



IEEE TRANSACTIONS ON

MICROWAVE THEORY AND TECHNIQUES

A PUBLICATION OF THE IEEE MICROWAVE THEORY AND TECHNIQUES SOCIETY



OCTOBER 1998

VOLUME 46

NUMBER 10

IETMAB

(ISSN 0018-9480)

PART I OF TWO PARTS

PAPERS

- Uniqueness of the Solution of Electromagnetic Boundary-Value Problems in the Presence of Lossy and Piecewise Homogeneous Lossless Dielectrics *S. Caorsi and M. Raffetto* 1353
- Numerical Simulation of an Ion-Implanted GaAs OPFET
..... *P. Chakrabarti, M. Madheswaran, A. Gupta, and N. A. Khan* 1360
- Structural Determination of Multilayered Large-Signal Neural-Network HEMT Model
..... *K. Shirakawa, M. Shimizu, N. Okubo, and Y. Daido* 1367
- Monte Carlo-Based Harmonic-Balance Technique for the Simulation of High-Frequency TED Oscillators .. *R. Kamoua* 1376
- 94-GHz Pulsed Silicon IMPATT Oscillator Modeling *S. Beaussart, O. Perrin, M.-R. Friscourt, and C. Dalle* 1382
- Switched-Mode High-Efficiency Microwave Power Amplifiers in a Free-Space Power-Combiner Array
..... *T. B. Mader, E. W. Bryerton, M. Marković, M. Forman, and Z. Popović* 1391
- Generalized Analysis for a Class of Linear Interferometric Networks—Part I: Analysis *O. Schwelb* 1399
- Generalized Analysis for a Class of Linear Interferometric Networks—Part II: Simulations *O. Schwelb* 1409
- Broad-Band (≥ 20 GHz) Laser-Diode-Based Optoelectronic Microwave Phase Shifter
..... *G.-R. Lin, T.-S. Hwang, Y.-H. Chuang, S. C. Wang, and C.-L. Pan* 1419
- A Semianalytical Parameter-Extraction Procedure for HBT Equivalent Circuit
..... *B. Li, S. Prasad, L.-W. Yang, and S. C. Wang* 1427
- Modeling the Substrate Effect in Interconnect Line Characteristics of High-Speed VLSI Circuits
..... *J.-K. Wee, Y.-J. Park, H.-S. Min, D.-H. Cho, M.-H. Seung, and H.-S. Park* 1436
- Asymmetrical Gauss-Hermite Beam-Mode Analysis of the Hexagonal Horn *T. Shen, W. Dou, and Z. Sun* 1444
- FDTD Characterization of Waveguide-Probe Structures
..... *E. Tentzeris, M. Krumpholz, N. Dib, J.-G. Yook, and L. P. B. Katehi* 1452
- Coupling of a Planar Waveguide and a Dielectric Disk *R. S. Dehmubed and P. Diamant* 1461
- Time-Domain Analysis of TM Scattering from Conducting Cylinders Using a Hybrid Method
..... *T. Roy, T. K. Sarkar, A. R. Djordjevic, and M. Salazar-Palma* 1471
- Microwave Characterization of 2-D Random Materials: Numerical Simulations and Experiments
..... *T.-T. Nguyen and G. Mazé-Merceur* 1478
- An Improved Network Modeling of Slot-Coupled Microstrip Lines *J. P. Kim and W. S. Park* 1484

(Continued on Back Cover)

(Continued from Front Cover)

SHORT PAPERS

Reverse Modeling of Microwave Circuits with Bidirectional Neural Network Models	
..... <i>M. M. Vai, S. Wu, B. Li, and S. Prasad</i>	1492
Using the Binomial Transformer to Approximate the Q Distribution for Maximally Flat Quarter-Wavelength-Coupled Filters	
..... <i>J. M. Drozd and W. T. Joines</i>	1495
Circuit Theory for Spatially Distributed Microwave Circuits	
..... <i>A. I. Khalil and M. B. Steer</i>	1500
Computation of Resonant Frequencies of Cylindrical Ferrite Resonators Using GIBC's	
..... <i>M. J. Kong and B. Beker</i>	1503
Analysis of Propagation Characteristics and Field Images for Printed Transmission Lines on Anisotropic Substrates Using a 2-D-FDTD Method	
..... <i>M. Tong and Y. Chen</i>	1507
Generalized-Material-Independent PML Absorbers Used for the FDTD Simulation of Electromagnetic Waves in 3-D Arbitrary Anisotropic Dielectric and Magnetic Media	
..... <i>A. P. Zhao</i>	1511
Accurate Analysis of Periodic Structures with an Additional Symmetry in the Unit Cell from Classical Matrix Eigenvalues	
..... <i>S. Amari, R. Vahldieck, and J. Bornemann</i>	1513
Numerical Computation of the EM Coupling Between a Circular Loop Antenna and a Full-Scale Human-Body Model	
..... <i>W.-T. Chen and H.-R. Chuang</i>	1516
New Tunable Phase Shifters Using Perturbed Dielectric Image Lines	
..... <i>M. Li and K. Chang</i>	1520

ANNOUNCEMENTS

Calls for Papers—Special Issue on Multilayer Microwave Circuits	1524
Notice to New Members and Renewing Members	1525
