

1977 Index

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This index covers all items—papers, correspondence, reviews, etc.—that appeared in this periodical during 1977, and items from prior years that were commented upon or corrected in 1977. 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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Curved waveguides; cf. Waveguide bends
Cyclotron radiation; cf. Submillimeter-wave generation

Cylinders

- electromagnetic fields induced in arbitrary cross-sectioned cylinders of biological tissue. *Wu, Te-Kao, T-MTT 77 Jan 61-65 (1E07)*
- electromagnetic scattering by inhomogeneous dielectric cylinders; application to waveguide discontinuity problem. *Cicconi, Gabriele, T-MTT 77 Nov 885-892 (1B07)*

D

Delay

- group delay sensitivities calculation for linear time-invariant networks using adjoint network concept. *Bandler, John W., T-MTT 76 Apr 188-194 (1B12) ♦*

Demodulation; cf. Modulation/demodulation

Detectors; cf. Submillimeter-wave detectors

Diathermy; cf. Electromagnetic radiation therapy

Dielectric antennas

- millimeter-wave IC devices using grating structures fabricated in inverted strip dielectric waveguide. *Itoh, Tatsuo, T-MTT 77 Dec 1134-1138 (2F10)*

Dielectric bodies

- electromagnetic absorption in nonspherical bodies calculated using extended boundary condition method. *Barber, Peter W., T-MTT 77 May 373-381 (1C05)*

Dielectric bodies; cf. Cylinders; Ellipsoids

Dielectric heating; cf. Electromagnetic radiation effects

Dielectric-loaded waveguides

- dispersion analysis of arbitrarily configured dielectric-loaded transmission structures. *Ganguly, Achintya K., T-MTT 77 Dec 1138-1141 (2F14)*
- lossy nonhomogeneously loaded guide of complex shape; variational-finite-element solution; application to rail-traffic headway control system. *McAulay, Alastair D., T-MTT 77 May 382-392 (1C14)*
- nonhomogeneously loaded guide with dielectric and metallic losses; coupled-mode analysis. *Gauthier, Francis, T-MTT 77 Nov 904-907 (1C12)*
- rectangular guide partially filled with dielectric slab in *E*-plane; power handling capacity maximized. *Findakly, Talal K., T-MTT 76 Jan 39-43 (1C13) ♦*
- submillimeter-wave Cerenkov radiation from relativistic electron-beam-driven guide. *Walsh, J. E., T-MTT 77 Jun 561-563 (2C06)*
- wire located near grounded dielectric slab; propagating modes. *Kuester, Edward F., T-MTT 77 Dec 1065-1069 (2A11)*

Dielectric measurements

- microwave integrated circuit substrate measurements using MIC resonator; errors due to field perturbations. *Ladbrooke, P. H., T-MTT 77 Nov 892-903 (1B14)*
- microwave loss tangent of low-loss material; resonator bridge method. *Kneppo, Ivan, T-MTT 77 May 418-423 (1F08)*
- microwave measurement of Cr-doped GaAs and CdTe; complex permittivity as function of frequency and temperature. *Courtney, William E., T-MTT 77 Aug 697-701 (1E13)*
- millimeter- and submillimeter-wave spectroscopy; dispersive Fourier spectrometry for precise measurements of low-loss materials. *Afsar, M. N., T-MTT 77 Jun 509-511 (1E01)*
- perturbation technique using superconducting helical and cavity resonators. *Meyer, Wolfgang, T-MTT 77 Dec 1092-1099 (2C10)*
- submillimeter-wave measurements on polar liquids; Poley absorption. *Chantry, G. W., T-MTT 77 Jun 496-500 (1D02)*
- submillimeter-wave spectroscopy of liquids; dispersive Fourier spectrometry with variable-thickness variable-temperature cells. *Afsar, M. N., T-MTT 77 Jun 505-508 (1D11)*

Dielectric resonators

- nonspherical lossy bodies; internal field calculation using extended bounded condition method. *Barber, Peter W., T-MTT 77 May 373-381 (1C05)*
- planar resonators; oscillation modes characterized in terms of *R/Q* parameter; radiation loss calculation. *Schott, Frederick W., T-MTT 77 May 416-418 (1F06)*
- post resonator with large ϵ_r ; modal analysis. *Pospieszalski, Marian W., T-MTT 77 Mar 228-231 (1E06)*
- resonant frequencies calculation. *Guillon, P., T-MTT 77 Nov 916-922 (1D10)*
- resonant frequency computation. *Itoh, Tatsuo, T-MTT 77 Jan 52-55 (1D12)*

Dielectric waveguides

- propagation characteristics, power distribution, and field configuration for rectangular image line, clad rectangular image line, insulated image guide, and strip guide. *Ogusu, Kazuhiko, T-MTT 77 Nov 874-885 (1A10)*
- millimeter-wave IC devices using grating structures fabricated in inverted strip dielectric waveguide. *Itoh, Tatsuo, T-MTT 77 Dec 1134-1138 (2F10)*
- submillimeter-wave phase shifters; multilayer dielectric waveguide driven by p-i-n diode. *Buckman, A. B., T-MTT 77 Jun 480-483 (1B14)*

Dielectric waveguides; cf. Optical waveguides

Diffraction; cf. Electromagnetic diffraction

Diodes; cf. Semiconductor diodes

Diode phase shifters

- matching network design for hybrid-coupled phase shifters; transmission-line matching network; equalization of diode losses. *Starski, J. Piotr, T-MTT 77 Aug 662-666 (1C06)*
- submillimeter-wave phase shifters; multilayer dielectric waveguide driven by p-i-n diode. *Buckman, A. B., T-MTT 77 Jun 480-483 (1B14)*

Diplexers

- asymmetric bandpass channel diplexers; direct design formulas. *Haine, John L., T-MTT 77 Oct 807-813 (1A03)*
- directional filter diplexer using optical techniques for millimeter and submillimeter wavelengths. *Erickson, N. R., T-MTT 77 Oct 865-866 (1E05)*
- periodic branching filter using traveling-wave resonator; 30-GHz band diplexer for satellite communication. *Kumazawa, Hiroyuki, T-MTT 77 Aug 683-687 (1D13)*

Directional couplers; cf. Hybrid junctions; Microstrip directional couplers

Directional filters

- diplexer using optical techniques for millimeter and submillimeter wavelengths. *Erickson, N. R., T-MTT 77 Oct 865-866 (1E05)*

Dispersive media; cf. Electromagnetic propagation, dispersive media

Dissipative media; cf. Absorbing media

Distortion; cf. Intermodulation distortion

♦ Check author entry for later corrections/comments

Distributed filters

- bandpass filters; characteristic functions for Butterworth and Chebyshev approximations. *Mokari-Bolhassan, M. E., T-MTT 77 Oct 837-847 (1C05)*
- bandpass structures with single shunted stub and cascaded commensurate lines; gain-bandwidth limitations and synthesis. *Mokari-Bolhassan, M. E., T-MTT 77 Oct 848-852 (1D02)*
- elliptic-function bandstop filters; unit element transforms performed on unresonated prototype and resultant network is resonated. *Malherbe, J. A. G., T-MTT 77 Aug 717 (1G05)*
- ladder networks containing lumped and distributed elements; design procedure. *Sobhy, M. I., T-MTT 77 Dec 1037-1041 (1F05)*

Distributed filters; cf. Microwave filters

Distributed networks

- exponentially tapered transmission lines with arbitrary nonlinear sending and receiving networks; transient analysis. *Hill, James L., T-MTT 77 Sep 777-783 (1E05)*
- matching networks for hybrid-coupled phase shifters. *Starski, J. Piotr, T-MTT 77 Aug 662-666 (1C06)*

Distributed networks; cf. Microwave circuits; Transmission lines

Distributed networks, line

- impedance matching using tapered transmission line; computation of Hecken impedance function. *Cloete, J. H., T-MTT 77 May 440 (2A04)*

Distributed networks, linear

- hybrid junctions; wideband balanced line microwave hybrids consisting of lossless two-ports and reversed-phase hybrid ring. *Rehnmark, Stig, T-MTT 77 Oct 825-830 (1B07)*

- impedance transformation between two arbitrary impedances using single transmission-line matching section. *Milligan, T. A., T-MTT 76 Mar 159 (1C05) ♦*

- tapered microstrip; input impedance calculation: computer program. *Suryanarayana Rao, K. N., T-MTT 77 Feb 164 (1F14)*

- tuning circuit for microwave transistor oscillator; even- and odd-mode fields separately adjusted at transistor ports. *Rogers, Robert G., T-MTT 77 Feb 120-127 (1C12)*

Doppler effects

- microwave frequency conversion by reflection from relativistic electron beam front; experiments on *X* to *K_a* band conversion. *Buzzi, J. M., T-MTT 77 Jun 559-560 (2C04)*
- submillimeter-wave generation by coherent scattering of relatively long wavelengths from relativistic electron beam. *Granatstein, V. L., T-MTT 77 Jun 545-550 (2B04)*
- submillimeter-wave generation using stimulated electromagnetic shock radiation effect. *Schneider, S., T-MTT 77 Jun 551-555 (2B10)*
- submillimeter-wave generation by reflection of relatively long wavelength from moving ionization front in stationary gas. *Lampe, M., T-MTT 77 Jun 556-558 (2C01)*

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Electric variables measurement; cf. Microwave measurements

Electromagnetic analysis

- variational expression derivation, unified approach. *Morishita, Katsumi, T-MTT 77 Jan 34-40 (1C08)*

Electromagnetic diffraction

- slab periodic medium bounded by different media on both sides; modal theory. *Chu, Ruey-Shi, T-MTT 77 Jan 18-24 (1B06)*

Electromagnetic induction; cf. Electromagnetic radiation effects

Electromagnetic measurements; cf. Electromagnetic radiation effects; Microwave measurements; Millimeter-wave measurements; Submillimeter-wave measurements; UHF measurements

Electromagnetic propagation; cf. Electromagnetic surface-wave propagation; Optical propagation; Waveguides

Electromagnetic propagation, absorbing media

- nonspherical dielectric bodies; internal field calculation using extended boundary condition method. *Barber, Peter W., T-MTT 77 May 373-381 (1C05)*

- transmission lines for microwave and millimeter-wave IC applications; dissipation losses in isolated and coupled lines. *Spielman, Barry E., T-MTT 77 Aug 648-656 (1B06)*

- waveguide composed of dissipative materials and having complex shape; variational-finite-element solution; application to rail-traffic headway control system. *McAulay, Alastair D., T-MTT 77 May 382-392 (1C14)*

Electromagnetic propagation, absorbing media; cf. Electromagnetic radiation effects

Electromagnetic propagation, anisotropic media

- vector variational formulation coupled with high-order polynomial triangular finite-element method. *Konrad, A., T-MTT 77 May 353-360 (1A13)*

Electromagnetic propagation, dispersive media

- dielectric-loaded transmission structures of arbitrary configuration. *Ganguly, Achintya K., T-MTT 77 Dec 1138-1141 (2F14)*
- helical waveguide, flattened sheath helix. *Arora, Rajendra K., T-MTT 77 Jan 71-72 (1F03)*

- magnetostatic surface waves in YIG-semiconductor coupled system; amplification phenomena analyzed from energy viewpoint. *Yamada, Syoji, T-MTT 77 Jul 600-605 (1C08)*

- planar transmission lines, shielded lines on two-layer composite substrate; dispersion analysis using singular integral equation method. *Saha, P. K., T-MTT 77 Nov 907-911 (1D01)*

- slab periodic medium bounded by different media on both sides; modal theory. *Chu, Ruey-Shi, T-MTT 77 Jan 18-24 (1B06)*

Electromagnetic propagation, dispersive media; cf. Electromagnetic propagation, magnetic media; Electromagnetic propagation, plasma media; Electromagnetic transient propagation

Electromagnetic propagation, magnetic media

- YIG slab having periodically corrugated surface; magnetostatic-wave propagation. *Tsutsumi, Makoto, T-MTT 77 Mar 224-228 (1E02)*

Electromagnetic propagation, magnetic media; cf. Ferrite-loaded waveguides

Electromagnetic propagation, nonhomogeneous media

- coplanar transmission lines on multilayer substrate; hybrid mode analysis using spectral domain method. *Davies, J. Brian, T-MTT 77 Feb 143-146 (1E07)*

- coupled transmission lines in nonhomogeneous medium; equivalent circuits for nonsymmetrical coupled-line two-ports. *Tripathi, Vijai K.*, T-MTT 77 Feb 140-142 (1E04)
- dielectric-loaded transmission structures of arbitrary configuration; dispersion analysis. *Ganguly, Achunya K.*, T-MTT 77 Dec 1138-1141 (2F14)
- magnetostatic surface waves in YIG-semiconductor coupled system; amplification phenomena analyzed from energy viewpoint. *Yamada, Syoji*, T-MTT 77 Jul 600-605 (1C08)
- planar transmission lines, shielded lines on two-layer composite substrate; dispersion analysis using singular integral equation method. *Saha, P. K.*, T-MTT 77 Nov 907-911 (1D01)
- slab periodic medium bounded by different media on both sides; modal theory. *Chu, Ruey-Shu*, T-MTT 77 Jan 18-24 (1B06)
- submillimeter-wave phase shifters; multilayer dielectric waveguide driven by p-i-n diode. *Buckman, A. B.*, T-MTT 77 Jun 480-483 (1B14)
- YIG slab having periodically corrugated surface; magnetostatic-wave propagation. *Tsutsumi, Makoto*, T-MTT 77 Mar 224-228 (1E02)
- Electromagnetic propagation, nonhomogeneous media; cf.** Electromagnetic scattering, nonhomogeneous media; Nonhomogeneously loaded waveguides; Optical propagation, nonhomogeneous media; Waveguides
- Electromagnetic propagation, plasma media; cf.** Plasma-loaded waveguides
- Electromagnetic pulse...; cf.** Electromagnetic transient...
- Electromagnetic radiation effects**
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- Electromagnetic radiation effects, biological**
- acoustic wave generation in microwave irradiated materials; causative mechanisms. *Borth, David E.*, T-MTT 77 Nov 944-954 (2A01)
- ellipsoidal model of man irradiated by plane wave; wavelength long compared to ellipsoid dimensions; induced fields and power absorbed. *Massoudi, Habib*, T-MTT 77 Jan 41-46 (1D01)
- ellipsoidal model of man irradiated by plane wave; wavelength long compared to ellipsoid dimensions; power absorbed. *Massoudi, Habib*, T-MTT 77 Jan 47-52 (1D07)
- hearing sensation induced by pulsed microwave radiation. *Lin, James C.*, T-MTT 77 Jul 605-613 (1C13)
- hearing sensation induced by pulsed microwave radiation, frequency of auditory signal depends only on size and acoustic property of head. *Lin, James C.*, T-MTT 77 Nov 938-943 (1F04)
- human torso irradiation in 1-500 MHz range; internal field and absorbed power density. *Chen, Kun-Mu*, T-MTT 77 Sep 746-756 (1C02)
- induced fields in arbitrary cross-sectioned cylinders of biological tissue; integral equation and moment method analysis. *Wu, Te-Kao*, T-MTT 77 Jan 61-65 (1E07)
- induced fields inside finite bodies; experimental and theoretical studies. *Guru, Bhag Singh*, T-MTT 76 Jul 433-440 (1D01) ♦
- measuring attenuation in human torso in 1.8-2.7 GHz band. *Yamaura, Itsuo*, T-MTT 77 Aug 707-710 (1F09)
- microwave focusing for selective partial-body irradiation; dielectric lens Gaussian-beam launcher. *Neelakantaswamy, Perambur S.*, T-MTT 77 May 426-428 (1G02)
- microwave irradiation chamber for studies on agricultural products. *Olsen, R. G.*, T-MTT 77 May 428-433 (1G04)
- microwave irradiation of many animals simultaneously. *Oliva, Stephen A.*, T-MTT 77 May 433-436 (1G09)
- nonspherical dielectric bodies; internal field calculation using extended boundary condition method. *Barber, Peter W.*, T-MTT 77 May 373-381 (1C05)
- non-thermal effects. *Barnes, Frank S.*, T-MTT 77 Sep 742-746 (1B12)
- rats in 918-MHz near field: thermographic and behavioral studies. *Lin, James C.*, T-MTT 77 Oct 833-836 (1C01)
- Electromagnetic radiation monitoring**
- microwave power-density calibration using power equation techniques. *Bassen, Howard I.*, T-MTT 77 Aug 701-706 (1F03)
- Electromagnetic radiation therapy**
- microwave focusing for selective partial-body irradiation; dielectric lens Gaussian-beam launcher. *Neelakantaswamy, Perambur S.*, T-MTT 77 May 426-428 (1G02)
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- submillimeter-wave/far-infrared reflectivity of man-made and natural materials; 50-500 μ m range. *Blue, M. D.*, T-MTT 77 Jun 491-493 (1C11)
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- Electromagnetic scattering**
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- moment method; cell size upper bounds when using pulse functions. *Hagmann, Mark J.*, T-MTT 77 Oct 831-832 (1B13)
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- submillimeter-wave generation using stimulated electromagnetic shock radiation effect. *Schneider, S.*, T-MTT 77 Jun 551-555 (2B10)
- submillimeter-wave generation by reflection of relatively long wavelength from moving ionization front in stationary gas. *Lampe, M.*, T-MTT 77 Jun 556-558 (2C01)
- Electromagnetic scattering; cf.** Waveguide discontinuities
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- dielectric cylinders; vector wave equation solutions; application to waveguide discontinuity problem. *Ciccon, Gabriele*, T-MTT 77 Nov 885-892 (1B07)
- Electromagnetic scattering, rough surfaces**
- guided surface waves and lateral waves excited by field incident on rough surface; fields scattered by rough surfaces excited by surface waves and lateral waves; coupling between surface and lateral waves. *Bahar, Ezekiel*, T-MTT 77 Nov 923-931 (1E03)
- Electromagnetic shielding; cf.** Wire communication cable shielding
- Electromagnetic surface waves**
- rough surfaces; coupling between surface waves and lateral waves; guided surface waves and lateral waves excited by field incident on rough surface. *Bahar, Ezekiel*, T-MTT 77 Nov 923-931 (1E03)
- Electromagnetic surface waves; cf.** Magnetostatic surface waves
- Electromagnetic surface-wave propagation**
- wire located near grounded dielectric slab; propagating modes. *Kuester, Edward F.*, T-MTT 77 Dec 1065-1069 (2A11)
- Electromagnetic surface-wave transmission lines**
- Goubau line above ground; transition from ground-return line to surface-wave line. *Chiba, Jiro*, T-MTT 77 Feb 83-93 (1A03)
- Goubau line having bends; loss and radiation. *Chiba, Jiro*, T-MTT 77 Feb 94-100 (1A14)
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- Electromagnetic surface-wave waveguides; cf.** Dielectric waveguides; Helical waveguides
- Electromagnetic transient propagation; cf.** Waveguide transient propagation
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- Ellipsoids**
- electromagnetic plane wave irradiation of ellipsoidal model of man; wavelength long compared to ellipsoid dimensions. *Massoudi, Habib*, T-MTT 77 Jan 41-46 (1D01)
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- Elliptic filters**
- bandstop filters; unit element transforms performed on unresonated prototype and resultant network is resonated. *Malherbe, J. A. G.*, T-MTT 77 Aug 717 (1G05)
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- Equalizers; cf.** Impedance matching
- Equiripple filters; cf.** Chebyshev filters; Elliptic filters
- Extraterrestrial radio source; cf.** Radio astronomy

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- Fabrication; cf.** Semiconductor diode fabrication
- Fabry-Perot resonators**
- spherical resonators; perturbation theory generalized to arbitrary (p,l) modes. *Erickson, Clifford W.*, T-MTT 77 Nov 958 (2B01)
- Facsimile; cf.** Image transmission
- Far infrared; cf.** Infrared (0.70-100 μ m); Submillimeter-wave (300-3000 GHz)
- Ferrite circulators**
- E-plane waveguide junction circulator having full-height ferrite configuration; exact field theory treatment. *El-Shandwil, M. Ezzat*, T-MTT 77 Sep 784-793 (1E12)
- E-plane waveguide junction circulator having two-disk ferrite configuration; exact field theory treatment. *El-Shandwil, M. Ezzat*, T-MTT 77 Sep 794-803 (1F08)
- measuring equivalent admittance of symmetrical 3-port circulator using computerized system. *Riblet, Gordon P.*, T-MTT 77 May 401-405 (1E05)
- three-port waveguide circulators; frequency analysis and optimization; computer program. *Meixner, R. P.*, T-MTT 77 Jan 77-78 (1F09)
- triangular ferrite post for Y circulator; mode classification. *Akawa, Yoshihiko*, T-MTT 77 Jan 59-61 (1E05)
- Ferrite circulators; cf.** Stripline circulators
- Ferrite devices**
- microwave ferrite planar circuits with ferrite substrate magnetized perpendicular to ground plane. *Miyoshi, Tanroku*, T-MTT 77 Jul 593-600 (1C01)
- Ferrite devices; cf.** YIG devices
- Ferrite isolators**
- edge-mode isolator for VHF band. *Courtois, Louis*, T-MTT 76 Mar 129-135 (1A03) ♦
- Ferrite isolators; cf.** Microstrip isolators
- Ferrite-loaded waveguides**
- circular guide loaded with azimuthally magnetized ferrite tube. *Parriaux, Olivier*, T-MTT 77 Mar 221-224 (1D13)
- limiter saturated by strong primary signal; absorption of weak secondary signal. *Emtage, P. R.*, T-MTT 77 Mar 210-213 (1D02)
- limiters under subsidiary resonance conditions. *Helszajn, Joseph*, T-MTT 77 Mar 190-196 (1B10)
- partially filled with magnetized ferrite column; dispersion characteristics of dipolar modes. *Le-Ngoc, S.*, T-MTT 77 Mar 197-209 (1C03)
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- FETs; cf.** Microwave FETs
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Fiber optics; cf. Optical fibers

Filters; cf. Bandpass filters; Bandstop filters; Butterworth filters; Directional filters; Distributed filters; Equiripple filters; Microwave filters; Millimeter-wave filters; Resonator filters

Finite-difference methods

optical fiber waveguides; coupled-power equation solution for step-index fibers. *Rousseau, Michel, T-MTT 77 Jul 577-585 (1A13)*

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FM noise; cf. Oscillator noise

Fourier spectroscopy

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submillimeter-wave spectroscopy of liquids; dispersive Fourier spectrometry with variable-thickness variable-temperature cells. *Afsar, M. N., T-MTT 77 Jun 505-508 (1D11)*

Frequency conversion; cf. Microwave frequency conversion; Mixers

Frequency-division multiplexing; cf. Channel bank filters; Diplexers

Frequency stability; cf. Oscillator stability

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Gallium alloys/compounds

GaAs, Cr-doped; complex permittivity as function of frequency and temperature; 2.5-36 GHz, 300-400 K. *Courtney, William E., T-MTT 77 Aug 697-701 (1E13)*

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GaAs varactors in microwave frequency divider. *Harrison, Robert G., T-MTT 77 Dec 1055-1059 (2A01)*

Gallium alloys/compounds, devices; cf. Microwave FETs; Schottky-barrier devices

Garnets; cf. YIG

Gas-discharge devices

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Gaussian beams

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Gold

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Green's function; cf. Cavity resonators; Microstrip; Stripline

Gunn device oscillators

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evanescent-mode resonators used with active MIC components. *Schünemann, K., T-MTT 77 Dec 1026-1032 (1E08)*

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Hearing; cf. Auditory system

Helical waveguides

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Heterodyne detection; cf. Modulation/demodulation

History

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Horn antennas

shunt capacitance introduced by junction between uniform guide and one which tapers linearly in plane of E field; Lewin's formula. *Riblet, Henry J., T-MTT 77 Aug 711-712 (1F13)*

Hybrid integrated-circuits; cf. Microwave integrated circuits; Millimeter-wave integrated circuits

Hybrid junctions

transmission line realizations; wideband balanced line microwave hybrids consisting of lossless two-ports and reversed-phase hybrid ring. *Rehmark, Stig, T-MTT 77 Oct 825-830 (1B07)*

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Image transmission

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IMPATT diodes

four-mesa Si p⁺-n-n⁺ diodes; electrical symmetry considerations. *Rucker, C. T., T-MTT 77 Jan 75-76 (1F07)*

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IMPATT diode amplifiers

intermodulation distortion in reflection amplifiers; Volterra series analysis. *Javed, Alauddin, T-MTT 77 Sep 729-734 (1A13)*

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dielectric waveguides; rectangular image line, clad rectangular image line, insulated image guide, and strip guide. *Ogusu, Kazuhiko, T-MTT 77 Nov 874-885 (1A10)*

Submillimeter-wave measurements

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