

**ATEF Z. ELSHERBENI****IEEE Fellow (2007) and ACES Fellow (2008)****Referred Journal Publications: (Total 229 Publications)****In Preparation**

- Si Li; Wenxing Li; Atef Z. Elsherbeni; Wenhua Yu; Yunlong Mao, A Novel Miniaturized Left-Handed Metamaterial Loaded Triple-Band WLAN/WiMAX Antenna, IEEE Transactions on Antennas and Propagations. [Submitted](#)
- Si Li; Wenhua Yu; Atef Z. Elsherbeni; Wenxing Li; Yunlong Mao, A Varactor Loaded Tunable Dual-band Left-Handed Metamaterial, Applied Computational Electromagnetics Society Journal. [Submitted](#)

**2024**

- Kaikun Niu, Wenkai Zhang, Minquan Li, Xingang Ren, Yingsong Li, Zhixiang Huang, Bo Wu, Xianliang Wu, and Atef Z. Elsherbeni, “Transient Electromagnetic–Thermal Co-Simulation of Microwave/RF Integrated Circuits by the HIE-FDTD Method,” IEEE Transactions on Microwave Theory and Techniques, vol. 72, no. 9, pp. 5228-5244, 2024. DOI: [10.1109/TMTT.2024.3373767](https://doi.org/10.1109/TMTT.2024.3373767)
- Guocui Zhu; Kaikun Niu; Minquan Li; Yingsong Li; Xingang Ren; Guoda Xie; Zhixiang Huang; Xianliang Wu; and Atef Z. Elsherbeni, “High-Order ME-CFS-PML Implementations for Terminating the FDTD Domain Composed of Arbitrary Media,” IEEE Transactions on Microwave Theory and Techniques, vol. 72, no. 4, April 2024.
- Yiming Chen, Veysel Demir, Srirama Bhupatiraju, Atef Z. Elsherbeni, Joselito Gavilan, and Kiril Stoyanov, “Prediction of Antenna Performance based on Scalable Data-informed Machine Learning Methods,” Applied Computational Electromagnetics Society (ACES) Journal, vol. 39, no. 4, pp. 275-290, April 2024.
- Collin T. Kringlen, Atef Z. Elsherbeni, and Jamal Rostami, “High Gain Circularly Polarized Patch Antenna for Communications Between Cutting Tools and the Control Unit of Mining Equipment,” ACES Journal, vol. 39, no. 7, 2024.  
<https://doi.org/10.13052/2024.ACES.J.390708>
- Naixing Feng, Huan Wang, Yuxian Zhang, Zhixiang Huang, and Atef Z. Elsherbeni, “[Alternative Implementation of EM Propagation for 3-D Layered Lossy Media by SMM Method](#),” IEEE Transactions on Antennas and Propagation, vol. 72, no. 8, pp. 6599-6613, August 2024. DOI: [10.1109/TAP.2024.3416053](https://doi.org/10.1109/TAP.2024.3416053)
- Matthew J. Dodd and Atef Z. Elsherbeni, “[Design and Implementation of a Printed Circuit Model for a Wideband Circularly Polarized Bow-Tie Antenna](#),” *Electronics*, 13(16), 3323, August 2024.  
<https://doi.org/10.3390/electronics13163323>
- Guocui Zhu, Minquan Li, Yingsong Li, Zhixiang Huang, Xianliang Wu, Atef Z. Elsherbeni, and Kaikun Niu, “A Unified Dispersive Media and PML FDTD Formulation Based on the Matrix Exponential Method,” IEEE Transactions on Microwave Theory and Techniques, vol. 72, no. 11, pp. 6336-6348, November 2024. DOI: [10.1109/TMTT.2024.3395465](https://doi.org/10.1109/TMTT.2024.3395465)

- Rob D. Jones, Jerome Cheron, Joseph E. Diener, Peter H. Aaen, Richard A. Chamberlin, Benjamin F. Jamroz, Dylan F. Williams, Ari D. Feldman, Atef Z. Elsherbeni, “A Technique for Optimal On-Wafer Device Spacing at Millimeter-Wave Frequencies,” *IEEE Microwave and Wireless Technology Letters*, 2024. DOI: 10.1109/LMWT.2024.3522810
- Kaikun Niu, Zijing Xiao Yingsong Li, Guoda Xie, Xingang Ren, Zhixiang Huang, Xianliang Wu, and Atef Z. Elsherbeni, “A Stochastic FDTD Algorithm for Uncertainty Quantification of Electromagnetic-Thermal Simulation,” *IEEE Transactions on Microwave Theory and Techniques*, vol. 72, no. 7, pp. 3935-3946, 2024. DOI: 10.1109/TMTT.2023.3342630

## 2023

- Kaikun Niu;Zijing Xiao;Guoda Xie;Xingang Ren;Yingsong Li;Zhixiang Huang;Xianliang Wu;Atef Z. Elsherbeni, “A Stochastic FDTD Algorithm for Uncertainty Quantification of Electromagnetic-Thermal Simulation,” *IEEE Transactions on Microwave Theory and Techniques*, Early Access, 2023.
- Guoda Xie; Guilin Hou; Ke Xu; Kaikun Niu; Naixing Feng; Yingsong Li; Zhixiang Huang; Atef Z. Elsherbeni,” Extension of FLOD-FDTD Method for Multiterm Modified Lorentz Model,” *IEEE Transactions on Antennas and Propagation*, vol. 71, no. 11, 2023. DOI: 10.1109/TAP.2023.3315055
- Fatih Kaburcuk, A. Z. Elsherbeni,” Sub-Gridding FDTD Algorithm for 3D Numerical Analysis of EM Scattering and Radiation Problems,” *Electromagnetic Science Journal*, vol. 1, no. 4, article no. 0040342, 2023. doi: 10.23919/emsci.2023.0034
- Zahid Hassan and A. Z. Elsherbeni, “Unified Formulation for Evaluation and Visualization of Electric and Magnetic Fields Inside Waveguides and Cavities,” *Applied Computational Electromagnetics Society (ACES) Journal*, vol. 38, no. 6, June 2023.
- W. Amara, A. Alzahrani, A. Mersani, D. Oueslati, A. Elsharabasy, B. Hakim, H. Rmili, A. Elsherbeni, “Nanoarray of Vivaldi Rectenna for Infrared-energy Harvesting,” *Applied Computational Electromagnetics Society (ACES) Journal*, vol. 38, no. 7, 2023.

## 2022

- Joshua M. Kast and Atef Z. Elsherbeni, “FDTD Simulation of a Two-Port Nonlinear Device Characterized by its X -Parameters,” *Progress in Electromagnetics Research C*, vol. 122, pp. 1–15, 2022.
- Alec Weiss, Atef Elsherbeni, Jeanne Quimby, and Jacob D. Rezac, “Monte Carlo Augmented Channel Estimator,” *URSI Radio Science Letters*, vol. 4, pp. 1-4, 2022. DOI: 10.46620/22-0006

## 2021

- Joshua M. Kast; Jacob D. Rezac; Stefania Römisch; Atef Z. Elsherbeni; Jeanne T. Quimby, “Timing Offset and Timing Stability for a Dual-Clock Channel Sounder,” *IEEE Transactions on Instrumentation and Measurement*, vol. 70, 2021. DOI 10.1109/TIM.2021.3082257
- Zhen Su; Kirill Klionovski; Hanguang Liao; Yiming Chen; Atef Z. Elsherbeni; Atif Shamim, “Antenna-on-Package Design: Achieving Near-Isotropic Radiation Pattern and Wide CP Coverage Simultaneously,” *IEEE Transactions on Antennas and Propagation*, vol. 69, no. 7, July 2021.
- Fatih Kaburcuk, A. Z. Elsherbeni,” Efficient Electromagnetic Analysis of a Dispersive Head Model Due to Smart Glasses Embedded Antennas at Wi-Fi and 5G Frequencies,” *Applied Computational Electromagnetics Society (ACES) Journal*, vol. 36, no. 2, pp. 159-167, 2021.

- R. C. Bollimuntha, M. F. Hadi, M. J. Piket-May, and A. Z. Elsherbeni, "Near-to-far field transformation in FDTD: A comparative study of different interpolation approaches," *Applied Computational Electromagnetics Society (ACES) Journal*, vol. 36, no. 5, pp. 496-504, 2021.
- F. Kaburcuk, G. Kalinay, Y. Chen, A. Z. Elsherbeni, and V. Demir, "A dual-band and low-cost microstrip patch antenna for 5G mobile communications," *Applied Computational Electromagnetics Society (ACES) Journal*, vol. 36, no. 7, pp. 824-829, 2021.

## 2020

- Mahmoud M.T. Maghrabi, Mohamed H. Bakr, Shiva Kumar, Atef Elsherbeni, and Veysel Demir, "FDTD-Based Adjoint Sensitivity Analysis of High Frequency Nonlinear Structures," *IEEE Transactions on Antennas and propagation*, pp. 4727-4737, vol. 68, no. 6, June 2020. Digital Object Identifier: 10.1109/TAP.2020.2969716
- F. Kaburcuk, A. Z. Elsherbeni, Rachel Lumnitzer, and Allison Tanner, "Electromagnetic Waves Interaction with a Human Head Model for Frequencies up to 100 GHz," *Applied Computational Electromagnetics Society (ACES) Journal*, vol. 35, no. 6, pp. 613-621, 2020.
- Alec J. Weiss, Atef Z. Elsherbeni, "Performance of MATLAB and Python for Computational Electromagnetic Problems," *Applied Computational Electromagnetics Society (ACES) Journal*, vol. 35, no. 7, pp., 2020.
- Andres Velasco, Atef Z. Elsherbeni, Joseph E. Diener, Mohammed F. Hadi, "Debye Parameters of Humidity-Varying Soils for Induction Logging Techniques," *Applied Computational Electromagnetics Society (ACES) Journal*, vol. 35, no. 9, pp., 2020.
- Joshua M. Kast, Atef Z. Elsherbeni, "Finite-Difference Time-Domain Simulation of Arbitrary Impedance using One Port S-Parameter," *Applied Computational Electromagnetics Society (ACES) Journal*, vol. 35, no. 9, pp., 2020.
- Joshua M. Kast, Atef Z. Elsherbeni, "Simulation of a Nonlinear Frequency Multiplier using the FDTD Technique," *Applied Computational Electromagnetics Society (ACES) Journal*, vol. 35, no. 11, pp. 613-621, 2020.
- Antonio P. Thomson, Atef Z. Elsherbeni, Mohammed Hadi, "A Practical Fourth Order Finite-Difference Time-Domain Algorithm for the Solution of Maxwell's Equations," *Applied Computational Electromagnetics Society (ACES) Journal*, vol. 35, no. 11, pp. 613-621, 2020.
- Abdullah M. Algarni, Atef Z. Elsherbeni, Mohammed Hadi, "Implementation of Passive and Active Circuit Elements in Cylindrical Finite-Difference Time-Domain Formulation," *Applied Computational Electromagnetics Society (ACES) Journal*, vol. 35, no. 11, pp. 613-621, 2020.
- Madison Le, Mohammed Hadi, Atef Elsherbeni, "Quantifying Sub-gridding Errors in Standard and Hybrid Higher Order 2D FDTD Simulations," *Applied Computational Electromagnetics Society (ACES) Journal*, vol. 35, no. 11, pp. 613-621, 2020.
- Yuhao Feng, Yiming Chen, Atef Z. Elsherbeni, Khalid Alharbi, "Arrow Patch-Slot Antenna for 5G Lower Frequency Band Communications," *Applied Computational Electromagnetics Society (ACES) Journal*, vol. 35, no. 11, pp. 613-621, 2020.
- Rachel Lumnitzer, Allison Tanner, Atef Z. Elsherbeni, "Debye Coefficients for Biological Tissues From 100 MHz to 100 GHz," *Applied Computational Electromagnetics Society (ACES) Journal*, vol. 35, no. 11, pp. 613-621, 2020.

- Alec Weiss, Atef Elsherbeni, "Computational Performance of MATLAB and Python for Electromagnetic Applications," *Applied Computational Electromagnetics Society (ACES) Journal*, vol. 35, no. 11, pp. 613-621, 2020.
- Si Li, Atef Z. Elsherbeni, Zhenfeng Ding, Yunlong Mao, "A Metamaterial Inspired Compact Miniaturized Triple-band Near Field Resonant Parasitic Antenna for WLAN/WiMAX Applications," *Applied Computational Electromagnetics Society (ACES) Journal*, vol. 35, no. 12, pp. , 2020.
- Zhen Su; Kirill Klionovski; Hanguang Liao; Yiming Chen; Atef Elsherbeni; and Atif Shamim, "Antenna-on-Package Design: Achieving Near-Isotropic Radiation Pattern and Wide CP Coverage Simultaneously," *IEEE Transactions on Antennas and propagation*, vol. 68, no. 12, December 2020. Digital Object Identifier: 10.1109/TAP.2020.3044134

### 2019

- Alec J. Weiss, Atef Z. Elsherbeni, Veysel Demir, Mohammed F. Hadi, "Using MATLAB's Parallel Processing Toolbox for Multi-CPU and multi-GPU Accelerated FDTD Simulations," *Applied Computational Electromagnetics Society (ACES) Journal*, vol. 34, no. 5, pp. 283-288, May 2019.
- Joseph Elliott Diener, Jeanne Quimby, Kate A. Remley, and Atef Z. Elsherbeni, "Millimeter-wave Frequency FDTD Simulation for Error Vector Magnitude of Modulated Signals," *Applied Computational Electromagnetics Society (ACES) Journal*, vol. 34, no. 2, pp. 204-205, February 2019.
- Allee D. Zarrini, Atef Elsherbeni, and Jürgen F. Brune, "Directional of Arrival Tag Response for Reverse RFID Localization," *Applied Computational Electromagnetics Society (ACES) Journal*, vol. 34, no. 2, pp. 323-325, February 2019.

### 2018

- Garrett Hoch, Atef Elsherbeni, and Payam Nayeri, "Bandwidth Enhancement of Dipole Antennas using Parasitic Elements," *Applied Computational Electromagnetics Society (ACES) Journal*, vol. 33, no. 2, pp. 220-223, 2018.
- P. Nayeri, A. Z. Elsherbeni, R. Hasse, D. Kajfez, "Half-Loop Segmented Antenna with Omnidirectional Hemispherical Coverage for Wireless Communications," *Applied Computational Electromagnetics Society (ACES) Journal*, vol. 33, no. 2, pp. 123-126, 2018.
- M. F. Hadi, R. C. Bollimuntha, A. Z. Elsherbeni and M. J. Piket-May, "A Spherical FDTD Numerical Dispersion Relation Based on Elemental Spherical Wave Functions," *IEEE Antennas and Wireless Propagation Letters*, vol. 17, No. 5, pp. 784-788, May 2018.
- Kyle Patel, Robert Joines, and Atef Elsherbeni, "A Cost-Effective Far-Field Antenna Pattern Measurement System," *Applied Computational Electromagnetics Society (ACES) Journal*, vol. 33, no. 10, pp. 1152-1153, 2018.
- F. Kaburcuk and Atef Z. Elsherbeni, "Efficient Computation of SAR and Temperature Rise Distributions in a Human Head at Wide Range of Frequencies Due to 5G RF Field Exposure," *Applied Computational Electromagnetics Society Journal*, vol. 33, no. 11, pp. 1236-1242, 2018.
- Y. Mao, A. Z. Elsherbeni, S. Li, T. Jiang, "Non-uniform Surface Impedance Absorbing Boundary Condition for FDTD Method," *Applied Computational Electromagnetics Society (ACES) Journal*, vol. 33, no. 2, pp. 232-235, 2018.
- F. Kaburcuk and Atef Z. Elsherbeni, "Temperature Rise and SAR Distribution at Wide Range of Frequencies in a Human Head due to an Antenna Radiation," *Applied Computational Electromagnetics Society Journal*, vol. 33, no. 4, pp. 367-372, 2018.

## 2017

- M. F. Hadi, A. Z. Elsherbeni, M. J. Piket-May and S. F. Mahmoud “Radial Waves Based Dispersion Analysis of the Body-of Revolution FDTD Method,” IEEE Transactions on Antennas and Propagation, vol. 65, No. 2, pp. 721-729, February 2017.
- Wenxing Li, Chongyi Yue, and Atef Elsherbeni, “A Fast Finite-Difference Time-Domain Simulation Method for the Source-Stirring Reverberation Chamber,” International Journal of Antennas and Propagation, Article ID 8715020, 8 pages, 2017. <https://doi.org/10.1155/2017/8715020>
- Yunlong Mao, Atef Z. Elsherbeni, Tao Jiang, and Si Li, “A Mixed Surface Impedance Boundary Condition for FDTD Simulations,” IET Microwaves, Antenna & Propagation, vol 11(9), pp. 1197-1202, 2017.
- Si Li; Wenhua Yu; Atef Z. Elsherbeni; Wenxing Li; Yunlong Mao, A Novel Dual-band Left-Handed Metamaterial Design Method, International Journal of Antennas and Propagation, 2017. (SCI: 000405716500001)
- Si Li; Atef Z. Elsherbeni; Wenhua Yu; Wenxing Li; Yunlong Mao, A Novel Tunable Triple-Band Left-Handed Metamaterial, International Journal of Antennas and Propagation, 2017. (SCI: 000418906700001).
- Si Li; Atef Z. Elsherbeni; Wenhua Yu; Wenxing Li; Yunlong Mao, A Novel Tunable Dual-band Left-Handed Metamaterial, Journal of Magnetism, vol. 22, no. 4, pp. 610-616, 2017. (SCI : 000419081900011)
- Joseph E. Diener and Atef Z. Elsherbeni, “FDTD Acceleration using MATLAB Parallel Computing Toolbox and GPU,” ACES Journal, vol. 32, no. 4, pp. 283-288, April 2017.
- Chongyi Yue, Atef Elsherbeni, Veysel Demir, and Wenxing Li, “Bandwidth-Enhanced Compact Meander Printed Dipole Antenna,” ACES Journal, vol. 32, no. 4, pp. 310-317, April 2017.
- Payam Nayeri, Atef Z. Elsherbeni, and Fan Yang, “The Analogy between Offset Configurations of Parabolic Reflectors and Reflectarrays,” ACES Journal, vol. 32, no. 11, pp. 960-965, November 2017.
- R. Smith, A. Weiss, R. Bollimuntha, S. DMello, M. Piket-May, M. Hadi, and A. Elsherbeni, “Merging VSim’s Model Building and Visualization Tools with Custom FDTD Engines,” ACES Journal, vol. 32, no. 12, pp. 1144-1147, December 2017.
- Ross Bunker and Atef Elsherbeni, “A Modular Integrated RFID System for Inventory Control Applications,” online Journal of Electronics, vol. 6, no. 9; 2017. <http://www.mdpi.com/journal/electronics>, doi:10.3390/electronics6010009 2017

## 2016

- Ahmed H. Abdelrahman, Payam Nayeri, Atef Z. Elsherbeni, and Fan Yang, “Single-Feed Quad-Beam Transmitarray Antenna Design,” IEEE Transactions on Antennas and Propagation, vol. 64, no. 3, pp. 953-959, March 2016.
- Yunlong Mao, Atef Z. Elsherbeni, Si Li and Tao Jiang, “Non-uniform Surface Impedance Absorbing Boundary Condition for FDTD Method,” ACES Express Journal, vol. 1, no. 7, 2016.
- R. C. Bollimuntha, M. F. Hadi, M. J. Piket-May and A. Z. Elsherbeni, “Dispersion Optimized Plane Wave Sources for Scattering Analysis with Integral Based High Order Finite difference Time Domain Methods,” IET Microwaves, Antennas & Propagation, vol. 10, no. 9, pp. 976-982, June 2016.
- G. Hoch, A. Z. Elsherbeni, and P. Nayeri, “Bandwidth Enhancement of Dipole Antennas using Parasitic Elements,” ACES Express Journal, vol. 1, no. 6, pp. 185–188, June 2016.





- F. Kaburcuk, Atef Z. Elsherbeni, “A Speeding up Technique for Lossy Anisotropic Algorithm in FDTD Method,” *Applied Computational Electromagnetics Society Journal*, vol. 31, no. 12, pp. 1377–1381, December 2016.
- P. Nayeri, A. Z. Elsherbeni, R. Hasse, and D. Kajfez, “Half-Loop Segmented Antenna with Omnidirectional Hemispherical Coverage for Wireless Communications,” *ACES Express Journal*, vol. 1, no. 3, pp. 88–91, March 2016.
- R. Smith, A. Weiss, R. Bollimuntha, M. Piket-May, M. F. Hadi and A. Elsherbeni, “Merging VSim’s Model Building and Visualization Tools with Custom FDTD Engines,” *ACES Express Journal*, vol. 1, no. 1, pp. 16-19, January 2016.
- Darko Kajfez, Atef Z. Elsherbeni, Veysel Demir, and Roger Hasse, “Omnidirectional Square Loop Segmented Antenna,” *IEEE Antennas and Wireless Propagation Letters*, vol. 15, 2016.
- F. Kaburcuk, V. Demir, Atef Z. Elsherbeni, E. Arvas, and J. R. Mautz, “Time-Domain Iterative Multi-Region Technique for 3D Scattering and Radiation Problems,” *IEEE Trans. Antenna and Propagation*, vol. 64, no. 5, pp. 1807–1817, May 2016. (DOI: 10.1109/TAP.2016.2535149)

## 2015

- A. Khidre, F. Yang, and A. Z. Elsherbeni, “A Patch Antenna with a Varactor-Loaded Slot for Reconfigurable Dual-Band Operation,” *IEEE Trans. Ant. Propag.*, vol. 63, no. 2, pp. ...-..., February 2015.
- Ahmed Khidre, Fan Yang, and Atef Z. Elsherbeni, “Circularly Polarized Beam-Scanning Microstrip Antenna Using a Reconfigurable Parasitic Patch of Tunable Electrical Size,” *IEEE Transactions on Antennas and Propagation*, vol. 63, no. 7, pp. 2858-2866, July 2015.
- Ahmed H. Abdelrahman, Payam Nayeri, Atef Z. Elsherbeni, and Fan Yang, “Bandwidth Improvement Methods of Transmitarray Antennas,” *IEEE Transactions on Antennas and Propagation*, vol. 63, no. 7, pp. 2946-2954, July 2015.
- Payam Nayeri, Fan Yang, and Atef Z. Elsherbeni, "Beam-Scanning Reflectarray Antennas: A Technical Overview and State of the Art," *IEEE Antennas and Propagation Magazine*, vol. 57, no. 4, pp.32-47, Sept. 2015.
- Yilin Mao, Shenheng Xu, Fan Yang, and Atef Z. Elsherbeni, "A Novel Phase Synthesis Approach for Wideband Reflectarray Design," *IEEE Transactions on Antennas and Propagation*, vol. 63, no. 9, pp.4189-4193, Sept. 2015.
- A. H. Abdelrahman, P. Nayeri, A. Z. Elsherbeni, and F. Yang, "Bandwidth improvement methods of transmitarray antennas," *IEEE Transactions on Antennas and Propagation*, vol. 63, no. 7, pp. 2946-2954, July 2015.

## 2014

- Ahmed H. Abdelrahman, Atef Z. Elsherbeni, and Fan Yang, “Transmission phase limit of multilayer frequency selective surfaces for transmitarray designs,” *IEEE Trans. Ant. Propag.*, vol. 62, no. 2, pp. 690-697, February 2014.
- P. Nayeri, M. Liang, R. Sabory-García, M. Tuo, F. Yang, M. Gehm, H. Xin, and A. Z. Elsherbeni, “3-D printed dielectric reflectarrays: a solution for low-cost high-gain terahertz antennas,” *IEEE Transactions on Antennas and Propagation*, vol. 62, no. 4, pp. 2000–2008, April 2014.
- Ahmed H. Abdelrahman, Atef Z. Elsherbeni, and Fan Yang, “Transmitarray antenna design using cross slot elements with no dielectric substrate,” *IEEE Antennas and Wireless Propagation Letters*, vol. 13, pp. 177-180, 2014.



- J. Virtanen, F. Yang, L. Ukkonen, A.Z. Elsherbeni, A.A. Babar, L. Sydänheimo, (2014) "Dual port temperature sensor tag for passive UHF RFID systems", *Sensor Review*, vol. 34 Iss: 2, pp.154 – 169, 2014.
- A. H. Abdelrahman, A. Z. Elsherbeni, and F. Yang, "High gain and broadband transmitarray antenna using triple-layer spiral dipole elements," *IEEE Antennas and Wireless Propagation Letters*, vol. 13, pp. 1288-1291, 2014.
- G. Aydin, A. Z. Elsherbeni, and B. H. Henin, "Finite difference time domain formulations for 2D scattering problems with oblique incident plane waves," *IEEE Transactions on Antennas and Propagation*, vol. 62, no. 9, pp. 4820- 44822, September 2014.
- Elmahgoub and A. Z. Elsherbeni, "FDTD Implementations of Integrated Dependent Sources in Full-Wave Electromagnetic Simulations," *Applied Computational Electromagnetics Society (ACES) Journal*, vol. 29, December 2014.
- Yunlong Mao, A. Z. Elsherbeni, Si Li, and Tao Jiang, "Surface Impedance Absorbing Boundary for Terminating FDTD Simulations," *Applied Computational Electromagnetics Society (ACES) Journal*, vol. 29, December 2014.

## 2013

- Darko Kajfez and Atef Z. Elsherbeni, "Determination of Antenna Q from the Reflection-Coefficient Data," *IEEE Antennas Propag. Magazine*, vol. 55, no. 4, pp. 154 - 162, August 2013.
- A. Ali Babar, Atef Z. Elsherbeni, L. Sydänheimo, and L. Ukkonen, "RFID Tags for Challenging Environments," *IEEE Microwave Magazine*, 14(5), pp. 26-35, July/August 2013.
- Payam Nayeri, Fan Yang, and Atef Elsherbeni, "Bifocal Design and Aperture Phase Optimizations of Reflectarray Antennas for Wide-Angle Beam Scanning Performance," *IEEE Trans. Ant. Propag.*, vol. 61, no. 9, pp. 4588-4597, September 2013.
- Payam Nayeri, Fan Yang, and Atef Elsherbeni, "Design of Single-Feed Reflectarray Antennas with Asymmetric Multiple Beam using the Particle Swarm Optimization Method," *IEEE Trans. Ant. Propag.*, Vol. 61, no. 9, pp. 4598-4605, September 2013.
- Khaled ElMahgoub, Fan Yang, and Atef Z. Elsherbeni, "Design of Novel Reconfigurable Frequency Selective Surfaces with Two Control Techniques," *Progress In Electromagnetics Research C*, vol. 35, pp. 135-145, 2013.
- A. Khidre, K. F. Lee, F. Yang, A. Z. Elsherbeni, "Circular Polarization Reconfigurable Wideband E-Shaped Patch Antenna for Wireless Applications," *IEEE Trans. Ant. Propag.*, vol. 61, no. 2, pp. 960-964, Feb. 2013.
- A. Khidre, K. F. Lee, F. Yang, A. Z. Elsherbeni, "Wide Band Dual-Beam U-Slot Microstrip Antenna," *IEEE Trans. Ant. Propag.*, vol. 61, no. 3, pp. 1415-1418, March. 2013.
- P. Nayeri, A. Z. Elsherbeni, and F. Yang, "Radiation analysis approaches for reflectarray antennas," *IEEE Antennas Propag. Magazine*, vol. 55, no. 1, pp. 127 - 134, Feb. 2013.

## 2012

- G. Kim, E. Arvas, V. Demir, and A. Z. Elsherbeni, "A Novel Nonuniform Subgridding Scheme for FDTD using an Optimal Interpolation Technique," *Progress In Electromagnetics Research B*, vol. 44, 2012.



- F. Yang, Q. Qiao, J. Virtanen, A. Z. Elsherbeni, L. Ukkonen and L. Sydänheimo “Reconfigurable sensing antenna: a slotted patch design with temperature sensation,” *IEEE Antenna Wireless Propagation Letters*, vol. 1, pp. 632–635, June 2012.
- A. Khidre, K. F. Lee, F. Yang, A. Z. Elsherbeni, “Circular Polarization Reconfigurable Wideband E-Shaped Patch Antenna for Wireless Applications,” *IEEE Trans. Antennas Propag.*, vol. 61, no. 2, 2012.
- A. Khidre, K. F. Lee, F. Yang, A. Z. Elsherbeni, “Wide Band Dual-Beam U-Slot Microstrip Antenna,” *IEEE Trans. Antennas Propag.*, vol. 61, no. 3, 2012.
- T. Björninen, A. A. Babar, L. Ukkonen, L. Sydänheimo, A. Z. Elsherbeni, and J. Kallioinen, “Compact Metal Mountable UHF RFID Tag on a Barium Titanate Based Substrate,” *Progress in Electromagnetics Research C*, vol. 26, pp. 43-57, 2012.
- F. Yang, P. Nayeri, A. Z. Elsherbeni, J. C. Ginn, D. Shelton, G. Boreman, and Y. Rahmat-Samii, “Reflectarray design at Infrared Frequency: Effects and Models of Material Loss,” *IEEE Trans. Antennas Propag.*, vol. 60, no. 9, pp. 4202 - 4209, Sep. 2012.
- P. Nayeri, F. Yang, and A. Z. Elsherbeni, “Radiation Analysis and Characteristics of Conformal reflectarray Antennas,” *International Journal of Antennas and Propagation*, vol. 2012, pp.1-6, 2012.
- Ang Yu, Fan Yang, Atef Elsherbeni, J. Huang, and Y. Kim, “An Offset-Fed X-band Reflectarray Antenna using a Modified Element Rotation Technique,” *Trans. IEEE Antennas Propag.*, vol. 60, no. 3, pp. - , March 2012.
- Xue-Xia Yang, Bing-Cheng Shao, Fan Yang, Atef Z. Elsherbeni, and Bo Gong, “A Polarization Reconfigurable Patch Antenna with Loop Slots on the Ground Plane,” *IEEE Antennas and Wireless Propagation Letters (AWPL)*, vol. 11, issue 1, pp. 69–72, 2012. doi: 10.1109/LAWP.2011.21825952012.
- A. Ali Babar, S. Manzari, L. Sydänheimo, A. Z. Elsherbeni, and L. Ukkonen, “Threshold Heat Sensing Passive UHF RFID Tag,” *Trans. IEEE Antennas Propag.*, vol. 60, Issue: 9, pp. 4056- 4064, Sept. 2012.
- S. Manzari, A. Ali Babar, L. Ukkonen, A. Z. Elsherbeni, and L. Sydänheimo, “Performance Analysis of Pure Paraffin Wax as RFID Tag Substrate,” *Microwave and Optical Technology Letters*, vol. 54, no. 2, pp. 442-446, February 2012.
- P. Nayeri, F. Yang, and A. Z. Elsherbeni, “Design and Experiment of a Single-Feed Quad-Beam Reflectarray Antennas,” *Trans. IEEE Antennas Propag.*, vol. 60, no. 2, pp. 1166-1171, February 2012.
- A. A. Babar, V. A. Bhagavati, L. Ukkonen, A. Z. Elsherbeni, P. Kallio, and L. Sydänheimo, “Performance of High Permittivity Polymer-Ceramic Composite as a Substrate for UHF RFID Tag Antennas,” *International Journal of Antenna and Propagation*, 2012.
- Khaled ElMahgoub, Atef Z. Elsherbeni, and Fan Yang, “Dispersive Periodic Boundary Conditions for Finite-Difference Time-Domain Method,” *Trans. IEEE Antennas Propag.*, vol. 60, no. 4, April 2012.
- P. Nayeri, A. Z. Elsherbeni, and F. Yang, “Radiation Analysis Approaches for Reflectarray Antennas,” *IEEE Antennas and Propag. Magazine*, 2012.
- Veysel Demir and A. Z. Elsherbeni, “CUDA-OpenGL Interoperability to Visualize Electromagnetic Fields Calculated by FDTD,” *Journal of the Applied Computational Electromagnetics Society (ACES)*, vol. 27, no. 2, February 2012.



## 2011

- Bijaya Shrestha, Atef Elsherbeni, and Leena Ukkonen, “UHF RFID Reader Antenna for Near-Field and Far-Field Operations,” *IEEE Antennas and Wireless Propagation Letters (AWPL)*, vol. 10, pp. 1274-1277, 2011.
- A. Ali Babar, L. Ukkonen, Atef Z. Elsherbeni, and L. Sydänheimo, “Wall Proximity Effects on the Performance of Small Antennas for UHF Wireless Applications,” *Antennas and Propagation Magazine*, December 2011.
- Khaled ElMahgoub, Fan Yang, Atef Z. Elsherbeni, “FDTD/GSM Analysis of Multilayered Periodic Structures with Arbitrary Skewed Grid,” *IEEE Trans. Microwave Theory Tech.*, vol. 59, no. 12, part 2, pp. 3264-3271, 2011.
- Karoliina Koski, Eveliina Koski, Juha Virtanen, Toni Björninen, Lauri Sydänheimo, Leena Ukkonen, and Atef Z. Elsherbeni, “Inkjet-printed passive UHF RFID tags: review and performance evaluation,” *International Journal of Advanced Manufacturing Technology*, Online publication by Springer-Verlag London Limited, <http://www.springerlink.com/content/dhjgn6l2kw7318v2/>, December 2011.
- T. Björninen, A. Z. Elsherbeni, L. Ukkonen, “Low-Profile Conformal UHF RFID Tag Antenna for Integration with Water Bottles,” *IEEE Antennas Wireless Propag. Lett.*, vol. 10, no. 1, pp. 1147-1150, 2011.
- T. Björninen, A. Z. Elsherbeni, L. Ukkonen, “Performance of Single and Double T-matched Short Dipole Tag Antennas for UHF RFID Systems,” *Journal of Applied Computational Electromagnetics Society (ACES)*, vol. 26, no. 12, 2011.
- B. Devireddy, A. Yu, F. Yang, A. Z. Elsherbeni, “Gain and Bandwidth Study of Reflectarrays,” *Applied Computational Electromagnetics Society Journal (ACES)*, vol. 26, no. 2, pp. 170-178, February 2011.
- P. Nayeri, Kai-Fong Lee, F. Yang, and A. Z. Elsherbeni, “Dual-Band Circularly Polarized Antennas using Stacked Patches with Asymmetric U-Slots,” *IEEE Antennas and Wireless Propagation letter (AWPL)*, vol. 10, pp. 492-495, 2011.
- K. ElMahgoub, F. Yang, A. Elsherbeni, V. Demir, and Ji Chen “Analysis of Multilayer Periodic Structures Using a Hybrid FDTD/GSM Method,” *Antennas and Propagation Magazine*, 2011.
- J. Virtanen, L. Ukkonen, T. Björninen, A. Z. Elsherbeni, and L. Sydänheimo, “Inkjet printed Humidity Sensor for Passive UHF RFID Systems,” *IEEE Trans. Instrum. Meas.*, vol. 60, no. 8, pp. 2768-2777, August 2011.
- Ahmed Hassan, Fatma Elhefnawi, Atef Z. Elsherbeni, Moataza Hendi, Salwa Elramly “Compact Circularly Polarized Microstrip Array Antenna,” *Microwave and Optical Technology Letters*, vol. 53, no. 3, pp. 604-609, March 2011.
- P. Nayeri, F. Yang, and A. Z. Elsherbeni, “Bandwidth Improvement of Reflectarray Antennas using Closely Spaced Elements,” *Progress in Electromagnetics Research C*, vol. 18, pp. 19-29, 2011.
- T. Björninen, M. Lauri, L. Ukkonen, R. Ritala, A. Z. Elsherbeni, and L. Sydänheimo, “Wireless Measurement of RFID-IC Impedance,” *IEEE Trans. Instrum. Meas.*, vol. 60, no. 9, pp. 3194-3206, September 2011.

## 2010

- A. Khidre, K. F. Lee, F. Yang, A. Elsherbeni, “Wideband Circularly Polarized E-Shaped Patch Antenna for Wireless Applications,” *IEEE Antennas and Propagation Magazine*, vol. 52, no.5, pp. 219-229, October 2010.



- Payam Nayeri, Fan Yang, and Atef Z. Elsherbeni, “Broadband reflectarray antennas using double-layer subwavelength patch elements,” *IEEE Antennas and Wireless Propagation Letters*, vol. 9, pp. 1139-1142, 2010.
- K. ElMahgoub, F. Yang, A. Elsherbeni, V. Demir, and J. Chen, “FDTD Analysis of Periodic Structures with Arbitrary Skewed Grid,” *IEEE Trans. on Antenna and Propagat.*, vol. 58, no. 8, pp. 2649 – 2657, 2010.
- K. ElMahgoub, T. Elsherbeni, F. Yang, A. Elsherbeni, L. Sydänheimo and L. Ukkonen, “Logo–Antenna Based RFID Tags for Advertising Applications,” *ACES Journal Special Issue on Computational and Experimental Techniques for RFID Systems and Applications*, part 1, vol. 25, no. 3, pp. 174-181, 2010.
- T. Elsherbeni, K. ElMahgoub, L. Sydänheimo, L. Ukkonen, A. Elsherbeni, and F. Yang, “Survey of Laboratory Scale Fabrication Techniques for Passive UHF RFID Tags,” *ACES Journal Special Issue on Computational and Experimental Techniques for RFID Systems and Applications*, part 1, vol. 25, no. 6, pp. 561-596, 2010.
- Erdogan Alkan, Veysel Demir, Atef Z. Elsherbeni, and Ercument Arvas, “Dual-Grid Finite-Difference Frequency-Domain Method for Modeling Chiral Medium,” *IEEE Transactions on Antennas and Propagation*, vol. 58, no. 3, pp. 1-7, March 2010.
- Ang Yu, Fan Yang, Atef Elsherbeni, John Huang, and Yahya Rahmat-Samii, “A study on the efficiency of reflectarrays,” *Microwave and Optical Technology Letters*, vol. 52, no. 2, pp. 364-372, Feb. 2010.
- L. Ukkonen, T. Björninen, L. Sydänheimo, A. Z. Elsherbeni, and F. Yang, “Importance of Computational Electromagnetic Modeling in the Development of RFID Tags for Paper Reel Identification,” *Journal of Applied Computational Electromagnetics Society (ACES)*, vol. 25, no. 6, 2010.
- Veysel Demir and Atef Elsherbeni, “Compute Unified Device Architecture (CUDA) Based Finite-Difference Time-Domain (FDTD) Implementation,” *Journal of the Applied Computational Electromagnetics Society (ACES)*, vol. 25, no. 4, pp. 303-314, March 2010.
- M. J. Inman, A. Z. Elsherbeni, C. J. Reddy, “CUDA Based LU Decomposition Solvers for CEM Applications,” *Journal of the Applied Computational Electromagnetics Society (ACES)*, vol. 25, no. 4, April 2010.
- G. Aydin, A. Z. Elsherbeni, E. Arvas, “A Single-Field FDTD Formulation for Electromagnetic Simulations,” *Journal of the Applied Computational Electromagnetics Society (ACES)*, vol. 25, no. 12, December 2010.
- A. A. Babar, L. Ukkonen, A. Z. Elsherbeni, L. Sydanheimo, “A Small Dual Purpose UHF RFID Antenna Design,” *Journal of the Applied Computational Electromagnetics Society (ACES)*, vol. 25, no. 12, December 2010.

## 2009

- C. H. Loo, A. Z. Elsherbeni, F. Yang, and D. Kajfez, “Experimental and Simulation Investigation of RFID Blind Spots,” *Journal of Electromagnetic Waves and Applications (JEMWA)*, vol. 23, pp. 747-760, 2009.
- Lijun Zhang, F. Yang, and A. Z. Elsherbeni, “On the Use of Random Variable in Particle Swarm Optimization: A Comparative Study of Gaussian and Uniform distributions,” *Journal of Electromagnetic Waves and Applications (JEMWA)*, vol. 23, pp. 711-721, 2009.

- Ang Yu, Fan Yang, and Atef Z. Elsherbeni, “A Planar Rhombic Antenna with a Broad Circular Polarization Bandwidth for Integrated Single Chip Radio Transceivers,” *Microwave and Optical Technology Letters*, June 2009.
- V. Demir, E. Alkan, A. Z. Elsherbeni, and E. Arvas, “An Algorithm for Efficient Solution of Finite-Difference Frequency-Domain (FDFD) Methods,” *IEEE Antennas and Propagation Magazine*, 2009.

## 2008

- C. Loo and Atef Elsherbeni, “Fast Distortion Invariant Object Classification with FJTC using Wobbled SDF,” *IEEE Journal of Lightwave Technology*, vol. 26, no. 18, pp. 3248-3255, September 2008.
- R. K. Challa, Kajfez, V. D. Demir, J. R. Gladden, and A. Z. Elsherbeni, “Characterization of Multiwalled Carbon Nanotube (MWCNT) Composites in a Waveguide of Square Cross Section” *IEEE Microwave and Wireless Components Letters*, vol. 18, Issue 3, pp. 161 – 163, March 2008.
- R. Hasse, V. Demir, W. Hunsicker, D. Kajfez, and A. Elsherbeni, “Design and Analysis of Partitioned Square Loop Antennas,” *Journal of the Applied Computational Electromagnetics Society (ACES)*, vol. 23, no. 1, March 2008.
- R. K. Challa, Kajfez, J. R. Gladden, A. Z. Elsherbeni, and V. D. Demir; “Permittivity Measurement with a Non-Standard Waveguide by using TRL calibration and Fractional Linear data Fitting,” *Progress In Electromagnetics Research B*, Vol. 2, pp. 1–13, 2008.
- C. Loo, K. Elmahgoub, F. Yang, A. Elsherbeni, D. Kajfez, A. Kishk, T. Elsherbeni, L. Ukkonen, L. Sydänheimo, M. Kivikoski, S. Marilampi, and P. Ruuskanen, “Chip Impedance Matching for UHF RFID Tag Antenna Design.” *Progress In Electromagnetics Research (PIER)*, vol. 81, pp. 359-370, 2008.
- Ang Yu, Fan Yang, and Atef Elsherbeni, “A Dual-Band Circularly Polarized Ring Antenna Based on Composite Right- and Left-Handed Metamaterials,” *Progress In Electromagnetics Research (PIER)*, vol. 78, pp.73–81, 2008.
- M. J. Inman, A. Z. Elsherbeni, J. G. Maloney, B. N. Baker “Practical Implementation of a CPML Absorbing Boundary for GPU Accelerated FDTD Technique,” *Journal of the Applied Computational Electromagnetics Society (ACES)*, vol. 23, no. 1, March 2008.

## 2007

- Wei-Chung Weng, F. Yang, and A. Z. Elsherbeni, “Linear Antenna Array Synthesis using Taguchi’s Method: A novel Optimization Technique in Electromagnetics,” *IEEE Transactions on Antennas and Propagation*, vol. 55, no. 3, pp. 723 – 730, March 2007.
- Veysel Demir, Chun-Wen Paul Huang, and Atef Elsherbeni, “Novel Dual-band WLAN Antennas with Integrated Band-Select Filter for 802.11 a/b/g WLAN Radios in Portable Devices,” *Microwave and Optical Technology Letters*, 2007.
- Fan Yang, Ji Chen, Qiang Rui, and Atef Elsherbeni, “A simple and efficient FDTD/PBC algorithm for periodic structure analysis,” *Radio Science*, Vol. 42, 2007.
- Mohamed H. Al Sharkawy, V. Demir, and A. Z. Elsherbeni, “An Efficient ILU Preconditioning for Highly Sparse Matrices Constructed using FDFD Method,” *IEEE Antennas and Propagation Magazine*, vol. 49, no. 6, pp. 135-139, December 2007.
- B. H. Henin, A. Z. Elsherbeni, and M. H. Al Sharkawy, “Oblique incidence plane wave scattering from an array of circular dielectric cylinders,” *Progress in Electromagnetics Research*, PIER, vol. 68, 261-279, 2007.



- B. H. Henin, M. H. Al Sharkawy, and A. Z. Elsherbeni, "Scattering of Obliquely Incident Plane Wave by an Array of Parallel Concentric Metamaterial Cylinders," *Progress in Electromagnetics Research*, PIER, vol. 77, 285-307, 2007.

## 2006

- Veysel Demir, Dalia A. Elsherbeni, Darko Kajfez, and Atef Z. Elsherbeni, "Wideband Tapered Power Divider," *Journal of the Applied Computational Electromagnetics Society (ACES)*, vol. 21, no. 3, pp. 318-324, November 2006.
- Mohamed H. Al Sharkawy, V. Demir, A. Z. Elsherbeni, and B. Mahafza, "A Graphical User Interface (GUI) for Electromagnetic Scattering from Two and Three Dimensional Canonical and Non-Canonical Objects," *IEEE Antennas and Propagation Magazine*, vol. 48, no. 6, pp. 135-141, Dec. 2006.
- Fan Yang, Veysel Demir, Dalia A. Elsherbeni, Atef Z. Elsherbeni, and Abdelnasser A. Eldek, "Enhancement of printed dipole antennas characteristics using semi-EBG ground plane," *Journal of Electromagnetic Waves and Applications (JEMWA)*, vol. 20, no. 8, pp. 993-1006, June 2006.
- V. Demir, and A. Z. Elsherbeni, "A Graphical User Interface for Calculation of Reflection and Transmission Coefficients of a Layered Medium," *IEEE Antennas and Propagation Magazine*, vol. 48, no. 1, pp. 113-119, February 2006.
- Mohamed H. Al Sharkawy, Veysel Demir and Atef Z. Elsherbeni, "Plane Wave Scattering from Three Dimensional Multiple Objects Using the Iterative Multi-Region Technique Based on the FDFD Method," *IEEE Transactions on Antennas and Propagation*, vol. 54, no. 2, February 2006.
- Mohamed H. Al Sharkawy and A. Z. Elsherbeni, "Multi-Grid Technique for Solving Two Dimensional Quasi-Static Electromagnetic Structures," *ACES Newsletter*, vol. 21, no. 1, March 2006.

## 2005

- Veysel Demir, Atef Elsherbeni, and Ercument Arvas, "FDTD Formulation for Dispersive Chiral Media Using the Z Transform Method," *IEEE Transactions on Antennas and Propagation*, vol. 53, no. 10, pp. 3374 – 3384, October 2005.
- Mohamed Al Sharkawy, Veysel Demir, and Atef Z. Elsherbeni, "Iterative Multiregion Technique for Large-Scale Electromagnetic Scattering Problems: Two-dimensional Case," *Radio Science*, vol. 40, no. 5, pp. 1-10, Sep. 2005.
- Abdelnasser A. Eldek, Atef Z. Elsherbeni, and Charles E. Smith, "Wideband Modified Printed Bow-Tie Antenna with Single and Dual Polarization for C and X-Band Applications," *IEEE Transaction on Antennas and Propagations*, vol. 53, no. 9, pp. 3067-3072, Sep. 2005.
- Cuthbert M. Allen, Abdelnasser A. Eldek, Atef Z. Elsherbeni, Charles E. Smith, Chun-Wen P. Huang, and Kai-Fong Lee "Dual Tapered Meander Slot Antenna for Radar Applications," *IEEE Transactions on Antennas and Propagation*, vol. 53, no. 7, pp. 2324 – 2328, July 2005.
- Abdelnasser A. Eldek, Atef Z. Elsherbeni, and Charles E. Smith, "Wideband Two-Dimensional Array of Microstrip Fed Rectangular Slot Antennas for Radar Applications," *Microwave and Optical Technology Letters*, vol. 46, no. 1, pp. 36 – 40, July 2005.
- Abdelnasser A. Eldek, Atef Z. Elsherbeni, and Charles E. Smith, "Two-Dimensional Array of Rectangular Slot Antennas Tuned with Patch Stubs for Wide Bandwidth and Large Scanning Range," *Microwave and Optical Technology Letters*, vol. 45, no. 2, pp. 149-152, April 2005.



- Abdelnasser A. Eldek, Atef Z. Elsherbeni, and Charles E. Smith, “Square slot antenna for dual wideband wireless communication systems,” *Journal of Electromagnetic Waves and Applications (JEMWA)*, vol. 19, no. 12, pp. 1571-1581, 2005.
- M. J. Inman and A. Z. Elsherbeni, “Programming video cards for computational electromagnetics applications,” *IEEE Antennas Propagation Magazine*, Vol. 47, Issue 6, pp. 71-78, 2005.

### 2004

- Abdelnasser A. Eldek, Atef Z. Elsherbeni, and Charles E. Smith, “Coplanar Waveguide Fed Bow-Tie Antennas for Wideband Operations,” *Applied Computational Electromagnetics Society (ACES) Newsletter*, vol. 19, no. 3, pp. 10-18, November 2004.
- V. Demir, A. Z. Elsherbeni, D. Worasawate, and E. Arvas, “A graphical user interface (GUI) for plane wave scattering from a conducting, dielectric or a chiral sphere,” *IEEE Antennas and Propagation Magazine*, vol. 46, no. 5, pp. 94-99, October 2004
- Abdelnasser A. Eldek, Atef Z. Elsherbeni and Charles E. Smith, “Wideband Microstrip Fed Printed Bow-Tie Antenna for Phased Array Systems,” *Microwave and Optical Technology Letters*, vol. 43, no. 2, pp. 123-126, October 2004.
- Atef Z. Elsherbeni, Mohamed H. Al Sharkawy, and Samir F. Mahmoud, “Electromagnetic Scattering From a 2D Chiral Strip Simulated by Circular Cylinders for Uniform and Non-Uniform Chirality Distribution,” *IEEE Transaction on Antennas and Propagations*, vol. 52, no. 9, pp. 2244 -2252, September 2004.
- Abdelnasser A. Eldek, Atef Z. Elsherbeni, and Charles E. Smith, “Microstrip-Fed Printed Lotus Antenna for Wideband Wireless Communication Systems,” *IEEE Antennas and Propagations Magazine*, vol. 46, no. 6, pp. 164 – 173, December 2004.
- Abdelnasser A. Eldek, Atef Z. Elsherbeni, Charles E. Smith and Kai-Fong Lee, “Wideband planar slot antennas,” *Applied Computational Electromagnetics Society (ACES) Newsletter*, vol. 19, no. 1, pp. 35-48, March 2004.

### 2003

- Cuthbert M. Allen, Abdelnasser A. Eldek, Atef Z. Elsherbeni, and Charles E. Smith, “A Wideband Coplanar-Waveguide-Fed Multi-Slot Antenna for Radar Applications,” *Microwave and Optical Technology Letters*, vol. 39, no. 1, pp. 24-27, October 2003.
- Atef Z. Elsherbeni, Matthew J. Inman, “Antenna Design and Radiation Pattern Visualization,” *Applied Computational Electromagnetics Society (ACES)*, vol. 18, no. 4, November 2003.
- Alexander B. Yakovlev, Milan V. Lukic, Atef Z. Elsherbeni, Charles E. Smith, and Michael B. Steer, “Meander Slot and U-Slot Antenna Arrays for Wideband Spatial Power Combiners,” *IEEE Microwave and Wireless Components Letters*, vol. 13, no. 3, pp. 125-127, March 2003.
- Milan V. Lukic, Alexander B. Yakovlev, Atef Z. Elsherbeni, Charles E. Smith, and Michael B. Steer, “Printed Antenna Design for Broadband Waveguide-Based Spatial Power Combiners,” *Microwave and Optical Technology Letters*, vol. 36, no. 5, pp. 441-415, March 2003.
- Cuthbert M. Allen, Atef Z. Elsherbeni, Charles E. Smith, Chun-Win P. Huang, and Kai-Fong Lee, “Tapered Meander Slot Antenna for Dual Band Wireless Communication Systems,” *Microwave and Optical Technology Letters*, vol. 36, no. 5, pp. 381-385, March 2003.
- Abdelnasser A. Eldek, Atef Z. Elsherbeni, and Charles E. Smith, “Transition Between Two Coplanar Waveguide Transmission Lines,” *Applied Computational Electromagnetics Society News Letter*, vol. 18, no. 2, pp. 44-47, July 2003.





## 2002

- Chun-Wen Paul Huang, A. Z. Elsherbeni, C. E. Smith and P. Chin, “Analysis and Design of Ribbon Cables for High-Speed Digital Applications,” *International Journal of RF and Microwave Computer-Aided Engineering*, vol. 12, pp. 148-158, 2002.
- Abdelnasser A. Eldek, Atef Z. Elsherbeni, Charles E. Smith, and Kai-Fong Lee, “Wideband Rectangular Slot Antenna for Personal Wireless Communication,” *IEEE Antennas and Propagations Magazine*, vol. 44, no. 5, pp. 146-155, October 2002.
- Allen W. Glisson, Atef Z. Elsherbeni, and Chun-Wen P. Huang, “Two-Dimensional TM and TE FDTD Codes with Visualization,” *Applied Computational Electromagnetics Society News Letter*, vol. 17, no. 3, pp. 51-65, November 2002.
- Abdelnasser A. Eldek, Atef Z. Elsherbeni, and C. E. Smith, “Analysis of Transmission and Reflection from Modified Coplanar Waveguide Structures,” *Journal of the Applied Computational Electromagnetics Society (ACES)*, vol. 17, no. 2, pp. 158-165, July 2002.

## 2001

- Mohammed Eleiwa and Atef Z. Elsherbeni, “Debye Constants for Biological Tissues from 30 Hz to 20 GHz,” *Applied Computational Electromagnetics Society (ACES)*, vol. 16, no. 3, pp. 202-213, November 2001.
- Allen W. Glisson, Atef Z. Elsherbeni, “An Interactive 1D Matlab FDTD Code for Education,” *Computer Application in Engineering Education Journal*, vol. 9, no. 2, pp. 136-147, 2001.

## 2000

- Chun-Wen Paul Huang, Charles E. Smith, A.Z. Elsherbeni, and Bernie Hammond, “A Novel Simplified Four-Port Scattering Parameter Model for Design of Four-Pair Twisted Pair Cabling Systems for Local Area Networks,” *Microwave Theory and Tech.*, MTT-vol. 48, no. 5, pp. 815-821, May 2000.
- A. Z. Elsherbeni and M. J. Inman, “ACES Online Review Process,” *The Applied Computational Electromagnetics Society News Letter*, vol. 15, no. 3, pp. 13-20, November 2000.
- Chun-Wen Paul Huang, A. Z. Elsherbeni and C. E. Smith, “Analysis and Design of Tapered Meander Line Antennas for Mobile Communications,” *Applied Computational Electromagnetics Society (ACES), Special Issue on Wireless Communications*, vol. 15, no. 3, pp. 159-166, November 2000.

## 1999

- Chun-Wen Paul Huang, J. B. Chen, A. Z. Elsherbeni and C. E. Smith, “FDTD Characterization of Meander Line Antennas for RF and Wireless Communications,” *Journal of Electromagnetic Waves and Applications, Summary*, vol. 13, pp. 1649-1651, 1999.
- V. Rodriguez-Pereyra, A. Z. Elsherbeni, and C. E. Smith, “A Body of Revolution Finite Difference Time Domain Method with Perfectly Matched Layer absorbing Boundary,” *Journal of Electromagnetic Waves and Applications, Summary*, vol. 13, pp. 1653-1654, 1999.
- Hashim Yousif and Atef Z. Elsherbeni, “Electromagnetic Scattering from an Eccentric Multilayer Cylinder at Oblique Incidence,” *Journal of Electromagnetic Waves and Applications*, vol. 13, no. 3, pp. 325-336, 1999.

## 1998



- O. M. Ramahi, A. Z. Elsherbeni, and C. E. Smith, “Dynamic Analysis of V Transmission Lines,” *IEEE Trans Components, Packaging, and Manufacturing Technology*, Part B, vol. 21, no. 3, pp. 250-257, August 1998.
- A. Z. Elsherbeni, V. Rodriguez-Pereyra, and C. E. Smith, “Enhanced Design for Flip Chip Interconnects,” *Journal of Electromagnetic Waves and Applications*, vol. 12, no. 1, pp. 23-38, 1998.

## 1997

- M. El-Shenawee, A. Z. Elsherbeni, “Analysis of Signal Distortion on Microstrip Lines with an Overlay and a Notch,” *Journal of Electromagnetic Waves and Applications*, vol. 11, pp. 1627-1631, 1997.
- Hashim Yousif and Atef Z. Elsherbeni, “Oblique Incidence Scattering from Two Eccentric Cylinders,” *Journal of Electromagnetic Waves and Applications*, vol. 11, pp. 1273-1288, 1997.

## 1996

- A. Z. Elsherbeni, Y. Ying, C. E. Smith, and V. Rodriguez-Pereyra, “Finite Difference Analysis of Cylindrical Two Conductor Microstrip Transmission Line with Truncated Dielectrics,” *Journal of The Franklin Institute*, vol. 333(B), no. 6, pp. 901-928, November 1996.
- S. Dai, A. Z. Elsherbeni, and C. E. Smith, “Nonuniform FDTD Formulation for the Analysis and Reduction of Crosstalk on Coupled Microstrip Lines,” *Journal of Electromagnetic Waves and Applications*, vol. 10, pp. 1663-1682, 1996.
- A. Z. Elsherbeni, V. Rodriguez-Pereyra, and C. E. Smith, “The effect of an Air Gap on the Coupling Between Two Planar Microstrip Lines,” *Journal of The Franklin Institute*, vol. 333(B), no. 2, pp. 201-223, 1996.

## 1995

- O. D. Khan, A. Z. Elsherbeni, C. E. Smith and D. Kajfez, “Characteristics of Cylindrical Multiconductor Transmission Lines Above a Perfectly Conducting Ground Plane,” *Journal of Electromagnetic Waves and Applications*, vol. 10, no.8, pp.1129-1138, 1995.
- A. Z. Elsherbeni, C. E. Smith and B. Moumneh, “Minimization of the Coupling Between a Two Conductor Microstrip Transmission Line Using Finite Difference Method,” *Journal of Electromagnetic Waves and Applications*, vol. 10, no.4, pp. 509-513, 1995.
- A. Z. Elsherbeni, M. D. Tew, and A. Mokaddem, “Applying Multimedia Technology to Undergraduate Engineering Laboratories” *Computer Applications in Engineering Education (CAE)*, vol. 3, no. 3, pp. 157-164, 1995.

## 1994

- A. Z. Elsherbeni, B. Moumneh, and C.E. Smith, “Analysis of Two-Conductor Multi-Layer Shielded Microstrip Transmission Line,” *AEU-Archiv Fur Elektronik Und Ubertragungstechnik-International Journal of Electronics and Communications*, vol. 48, no. 5, pp. 256-262, 1994.
- A. Z. Elsherbeni, “A Comparative Study of Different Two-Dimensional Multiple Scattering Techniques,” *Radio Science*, vol. 29, no. 4, pp. 1023-1033, 1994.
- A. Elsohly and A.Z. Elsherbeni, “Characteristics of a Helical Tape Antenna Embedded in a Multilayer Dielectric Coated Cylinder,” *Journal of The Franklin Institute*, vol. 331B , no. 3, pp. 229-250, 1994.



- A. Z. Elsherbeni and C. D. Taylor, Jr., “Interactive Visualization of Electromagnetic Fields Inside Waveguides and Cavities Using the WGC Program,” *Computer Applications in Engineering Education (CAE)*, vol. 2, no. 2, pp. 97-108, 1994.

## 1993

- A. Z. Elsherbeni and C. D. Taylor, Jr., “Efficient Algorithm for The Scattering from Composite Two-Dimensional Scatterers Using Personal Computers: CCM Program (Version 1),” *IEEE Antennas and Propagation Magazine, EM Programmer's Notebook*, vol. 35, no. 5, pp. 68-70, October, 1993.
- A. Z. Elsherbeni, M. Hamid, and G. Tian, “Iterative Scattering of a Gaussian Beam by an Array of Circular Conducting and Dielectric Cylinders,” *J. Electromagnetic Waves and Applications (JEWA)*, vol. 7, no. 10, pp. 1323-1342, 1993.
- A. Z. Elsherbeni, A. Kishk, Reply on Comments on “Modeling of Cylindrical Objects by Circular Dielectric or Conducting Cylinders,” *IEEE Trans. Antennas Prop.*, vol. AP-41, no. 9, pp. 1343-1344, September 1993.
- A. Z. Elsherbeni, C.E. Smith, H. Golestanian, and S. He, “Quasi-Static Characteristics of a Two-Conductor Multilayer Microstrip Transmission Line with Dielectric Overlay and a Notch Between the Strips,” *J. Electromagnetic Waves and Applications (JEWA)*, vol. 7, no. 6, pp. 769-789, 1993.
- H. A. Auda and A. Z. Elsherbeni, “Multiple Microstrip Lines on a Multilayered Cylindrical Dielectric Substrate on Perfectly Conducting Wedge,” *IEEE Trans. Microwave Theory Tech.*, vol. 41, no. 6-7, pp. 1037-1043, June/July 1993.
- A. Z. Elsherbeni, D. Kajfez, and J. Hawes, “Interactive Display of Vector Fields Inside Waveguides,” *IEEE Trans. Education*, vol. 36, no. 2, pp. 283-286, May 1993.
- S. He, A. Z. Elsherbeni and C. E. Smith, “Decoupling Between Two Conductor Microstrip Transmission Line,” *IEEE Trans. Microwave Theory Tech.*, vol. 41, no. 1, pp. 53-61, January 1993.

## 1992

- A. Z. Elsherbeni and L. Jin, “Asymptotic Scattering of Electromagnetic Waves from an Array of Dielectrically Loaded Conducting Strips,” *J. Electromagnetic Waves and Applications (JEWA)*, vol. 6, no. 3, pp. 309-339, 1992.
- A. A. Kishk, R.P. Parrikar and A. Z. Elsherbeni, “Electromagnetic Scattering from an Eccentric Multilayered Circular Cylinder,” *IEEE Trans. Antennas Propagat.*, vol. AP-40, no. 3, pp. 295-303, March 1992.
- A. Z. Elsherbeni and P.H. Ginn, “Arrays: A Software Package for Analysis of Antenna Arrays,” *Computer Applications in Engineering Education (CAE)*, vol. 1, no. 1, pp. 109-117, 1992.
- A. Z. Elsherbeni and A.A. Kishk, “Modeling of Cylindrical Objects by Circular Dielectric or Conducting Cylinders,” *IEEE Trans. Antennas Propagat.*, vol. AP-40, no. 1, pp. 96-99, January 1992.

## 1991

- A. Z. Elsherbeni, D. Kajfez and S. Zeng, “Circular Sectoral Waveguides,” *IEEE Antennas and Propagation Magazine*, vol. 33, no. 6, pp. 20-27, December 1991.
- R. Parrikar, A. A. Kishk and A. Z. Elsherbeni, “Scattering from an Impedance Cylinder Embedded in a Nonconcentric Dielectric Cylinder,” *IEE Proc., Part H*, vol. 138, no. 2, pp. 169-175, April 1991.

- A. Z. Elsherbeni and A. Ren, “Diffraction by an Aperture Between Two Perfectly Conducting Half Planes Loaded with a Dielectric Cylinder,” *AEU-Archiv Fur Elektronik Und Ubertragungstechnik- International Journal of Electronics and Communications*, vol. 45, pp. 33-42, January 1991.

## 1989

- A. Z. Elsherbeni, “High Gain Cylindrical Reflector Antennas with Low Sidelobes,” *AEU-Archiv Fur Elektronik Und Ubertragungstechnik- International Journal of Electronics and Communications*, vol. 43, no. 6, pp. 362-369, Nov./Dec. 1989.
- M. A. Kolbehdari, H. A. Auda and A. Z. Elsherbeni, “Scattering from a Dielectric Cylinder Partially Embedded in a Perfectly Conducting Ground Plane,” *J. Electromagnetic Waves and Applications (JEMWA)*, vol. 3, no. 6, pp. 531-554, 1989.
- M. Hamid, A. Z. Elsherbeni, W. A. Chamma, D. Edward and K. Lockhart, “Active Minimization of the Sidelobes of Radiating Apertures,” *Int'l. Journal of Electronics*, vol. 67, no. 4, pp. 617-622, 1989.
- A. Z. Elsherbeni and M. Hamid, “Scattering by a Perfectly Conducting Strip Loaded with a Dielectric Cylinder (TM case),” *IEE Proc., Part H*, vol. 136, no. 3, pp. 185-191, 1989.
- A. Z. Elsherbeni and H. A. Auda, “Electromagnetic Diffraction by Two Perfectly Conducting Wedges with Dented Edges Loaded with a Dielectric Cylinder,” *IEE Proc., Part H*, vol. 136, no. 3, pp. 225-235, 1989.
- A. A. Kishk and A. Z. Elsherbeni, “Radiation Characteristics of Dielectric Resonator Antennas Loaded with a Beam-Forming Ring,” *AEU-Archiv Fur Elektronik Und Ubertragungstechnik- International Journal of Electronics and Communications*, vol. 43, no. 3, pp. 158-165, May/June 1989.
- M. Hoque, M. Hamid, A. Rahman and A. Z. Elsherbeni, “Radiation Pattern of a Parabolic Reflector Antenna from Near Field Measurements of a Coupled Reflector,” *IEE Electronics Letters*, vol. 25, no. 7, pp. 484-486, March 1989.

## 1988

- Z. A. Delecki, M. Hamid and A. Z. Elsherbeni, “Scattering by a Dielectric Discontinuity in an H-Plane Sectoral Horn,” *J. of Institute of Electronic and Radio Engineers (IERE)*, vol. 58, no. 5, pp. 235-243, July/August 1988.
- A. Z. Elsherbeni, J. Stanier and M. Hamid, “Eigenvalues of Propagating Waves in a Circular Waveguide with an Impedance Wall,” *IEE Proc., Part H*, vol. 135, no. 1, pp. 23-26, February 1988.

## 1987

- A. Z. Elsherbeni and M. Hamid, “Hybrid Modes in a Circular Waveguide with an Impedance Wall,” *J. of Applied Physics*, vol. 62, no. 6, pp. 2572-2573, September 1987.
- A. Z. Elsherbeni and M. Hamid, “Scattering by Parallel Conducting Circular Cylinders,” *IEEE Trans. Antennas Propagat.*, vol. AP-35, no. 3, pp. 355-358, March 1987.
- A. Z. Elsherbeni and M. Hamid, “Novel Cylindrical Wave Spectrum for Analysis of Scattering by Multiple Bodies,” *IEE Proceedings, Part H*, vol. 134, pp. 35-44, February 1987.
- A. Z. Elsherbeni and M. Hamid, “Diffraction Properties of a Class of Double Wedges,” *Canadian J. of Physics*, vol. 65, pp. 16-22, January 1987.

## 1986



- A. Z. Elsherbeni and M. Hamid, “Diffraction by a Wide Double Wedge with Cylindrically Capped Edges,” *IEEE Trans. Antennas Propagat.*, vol. AP-34, no. 7, pp. 947-951, July 1986.
- A. Z. Elsherbeni and M. Hamid, “Scattering by a Double Wedge and a Parallel Cylinder,” *Int'l J. of Electronics*, vol. 60, no. 3, pp. 367-380, 1986.
- H. A. Ragheb, A. Z. Elsherbeni, and M. Hamid, “Radiation Characteristics of the Corner Array,” *Int'l J. of Electronics*, vol. 60, no. 2, pp. 229-238, 1986.

### 1985

- A. Z. Elsherbeni and M. Hamid, “Diffraction by a Wide Double Wedge with Rounded Edges,” *IEEE Trans. Antennas Propagat.*, vol. AP-33, no. 9, pp. 1012-1015, September 1985.
- A. Z. Elsherbeni and M. Hamid, “Scattering by a Cylindrical Dielectric Shell with Inhomogeneous Permittivity Profiles,” *Int'l J. of Electronics*, vol. 58, no. 6, pp. 559-562, June 1985.

### 1984

- A. Z. Elsherbeni and M. Hamid, “Diffraction by a Wide Double Wedge,” *IEEE Trans. Antennas Propagat.*, vol. AP-32, no. 11, pp. 1262-1265, November 1984.