

IEEE TRANSACTIONS ON MICROWAVE THEORY AND TECHNIQUES

AUGUST 1969

Published Monthly

VOLUME MTT-17

NUMBER 8

EDITORIAL BOARD

Editor

G. I. Haddad

D. K. Adams
D. B. Anderson
F. Arams
A. J. Bahr
F. Brand
M. Brodwin
H. Bussey
C. J. Carter
K. S. Champlin
A. Clavin
S. B. Cohn
E. Cristal
W. B. Day
B. C. DeLoach
R. V. Garver
W. J. Getsinger
J. W. Gewartowski
M. Gilden
P. Goodman
A. I. Grayzel
R. D. Hall
M. A. K. Hamid
B. Hershenov
M. C. Horton
E. M. T. Jones
D. D. King
R. Levy
L. Lewin
N. Lipetz
W. E. Little
G. L. Matthaei
S. E. Miller
R. Mittra
R. J. Mohr
W. W. Mumford
H. Okean
F. Reggia
G. P. Rodrigue
F. J. Rosenbaum
G. E. Schafer
R. F. Schwartz
R. Seckelmann
R. Slevin
H. Sobol
W. H. Steier
D. Steinbrecher
F. Sterzer
D. Stinson
D. J. R. Stock
W. Streifer
C. T. Tai
J. Taub
P. H. Vartanian
C. Veronda
R. J. Wenzel
A. Wexler
R. F. Whitmer
L. Young

SPECIAL ISSUE ON COMPUTER-ORIENTED MICROWAVE PRACTICES

EDITORIAL COMMENT.....	G. I. Haddad	414
INTRODUCTION.....	W. J. Getsinger	415
PAPERS		
Computation of Electromagnetic Fields (<i>Invited Paper</i>).....	A. Wexler	416
Computation of Approximate Polynomial Solutions to TE Modes in an Arbitrarily Shaped Waveguide.....	R. M. Bulley and J. B. Davies	440
Functional Approximations for Solving Boundary Value Problems by Computer.....	D. T. Thomas	447
A Computer Optimization of the Rayleigh-Ritz Method.....	A. S. Vander Vorst, A. A. Laloux, and R. J. M. Govaerts	454
Iterative Solutions of the Scalar Helmholtz Equation in Lossy Regions.....	J. R. Molberg and D. K. Reynolds	460
The Finite Difference Solution of Microwave Circuit Problems.....	D. H. Sinnott, G. K. Cambrell, C. T. Carson, and H. E. Green	464
Accurate Impedance Determination of Coupled TEM Conductors.....	R. R. Gupta	479
Analysis of Coaxial Line Discontinuities by Boundary Relaxation.....	P. Silvester and I. A. Cermak	489
DIPNET, a General Distributed Parameter Network Analysis Program.....	W. N. Parker	495
General Purpose Programs for the Frequency Domain Analysis of Microwave Circuits.....	P. E. Green	506
Microwave Circuit Design by Digital Computer.....	M. A. Murray-Lasso and E. B. Kozemchak	514
Automatic General-Purpose Microwave Circuit Analysis Programs (<i>Panel Discussion</i>).....	P. E. Green, M. K. McPhun, M. A. Murray-Lasso, and A. E. Smoll	527
Optimization Methods for Computer-Aided Design (<i>Invited Paper</i>).....	J. A. Bandler	533
Optimization of Microwave Networks by Razor Search.....	J. W. Bandler and P. A. Macdonald	552
Computer Optimization of Inhomogeneous Waveguide Transformers.....	J. W. Bandler	563
Computer-Aided Microwave Impedance Measurements.....	J. E. Dalley	572
The Design of Discrete <i>N</i> -Section and Continuously Tapered Symmetrical Microwave TEM Directional Couplers.....	D. W. Kammler	577
Dominant Pole Synthesis of Transmission Line Networks.....	S. Maddi and A. B. Macnee	591
Computer Design of Filters with Lumped-Distributed Elements or Frequency Variable Terminations.....	H. J. Carlin and O. P. Gupta	598
Optimal Synthesis of Distributed Parameter Systems.....	A. R. Karnik and G. H. Cohen	605
Computer-Aided Design of Broad-Band and Low-Noise Microwave Amplifiers.....	T. W. Houston and L. W. Read	612
Computerized Calculation of Small Signal and Noise Properties of Microwave Transistors.....	W. Baechtold, W. Kotyczka, and M. J. O. Strutt	614
ECAP-Analysis of UHF-Transistor-Oscillator Transient Response.....	H.-N. Toussaint	620
A Computer-Aided Design of a Microwave Delay Equalizer.....	P. J. Tu	626
CORRESPONDENCE		
Calculation of TEM Transmission-Line Parameters by Finite-Difference Computation of Electric Flux.....	D. H. Sinnott	634
Fringing Capacitance Curves for Coplanar Rectangular Coupled Bars.....	R. R. Gupta	637
Design of Transmission-Line Dimensions for a Given Characteristic Impedance.....	E. Yamashita and K. Atsuki	638
Reflection and Transmission of Electromagnetic Waves in Inhomogeneous Dielectric Filled Rectangular Waveguide.....	T. W. Kao	639
Correction to "Experimental Investigation with an Iris Beam Waveguide".....	J. W. Mink	641
COMPUTER PROGRAM DESCRIPTIONS		
Prologue.....	J. W. Bandler	642
Synthesis of Distributed-Element Bandpass Filters.....	A. K. Johnson	643
Program for Processing Standing Wave Measurements.....	J. W. Bandler	644
Response Program for an Inhomogeneous Cascade of Rectangular Waveguides.....	J. W. Bandler and P. A. Macdonald	646
Computer Programs for Smith-Chart Solutions.....	J. W. Verzino	649
ZERO.....	G. Oczkowski	650
High-Order Finite Element Waveguide Analysis.....	P. Silvester	651
Contour Plotting Routine for Line Printers.....	I. Cermak, J. P. Legendre, and P. Silvester	652
CONTRIBUTORS.....		653
MICROWAVE ABSTRACTS.....		659
INFORMATION FOR AUTHORS.....		660