

## PUBLICATIONS

### Journal papers:

1- Nader Farahat, Wenhua Yu and Raj Mittra, "A fast near-to-far field transformation technique in BOR-FDTD Method," *IEEE Transactions on Antennas and Propagation*. Volume: 51 Issue: 9, Sept. 2003, pp. 2534 –2540.

2- Nader Farahat and Raj Mittra, "Extraction of Equivalent-Circuit Parameters of Interconnection Lines Using the FDTD Method," *Microwave and Optical Technology Letters*. July 5, 2002, pp. 59-61.

3- Nader Farahat, Hany E. Abd El-Raouf and Raj Mittra, "Analysis of Interconnect Lines Using the FDTD Method," *Microwave and Optical Technology Letters*. July 5, 2002, pp. 6-9.

4- Nader Farahat, Wenhua Yu and Raj Mittra, " Extraction of Lumped-Element Equivalent Circuit Model of Microstrip Discontinuities using the Finite Difference Time Domain Method," *Microwave and Optical Technology Letters*. April 20, pp. 132-134. 2002

5- Wenhua Yu, Nader Farahat and Raj Mittra, "Application of FDTD Methods to Conformal Patch Antennas," *IEE Preceding -- Microwave, Antennas and Propagation*. Volume 148, Issue 3, pp. 218-220, 2001.

6- Wenhua Yu, Nader Farahat and Raj Mittra, "Far field pattern calculation in BOR-FDTD method," *Microwave and Optical Technology Letters*, vol. 31, no.1, Oct. 2001, pp. 47-50.

7- Hany E. Abd El-Raouf, Wenhua Yu, Nader Farahat and Raj Mittra, "A Truncation Technique of Infinite Feed Line of Patch Antennas Using Matched Loads," *Microwave and Optical Technology Letters*, November 2001.

8- Nader Farahat, Wenhua Yu, Raj Mittra and Thierry Koleck, "Cross-Shaped Dielectric Resonator Antenna Analysis Using the Conformal Finite Difference Time Domain (CFDTD) Method," *Electronics Letters*, vol. 37, no. 18, August 2001, pp. 1105-1106.

9- N. Farahat, S. Yuferev and N. Ida. "High order surface impedance boundary conditions for the FDTD method," *IEEE Transactions on Magnetics*, Vol: 37 Issue: 5 Part: 1, Sept. 2001 pp. 3242 –3245.

10- S. Yuferev, N. Farahat and N. Ida. "Use of the perturbation technique for implementation of surface impedance boundary conditions for the FDTD method" *IEEE Transactions on Magnetics*, Vol: 36 Issue: 4 Part: 1 , July 2000 pp: 942 –945.

### Conference papers:

- 1- Tao Su, Laiching Ma, Nadar Farahat and Raj Mittra, "Modeling of a Large Slotted Waveguide Phased Array Using the FDTD and Characteristic Basis Function (CBF) Approaches," URSI'03, June 22-27, 2003.
- 2- K. Du, N. Farahat, H. A. Raouf, T. Su, W. H. Yu, R. Mittra, "Simulation of circular patch antenna on a sphere using the conformal finite difference time domain (CFDTD) algorithm", Antennas and Propagation Society International Symposium, 2003. IEEE, Volume: 2, June 22-27, 2003, pp. 988-991.
- 3- Nader Farahat, V. V. S. Prakash and Raj Mittra, "Mutual Coupling Analysis of a Vivaldi Antenna Array Using the Conformal Finite Difference Time Domain (CFDTD) Method" *IEEE International Symposium on Antennas and Propagation*, San Antonio, TX, July, 2002.
- 4- Nader Farahat and Raj Mittra, "Analysis of Frequency Selective Surfaces Using the Finite Difference Time Domain (FDTD) Method" *IEEE International Symposium on Antennas and Propagation*, San Antonio, TX, July, 2002.
- 5- R. Mittra, J. Yeo and N. Farahat, "Application of the Genetic Algorithm and Neural Networks to RF and Microwave Circuit Modeling and CAD." 31-th European Microwave Conference 2001, pp.1-17, 24-28 September, 2001, Excel, London.
- 6- Wenhua Yu, Raj Mittra, and Nader Farahat, "A General-Purpose Finite Difference Time Domain Solver for EM Simulation of Arbitrary PEC and Dielectric Objects without the Staircasing Approximation," International Conference on Electromagnetics in Advanced Applications (ICEAA 2001, Invited Paper), Torino, ITALY, 2001.
- 7- Felipe Catedra, Wenhua Yu, Nader Farahat and Raj Mittra, "ALPENA VERSATILE FDTD TOOL FOR ANALIZING MICROSTRIP PCB CIRCUITS," IEEE International Symposium on Antennas and Propagation and USNC/URSI National Radio Science Meeting, Boston, MA, July, 2001.
- 8- Wenhua Yu, Nader Farahat and Raj Mittra, "Application of FDTD Method to Conformal Patch Antennas," IEEE International Symposium on Antennas and Propagation and USNC/URSI National Radio Science Meeting, Boston, MA, July 16-21, 2001.
- 9- Nader Farahat, Wenhua Yu, and Raj Mittra, "Cross-Shaped Dielectric Resonator Antenna Analysis Using the Conformal Finite Difference Time Domain (CFDTD) Method," IEEE International Symposium on Antennas and Propagation and USNC/URSI National Radio Science Meeting, Boston, MA, July 2001.

10- N. Farahat, S. Yuferev and N. Ida, "High Order Surface Impedance Boundary Conditions for the FDTD Method", *CEFC Conference preceding*, page 251, June 2000.

11- S. Yuferev, N. Farahat and N. Ida, " Use of the perturbation technique for implementation of surface impedance boundary conditions for the FDTD method", *COMPUMAG Conference preceding*, Sopora, Japan, 1999.