



ANTENNAS AND PROPAGATION



A PUBLICATION OF THE IEEE ANTENNAS AND PROPAGATION SOCIETY

SEPTEMBER 2000

VOLUME 48

NUMBER 9

IETPAK

(ISSN 0018-926X)

SPECIAL ISSUE—IN MEMORIAM: JAMES R. WAIT

EDITORIALS

A Note From the Editor	<i>L. W. Pearson</i>	1277
James R. Wait—Remarkable Scientist.....	<i>E. K. Smith</i>	1278
Introduction to Special Issue.....	<i>D. G. Dudley, H.-Y. Pao, and D. A. Hill</i>	1287

PAPERS

Detection of Buried Dielectric Cavities Using the Finite-Difference Time-Domain Method in Conjunction with Signal Processing Techniques.....	<i>J.-F. Ma, W. H. Yu, and R. Mittra</i>	1289
On the Use of Evanescent Electromagnetic Waves in the Detection and Identification of Objects Buried in Lossy Soil	<i>G. S. Smith and L. E. R. Petersson</i>	1295
Electromagnetic Induction and Surface Impedance in a Half-Space from an Overhead Moving Current System	<i>H.-Y. Pao and J. R. Wait</i>	1301
Ultrawide-Band Synthetic Aperture Radar for Detection of Unexploded Ordnance: Modeling and Measurements.....	<i>A. Sullivan, R. Damarla, N. Geng, Y. Dong, and L. Carin</i>	1306
Ray-Density Normalization for Ray-Optical Wave Propagation Modeling in Arbitrarily Shaped Tunnels	<i>D. Didascalou, T. M. Schäfer, F. Weinmann, and W. Wiesbeck</i>	1316
Natural Wave Propagation in Mine Environments	<i>M. Liénard and P. Degauque</i>	1326
Electrostatic Resonance-Cone Waves Emitted by a Dipole in the Ionosphere	<i>H. G. James</i>	1340
Ground Wave of an Idealized Lightning Return Stroke.....	<i>J. R. Wait and D. A. Hill</i>	1349
Radio Wave Propagation Characteristics in Lossy Circular Waveguides Such as Tunnels, Mine Shafts, and Boreholes	<i>C. L. Holloway, D. A. Hill, R. A. Dalke, and G. A. Hufford</i>	1354
Laboratory Models Used in the Investigation of Radio Wave Propagation in Irregular Structures	<i>E. Bahar</i>	1367
Petrophysics of Magnetic Dipole Fields in an Anisotropic Earth.....	<i>A. Q. Howard, Jr.</i>	1376
Application of Radio Ground-Wave Propagation Theory to the Tomographic Imaging of Ground Surfaces.....	<i>Z. Wu</i>	1384
On the Design of NMR Sensor for Well-Logging Applications	<i>J. C. Goswami, A. Sezginer, and B. Luong</i>	1393
Modeling Radio Wave Propagation in Tunnels with a Vectorial Parabolic Equation	<i>A. V. Popov and N. Y. Zhu</i>	1403
Electromagnetic Wave Propagation on a Thin Wire Above Earth	<i>R. G. Olsen, J. L. Young, and D. C. Chang</i>	1413
Modeling Electromagnetic Propagation in the Earth-Ionosphere Waveguide	<i>S. A. Cummer</i>	1420
Enhancement of Reflected Waves in Single-Hole Polarimetric Borehole Radar Measurement	<i>T. Miwa, M. Sato, and H. Niitsuma</i>	1430
Prof. James R. Wait and Mining Production Technology—An Appreciation	<i>A. C. Tripp, R. McNearny, and C. Furse</i>	1438
Rise Times of Impulsive High-Current Processes in Cloud-to-Ground Lightning	<i>J. C. Willett and E. P. Krider</i>	1442
The Failure of “Classic” Perturbation Theory at a Rough Neumann Boundary Near Grazing	<i>D. E. Barrick and R. Fitzgerald</i>	1452
Low-Grazing Angle Scattering from Rough Surfaces in a Duct Formed by a Linear-Square Refractive Index Profile.....	<i>R. S. Awadallah and G. S. Brown</i>	1461
Sommerfeld and Zenneck Wave Propagation for a Finitely Conducting One-Dimensional Rough Surface	<i>A. Ishimaru, J. D. Rockway, Y. Kuga, and S.-W. Lee</i>	1475
A Viable Model for Power Focusing in a Lossy Cylinder.....	<i>K. A. Nabulsi and J. R. Wait</i>	1485
On the Convergence of a Perturbation Series Solution for Reflection from Periodic Rough Surfaces	<i>R. K. Rosich and J. R. Wait</i>	1489

LETTERS

Scattering from an Ionized Column in the Earth-Ionosphere Space.....	<i>J. R. Wait</i>	1496
--	-------------------	------
