



# IEEE TRANSACTIONS ON MICROWAVE THEORY AND TECHNIQUES

MARCH 1981

VOLUME MTT-29

NUMBER 3

(ISSN 0018-9480)

A PUBLICATION OF THE IEEE MICROWAVE THEORY AND TECHNIQUES SOCIETY



---

## PAPERS

An Experimental Gyro-TWT .....	<i>R. S. Symons, H. R. Jory, S. J. Hegji, and P. E. Ferguson</i>	181
Dual-Gate MESFET Variable-Gain Constant-Output Power Amplifier .....	<i>M. Kumar and H.-C. Huang</i>	185
Synthesis of Broad-Band 3-dB Hybrids Based on the 2-Way Power Divider .....	<i>G. L. Nyström</i>	189
Computer-Oriented Synthesis of Optimum Circuit Pattern of 3-dB Hybrid Ring by the Planar Circuit Approach .....	<i>T. Okoshi, T. Imai, and K. Ito</i>	194
The Sector Coupler—Theory and Performance .....	<i>J. W. Archer, M. Ogai, and E. M. Caloccia</i>	202
Planar Meanderline Ferrite-Dielectric Phase Shifter .....	<i>E. R. B. Hansson, S. Aditya, and M. A. Larsson</i>	209
Printed Circuit Coupled-Line Filters for Bandwidths Up to and Greater than an Octave .....	<i>B. J. Minnis</i>	215
Electromagnetic Fields in an Axial Symmetric Waveguide with Variable Cross Section .....	<i>S. A. Kheifets</i>	222
Impedance Transformations for the Generalized Reflection Modulator .....	<i>H. A. Atwater</i>	229
Analysis of Open-Type Dielectric Waveguides by the Finite-Element Iterative Method .....	<i>M. Ikeuchi, H. Sawami, and H. Niki</i>	234
Helical Resonators for Measuring Dielectric Properties of Materials .....	<i>W. Meyer</i>	240
Measurement of Losses in Noise-Matching Networks .....	<i>E. W. Strid</i>	247
Dependence of Electromagnetic Energy Deposition Upon Angle of Incidence for an Inhomogeneous Block Model of Man Under Plane-Wave Irradiation .....	<i>M. J. Hagmann, I. Chatterjee, and O. P. Gandhi</i>	252
Dual-Mode Microwave System to Enhance Early Detection of Cancer .....	<i>K. L. Carr, A. M. El-Mahdi, and J. Shaeffer</i>	256

---

## SHORT PAPERS

Performance and Design of Microwave FET Harmonic Generators .....	<i>M. S. Gupta, R. W. Laton, and T. T. Lee</i>	261
On the Design of Transitions Between a Metal and Inverted Strip Dielectric Waveguide for Millimeter Waves .....	<i>S. Bhooshan and R. Mittra</i>	263
A Coaxial Waveguide Commutator Feed for a Scanning Circular Phased Array Antenna .....	<i>E. P. Irzinski</i>	266
Coupling Between Two Collinear Parallel-Plate Waveguides of Unequal Widths .....	<i>Y. E. Elmoazzen and L. Shafai</i>	270
Slotted and Loose Braid Cables: Brief Conclusions of a Comparative Study .....	<i>A. Simão de Carvalho Fernandes</i>	273

---

## CONTRIBUTORS

276

---

