. *Inal, Kubilay, T-MTT 71 Mar 333-334 (2C07)*
Partial differential equations: finite-difference methods for potential problems with boundary at infinity. *Sandy, F., T-MTT 71 May 484-486 (2B10)*
Partial differential equations: cf. Helmholtz equation
Periodic structures: arrays of dielectric slabs; propagation transverse to direction of periodicity. *Lewis, Lawrence R., T-MTT 71 Mar 276-286 (1C08)*
Periodic structures: ferrite phase shifters; periodic loading for low-cost remanence phase shifters. *Spaulding, William G., T-MTT 71 Dec 922-928 (1D06)*
Periodic structures: group theoretical analysis; propagation characteristics of helix. *Knorr, Jeffrey B., T-MTT 71 Nov 854-861 (1C02)*
Periodic structures: cf. Yagi-Uda structures
Permalloy films: microwave transmission and reflection properties; conductivity. *Havemann, R. H., T-MTT 71 Jan 113-116 (3B02)*
Permittivity: biological tissues; RF and microwave frequencies. *Schwan, Herman P., T-MTT 71 Feb 146-152 (1C10)*
Permittivity: conductor-dielectric mixtures; complex permittivity. *Rothwell, W. S., T-MTT 71 Apr 413-414 (2C09)*
Permittivity: saline water; complex dielectric constant calculations. *Stogryn, A., T-MTT 71 Aug 733-736 (2B06)*
Permittivity measurement: complex permittivity of arbitrarily shaped samples using resonant cavity methods. *Rueggeberg, Werner, T-MTT 71 Jun 517-521 (1C05)*
Permittivity measurement: microwave integrated circuit substrates. *Napoli, Louis S., T-MTT 71 Jul 664-665 (2E07)*
Permittivity measurement: millimeter-wave measurement of liquids using transmitted-reflected wave method. *Yamamoto, Hiroshi, T-MTT 71 Oct 827-829 (1E01)*
Phased arrays: microstrip Gunn diode transmitter; temperature-stabilized pulsed oscillator array. *Wasse, Michael P., T-MTT 71 Jul 616-622 (1F02)*
Phased arrays: periodic dielectric elements; propagation transverse to direction of periodicity. *Lewis, Lawrence R., T-MTT 71 Mar 276-286 (1C08)*
Phased arrays: power module using microwave integrated circuits; 10-W S-band module. *Vaccaro, Frank E., T-MTT 71 Jul 609-616 (1E07)*
Phased arrays: cf. Waveguide phased arrays
Phase-locked loops: phase-locked loop model of driven oscillator with FM feedback. *Couch, Leon W., T-MTT 71 Apr 357-366 (1C01)*
Phase measurement: millimeter-wave signals in free space; varying reference phase. *Cleveland, Frederick H., T-MTT 71 Apr 406-410 (2C02)*
Phase measurement: SSB modulator that frequency-shifts 10 GHz signal by 1 kHz. *Brooker, P. G., T-MTT 71 Oct 829-834 (1E03)*
Phase modulators: reflection-type using varactor diodes; continuously variable 360° phase shift. *Henoch, Bengt T., T-MTT 71 Jan 103-105 (2E11)*
Phase shifters: continuously variable dielectric phase shifter; variation of dielectric constant. *Joines, William T., T-MTT 71 Aug 729-732 (2B02)*
Phase shifters: liquid dielectric phase shifters; permittivity magnitude and anisotropy controlled by applied electric field. *Buscher, H. T., T-MTT 71 Dec 950-951 (1F10)*
Phase shifters: waveguide differential phase-shift sections; application to ferrite devices. *Sultan, Nizar B., T-MTT 71 Apr 348-357 (1B04)*
Phase shifters: cf. Ferrite phase shifters; Stripline phase shifters
Piezoelectric transducers: interdigital surface-wave transducers; in-line and crossed-field three-port circuit models. *Smith, W. R., T-MTT 71 Apr 416-417 (2C12)*
p-i-n diode modulators: spectrum of Gaussian envelope pulse; computer-aided analysis. *Saponas, Thomas A., T-MTT 71 Dec 938-943 (1E10)*
p-i-n diodes: switch circuit; microstrip SPDT power switch with frequency adjustable over octave range. *Toussaint, Hans-Norbert, T-MTT 71 Jul 657-659 (2D12)*

Plasma: cf. Electromagnetic wave propagation in plasma; Gas discharges
Plasma-filled waveguides: power-mode theorems. *Chorney, Paul, T-MTT 71 Sep 767-772 (1D05)*
Plasma-filled waveguides: cf. Magnetoplasma-filled waveguides
Plasma isolators: indium antimonide isolator, coaxial solid-state plasma in longitudinal magnetic field; 35 GHz. *McLeod, Bruce R., T-MTT 71 Jun 510-516 (1B10)*
Poisson equation: finite-element computer program for two-dimensional problems. *Konrad, A., T-MTT 71 Dec 952-954 (2B01)*
Potential theory: Monte Carlo methods. *Royer, George M., T-MTT 71 Oct 813-818 (1C11)*
Power dividers: n-port TEM-mode hybrids using tapered transmission lines. *Tetarenko, R. P., T-MTT 71 Nov 887-889 (1E11)*
Power dividers: cf. Stripline power dividers
Power measurement: coaxial directional coupler; adjustable-slot-length coupler for 0.3 to 8.5 GHz range. *Hudson, Paul A., T-MTT 71 Sep 781-783 (1E07)*
Power measurement: microwave power at 3 GHz; international intercomparison of standards. *Engen, Glenn F., T-MTT 71 Apr 411-413 (2C07)*
Power-mode theorems: waveguide theorems for nonconservative systems, complex frequency excitation, and systems containing electron beams or plasma. *Chorney, Paul, T-MTT 71 Sep 767-772 (1D05)*
Propagation: cf. Electromagnetic wave propagation
Pulse-compression techniques: acoustic surface-wave filter for expansion and compression of FM waveforms. *Grasse, Charles L., T-MTT 71 Jun 558-559 (2B12)*
Pulse-compression techniques: use of dielectric-filled waveguides. *Minakovic, B., T-MTT 71 Jun 562-563 (2C04)*
Pulse-forming networks: pulse-modulated signals at C-band; nanosecond pulse duration. *Ross, Gerald F., T-MTT 71 Jan 96-99 (2E04)*
Pulse generators: pulse-modulated signals at C-band; nanosecond pulse duration. *Ross, Gerald F., T-MTT 71 Jan 96-99 (2E04)*
Pulse modulation: Gaussian envelope pulse; computer-aided spectral analysis and measurements on p-i-n diode modulator. *Saponas, Thomas A., T-MTT 71 Dec 938-943 (1E10)*

Q

Q-measurement: varactor diodes with external loss present. *Roe, James M., T-MTT 71 Aug 728-729 (2B01)*

R

Rabbits: heart-rate effects during microwave irradiation. *Kaplan, Ira T., T-MTT 71 Feb 168-173 (1E08)*
Radar: cf. Monopulse radar
Radar receivers: microstrip monopulse receiver for Ku-band using electronically tunable Gunn oscillator. *Osterwalder, J. Martin, T-MTT 71 Jul 627-633 (2B06)*
Radar transmitters: microstrip Gunn diode transmitter; temperature-stabilized pulsed oscillator array for use in phased array systems. *Wasse, Michael P., T-MTT 71 Jul 616-622 (1F02)*
Radiation effects: cf. Microwave radiation effects, RF radiation effects
Radiation hazards: cf. Microwave radiation hazards, RF radiation hazards
Radiation meters: cf. Electromagnetic radiation meters
Radiation safety: cf. Radiation hazards
Radio frequency: cf. RF
Radio receivers: cf. Microwave receivers; Superhetrodyne receivers
Random media: electromagnetic wave propagation; matrix methods. *Rowe, Harrison E., T-MTT 71 Jan 73-80 (2C05)*
Ray optics: cf. Geometrical optics
Razor search program: description of computer program for locating minimum of function of several variables. *Bandler, John W., T-MTT 71 Jul 667 (2E10)*
Receivers: cf. Microwave receivers; Superhetrodyne receivers
Reflection coefficient measurement: tuning circuit for source or load matching in waveguide and transmission line systems. *Beatty, Robert W., T-MTT 71 Mar 337-338 (2C12)*
Relaxation methods: waveguide analysis using positive definite successive overrelaxation; computer program description. *Beaubien, M., T-MTT 71 Oct 839-840 (1F01)*
Resonator filters: cf. Dielectric-resonator filters
Resonators: losses of open resonators as function of geometry. *Bisto, G. R., T-MTT 71 May 490-491 (2C04)*
Resonators: cf. Cavity resonators; Dielectric resonators; Laser resonators
RF radiation effects: biological systems; low-power modulated RF energy. *Frey, Allan H., T-MTT 71 Feb 153-164 (1D05)*
RF radiation effects: biological tissues in direct contact with source; heating patterns. *Guy, Arthur W., T-MTT 71 Feb 214-223 (2E01)*
RF radiation effects: biological tissues; thermal and nonthermal effects. *Schwan, Herman P., T-MTT 71 Feb 146-152 (1C10)*
RF radiation effects: biological tissues; thermographic study of induced fields. *Guy, Arthur W., T-MTT 71 Feb 205-214 (2D04)*
RF radiation effects: cf. Microwave radiation effects
RF radiation hazards: quantification; instrument design and measurement techniques. *Wacker, Paul F., T-MTT 71 Feb 178-187 (2B01)*
RF radiation hazards: US Navy ships, determination and elimination. *Glaser, Zorach R., T-MTT 71 Feb 232-238 (3B01)*
Ridged waveguides: eigenvalue spectrum; integral eigenvalue equation solution using Ritz-Galerkin method. *Montgomery, James P., T-MTT 71 Jun 547-555 (2B01)*
Ring-type filters: two-cavity ring-type channel-dropping filters for millimeter-wave multiplexers. *Ootomo, Isao, T-MTT 71 May 481-484 (2B07)*

S

Safety: cf. Microwave radiation hazards; RF radiation hazards
Safety standards: biological effects of microwaves; book (Review, *T-MTT 71 Feb 248*). *Marha, Karel, San Francisco Press (San Francisco, CA) 1971*
Safety standards: microwave radiation effects; Eastern Europe. *Marha, Karel, T-MTT 71 Feb 165-168 (1E05)*
Scattering: cf. Electromagnetic wave scattering; Waveguide discontinuities

- Scattering matrix:** tensor character of symmetrical waveguide junctions. *Knorr, Jeffrey B., T-MTT 71 Apr 414-415 (2C10)*
- Scattering parameters:** passive lossy nonreciprocal two-port networks. *Hindin, Harvey J., T-MTT 71 Sep 781 (1E07)*
- Scattering parameters:** two-port measurements with imperfect test set. *Kruppa, W., T-MTT 71 Jan 122-123 (2B11)*
- Schottky-barrier diodes;** mixers; 4-GHz integrated-circuit mixer. *Katoh, Motonobu, T-MTT 71 Jul 634-637 (2C01)*
- Schottky-barrier diodes;** mixers; microstrip balanced mixer for 20-GHz band. *Araki, Tohru, T-MTT 71 Jul 638-643 (2C05)*
- Schottky-barrier diodes;** noise figure of mixer diode. *Gewartowski, James W., T-MTT 71 May 481 (2B07)*
- Schottky-barrier gate FETs;** cf. MESFETs
- Schwarz-Christoffel transformation;** inversion procedure; application to waveguide discontinuity problems. *Lewin, Leonard, T-MTT 71 Jun 542-546 (2E06)*
- Screens;** cf. Conducting screens
- Search methods;** razor search computer program for locating minimum of function of several variables. *Bandler, John W., T-MTT 71 Jul 667 (2E10)*
- Semiconductor device packaging;** microwave and millimeter-wave devices; low-inductance package eliminating springs and ribbons. *Spiwak, Robert R., T-MTT 71 Aug 732-733 (2B05)*
- Semiconductor diodes;** cf. Gunn diodes, *p-n* diodes; Schottky-barrier diodes; Varactor diodes; Varactors
- Semiconductor isolators;** indium antimonide; 35-GHz isolator using coaxial solid-state plasma in longitudinal magnetic field. *McLeod, Bruce R., T-MTT 71 Jun 510-516 (1B10)*
- Semiconductor-loaded waveguides;** nonreciprocal wave propagation in presence of transverse magnetic field. *Arnold, Richard M., T-MTT 71 Jan 57-65 (2B01)*
- Semiconductor-loaded waveguides;** cf. Semiconductor isolators
- Semiconductor noise;** Gunn oscillators; noise parameters for AM and FM noise. *Hashiguchi, Sumihisa, T-MTT 71 Aug 686-691 (1C04)*
- Semiconductor noise;** IMPATT amplifiers and oscillators; experimental and theoretical investigations. *Thaler, Hans-Jorg, T-MTT 71 Aug 692-705 (1C10)*
- Semiconductor noise;** IMPATT diodes, optimum noise measure for gallium arsenide diodes. *Haus, Hermann A., T-MTT 71 Oct 801-813 (1B11)*
- Semiconductor panels;** millimeter-wave image conversion using semiconductor panels. *Mavaddat, R., T-MTT 71 Jun 555-558 (2B09)*
- Semiconductors;** microwave magneto-Kerr effect in semiconductors; measurement using interferometric polarization analyzer. *Vernon, Ronald J., T-MTT 71 Mar 287-294 (1D07)*
- Semiconductors;** cf. Indium antimonide
- Shipboard radiation hazards;** US Navy RF and microwave radiation hazards; determination and elimination. *Glaser, Zorach R., T-MTT 71 Feb 232-238 (3B01)*
- Silicon-silicon dioxide systems;** microstrip line on silicon-silicon dioxide system; parallel-plate waveguide model. *Hasegawa, Hideki, T-MTT 71 Nov 869-881 (1D05)*
- Simulation;** cf. Inductance simulation
- Single-sideband;** cf. SSB
- Skull;** cf. Cranium
- Slot lines;** double-substrate slot line; relative wavelength and characteristic impedance. *Cohn, Seymour B., T-MTT 71 Sep 773-774 (1D11)*
- Slow-wave structures;** cf. Ferrite-loaded helical lines
- Special issues;** biological effects of microwaves. *IEEE G-MTT, T-MTT 71 Feb*
- Special issues;** microwave integrated circuits. *IEEE G-MTT, T-MTT 71 Jul*
- Spectral analysis;** Gaussian envelope pulse; computer-aided analysis. *Saponas, Thomas A., T-MTT 71 Dec 938-943 (1E10)*
- SSB modulators;** frequency shift of 1 kHz for 10 GHz signal; suppression of carrier by 65 dB and of unwanted sideband by over 57 dB. *Brooker, P. G., T-MTT 71 Oct 829-834 (1E03)*
- Stability;** cf. Temperature stability
- Standards;** cf. Measurement standards; Safety standards
- Stripline;** cf. Microstrip
- Stripline techniques;** broadband design. *Konishi, Yoshihiro, T-MTT 71 Mar 260-269 (1B04)*
- Stripline circulators;** input impedance of ferrite circulator. *Salay, Steven J., T-MTT 71 Jan 109-110 (2F05)*
- Stripline components;** cf. Ferrite stripline components
- Stripline phase shifters;** continuously variable dielectric phase shifter; variation of dielectric constant. *Joines, William T., T-MTT 71 Aug 729-732 (2B02)*
- Stripline power dividers;** TEM-mode three-ports; broadband design. *Ekinge, Roland B., T-MTT 71 Jan 81-88 (2D01)*
- Striplines;** cf. Microstrip lines
- Superheterodyne receivers;** microwave integrated circuits, low-noise X-band sweeping receiver. *Meier, Paul J., T-MTT 71 Jul 600-609 (1D10)*
- Surface waves;** cf. Acoustic surface waves; Electromagnetic surface waves; Magnetostatic surface waves; Optical surface waves
- Switches;** cf. Diode switches; Ferrite switches, Microstrip switches, Waveguide switches
- T**
- Tees;** cf. Hybrid tees
- Temperature stability;** microwave resonator-feedback oscillators. *Kim, John R., T-MTT 71 Mar 331-332 (2C05)*
- Thermography;** electromagnetic fields induced in biological tissues; thermographic study. *Guy, Arthur W., T-MTT 71 Feb 205-214 (2D04)*
- Thin-film circuits;** irregularly finite conductors on dielectric sheet; capacitance coefficients. *Patel, Parbhuhai D., T-MTT 71 Nov 862-869 (1C10)*
- Thin films;** cf. Permalloy films
- Three-port networks;** TEM-mode broadband design; distributed-lumped networks. *Ekinge, Roland B., T-MTT 71 Jan 81-88 (2D01)*
- Tissues;** cf. Biological tissues
- Transducers;** cf. Acoustic transducers; Interdigital transducers
- Transferred-electron oscillators;** cf. Gunn oscillators
- Transient waves;** cf. Electromagnetic transients
- Transistor circuits;** inductance simulation; frequency range for inverted common-collector transistor circuit. *Flegler, Emanuel, T-MTT 71 Jan 89-91 (2D09)*
- Transmission-line filters;** bandpass combline and capacitively-loaded interdigital filters; synthesis procedures. *Wenzel, Robert J., T-MTT 71 Aug 678-686 (1B08)*
- Transmission-line filters;** coaxial-line bandpass filter; immittance inverter realization technique. *Davis, W. Alan, T-MTT 71 Apr 373-380 (1D05)*
- Transmission-line filters;** design equations for resonator filters, interdigital filters, and stub filters. *Cristal, Edward G., T-MTT 71 May 486-490 (2B12)*
- Transmission-line filters;** roots of equiripple insertion-loss functions for commensurate line filters. *Gupta, Om P., T-MTT 71 Apr 410-411 (2C06)*
- Transmission-line filters;** symmetrical cascade of commensurate lines having equiripple performance; even polynomials which complement Achieser-Zolotarev polynomials. *Riblet, Henry J., T-MTT 71 Nov 891-892 (1F03)*
- Transmission-line filters;** cf. Coaxial-line filters; Distributed filters
- Transmission-line measurements;** balanced two-conductor lines; use of coaxial equipment. *Dyson, John D., T-MTT 71 Jan 94-96 (2E02)*
- Transmission lines;** potential calculations using Monte Carlo method; TEM-mode lines. *Royer, George M., T-MTT 71 Oct 813-818 (1C11)*
- Transmission lines;** wave propagation in random media. *Rowe, Harrison E., T-MTT 71 Jan 73-80 (2C05)*
- Transmission lines;** cf. Coupled transmission lines; Microstrip lines; Slot lines
- Transmitters;** cf. Microwave transmitters
- Transponders;** microwave integrated circuit front end for L-band IFF receiver. *Giummi, Richard J., T-MTT 71 Jul 622-627 (2B01)*
- Transversal filters;** active filter using MESFETs as coupling elements. *Jutzi, Wilhelm, T-MTT 71 Sep 760-767 (1C10)*
- Triodes;** cf. Microwave triodes
- Tri-Service Program;** biological effects of microwaves. *Michaelson, Sol M., T-MTT 71 Feb 131-146 (1B07)*
- Tumors;** microwave heating; animals in hypothermia. *Zimmer, Robert P., T-MTT 71 Feb 238-245 (3B07)*
- Tuners;** source or load matching in waveguide and transmission line systems. *Beatty, Robert W., T-MTT 71 Mar 337-338 (2C12)*
- Two-port networks;** scattering parameter measurements with imperfect test set. *Kruppa, W., T-MTT 71 Jan 122-123 (2B11)*
- Two-port networks;** scattering parameters of passive lossy nonreciprocal two-port networks. *Hindin, Harvey J., T-MTT 71 Sep 781 (1E07)*
- U**
- US Navy;** RF and microwave shipboard radiation hazards; determination and elimination. *Glaser, Zorach R., T-MTT 71 Feb 232-238 (3B01)*
- V**
- Varactor diodes;** continuously variable 360° phase shift; phase-shift circuit application. *Henoch, Bengt T., T-MTT 71 Jan 103-105 (2E11)*
- Varactor diodes;** frequency dependence of apparent resistance; effect on parametric amplifier noise figure. *Inal, Kublay, T-MTT 71 Mar 333-334 (2C07)*
- Varactor diodes;** use in lumped-element circulator for changing operating frequency. *Naito, Yoshiyuki, T-MTT 71 Apr 367-372 (1C11)*
- Varactor frequency converters;** intermodulation distortion in abrupt-junction current-pumped varactor frequency converters. *Gardner, John Graham, T-MTT 71 Sep 741-749 (1B03)*
- Varactors;** Q-measurement for mounted diodes. *Roe, James M., T-MTT 71 Aug 728-729 (2B01)*
- Varactor tuning;** lumped-element circulator voltage-tuned by varactor. *Helszajn, Joseph, T-MTT 71 Oct 825-826 (1D11)*
- Variational techniques;** dielectric-loaded waveguides; hybrid-mode analysis. *English, William J., T-MTT 71 Jan 9-18 (1B11)*
- Variational techniques;** dielectric-loaded waveguides; E-vector variational principle. *English, William J., T-MTT 71 Jan 40-46 (1E06)*
- Variational techniques;** dielectric-loaded waveguides; fields above cutoff expanded in terms of cutoff modes. *Csendes, Zoltan J., T-MTT 71 Jun 504-509 (1B04)*
- Variational techniques;** magnetoplasma-filled waveguides; formulation using waveguide symmetry. *Champlin, Keith S., T-MTT 69 Jul 401*
- Variational techniques;** multimode waveguide scattering; variational bound principle. *Kalkstein, Kalman, T-MTT 71 Aug 673-677 (1B03)*
- W**
- Water;** complex dielectric constant calculations for saline water. *Stogryn, A., T-MTT 71 Aug 733-736 (2B06)*
- Wave diffraction;** cf. Electromagnetic wave diffraction
- Waveguide attenuators;** rotary vane attenuators; compact precision attenuator based on modified attenuation law. *Otoshu, Tom Y., T-MTT 71 Nov 843-854 (1B03)*
- Waveguide discontinuities;** numerical solutions; convergence. *Lee, Shung Wu, T-MTT 71 Jun 528-536 (1D04)*
- Waveguide discontinuities;** Schwarz-Christoffel transformation; inversion procedure. *Lewin, Leonard, T-MTT 71 Jun 542-546 (2E06)*
- Waveguide discontinuities;** variational bound principle for multimode waveguide scattering. *Kalkstein, Kalman, T-MTT 71 Aug 673-677 (1B03)*
- Waveguide discontinuities;** wall impedance discontinuity in coaxial waveguide; scattering of shielded surface wave. *Vijayaraghavan, S., T-MTT 71 Aug 736-739 (2B09)*
- Waveguide discontinuities;** cf. Waveguide mounts; Waveguide obstacles
- Waveguide filters;** evanescent mode bandpass filters; design. *Craven, George F., T-MTT 71 Mar 295-308 (1E03)*
- Waveguide junctions;** symmetrical junctions; tensor character of scattering matrix. *Knorr, Jeffrey B., T-MTT 71 Apr 414-415 (2C10)*
- Waveguide junctions;** cf. Waveguide transitions
- Waveguide mounts;** circuit impedance at terminals of device mounted in shunt across guide. *Eisenhart, Robert L., T-MTT 71 Aug 706-719 (1D12)*
- Waveguide obstacles;** movable metal iris with nearly frequency-independent susceptance. *Bryan, J. G., T-MTT 71 Nov 889-891 (1F01)*
- Waveguide obstacles;** spatial complex variables for analysis. *Hashimoto, Masahiro, T-MTT 71 May 458-474 (1E02)*
- Waveguide obstacles;** cf. Waveguide discontinuities
- Waveguide phased arrays;** feed networks; design of optimum dual-series networks. *Jones, William R., T-MTT 71 May 451-458 (1D07)*

Waveguides; computer-aided analysis using positive definite successive overrelaxation; computer program description. *Beaubien, M.*, *T-MTT 71 Oct* 839-840 (1F01)

Waveguides; differential phase-shift sections; application to ferrite devices *Sultan, Nizar B.*, *T-MTT 71 Apr* 348-357 (1B04)

Waveguides; impedance boundary conditions on walls; rectangular waveguides. *Dybdal, Robert B.*, *T-MTT 71 Jan* 2-9 (1B04)

Waveguides; *cf.* Circular waveguides; Coaxial waveguides; Corrugated waveguides; Dielectric-filled waveguides; Dielectric-loaded waveguides; Dielectric waveguides; Electromagnetic surface waveguides; Ferrimagnetic-loaded waveguides; Ferrite-loaded waveguides; Guided electromagnetic waves; Guided waves; Magnetoplasma-filled waveguides; Microstrip lines; Millimeter-wave waveguides; Optical waveguides; Ridged waveguides; Semiconductor-loaded waveguides

Waveguide scattering; *cf.* Waveguide discontinuities

Waveguide switches; ferrite switch for millimeter-wave region; tetrahedral waveguide junction type. *Stern, Richard A.*, *T-MTT 71 Sep* 786-788 (1E12)

Waveguide theorems; power-mode theorems for nonconservative systems, complex frequency excitation, and systems containing electron beams or plasma. *Chorney, Paul*, *T-MTT 71 Sep* 767-772 (1D05)

Waveguide transitions; circular-to-circular tapered transition. *Christensen, P S.*

T-MTT 71 Jan 99-100 (2E07)

Waveguide transitions; millimeter-wave guides; transitions from standard to oversize circular waveguides. *King, Howard E.*, *T-MTT 71 Jan* 116-119 (3B05)

Wave propagation; *cf.* Electromagnetic wave propagation

Wave scattering; *cf.* Electromagnetic wave scattering

Wire antennas; transient analysis; computer program description. *Auckenthaler, Alethia M.*, *T-MTT 71 Nov* 892-893 (1F04)

Y

Yagi-Uda structures; wave propagation; current distribution, k - β diagram, cutoff frequencies. *Shen, Liang Chi*, *T-MTT 71 Jun* 536-542 (1D12)

YIG delay lines; low-dispersion line with electronically variable delay *Moore, R. A.*, *T-MTT 71 Mar* 334-337 (2C08)

Yttrium-gadolinium garnets; manganese substitution; remanent phase shifters. *Hudson, Andrew S.*, *T-MTT 71 Jan* 119-120 (3B08)

Yttrium iron garnet; *cf.* YIG

Z

Zolotarev-Achieser polynomials; *cf.* Achieser-Zolotarev polynomials