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ATEF Z. ELSHERBENI

IEEE Fellow (2007) and ACES Fellow (2008)

Books: (Total 16)

2023

- Qiang Ren, Su Yan, Atef Z. Elsherbeni, Editors "Advances in Time-Domain Computational Electromagnetic Methods," IEEE Press Series on Electromagnetic Wave Theory, John Wiley & Sons, IEEE Press, 2023.

2021

- Bassem Mahafza, Scott Winton, and Atef Elsherbeni, Handbook of Radar Signal Analysis, CRC Press, 2021.

2018

- Payam Nayeri, Fan Yang, and Atef Z. Elsherbeni, Reflectarray Antennas, Theory, Design, and Applications, Institute of Electrical and Electronics Engineers, John Wiley & Sons, IEEE-Wiley & Sons, 2018.

2017

- Ahmed Hassan, Fan Yang, Atef Z. Elsherbeni, and Payam Nayeri, Analysis and Design of Transmitarray Antennas, Morgan and Claypool, 2017.
- Mohamed Bakr, Atef Elsherbeni and Veysel Demir, Adjoint Sensitivity Analysis of High Frequency Structures with MATLAB, ACES Series on Computational Electromagnetics and Engineering, SciTech Publishing Inc. an Imprint of the IET, Edison, NJ, 2017.

2016

- Atef Elsherbeni and Veysel Demir, The Finite Difference Time Domain Method for Electromagnetics with MATLAB Simulations, ACES Series on Computational Electromagnetics and Engineering, SciTech Publishing Inc. an Imprint of the IET, Second Edition, Edison, NJ, 2016.

2015

- Wenhua Yu, Wenxing Li, Atef Elsherbeni, and Yahya Rahmat-Samii (Editors), Advanced Computational Electromagnetics Methods and Applications, Artech House, March 2015.

2014

- Atef Elsherbeni, Payam Nayeri, and C.J. Reddy, Antenna Analysis and Design Using FEKO Electromagnetic Simulation Software, ACES Series on Computational Electromagnetics and Engineering, SciTech Publishing Inc. an Imprint of the IET, Edison, NJ, 2014.

2013

- Erdogan Alkan, Veysel Demir, Atef Elsherbeni, and Ercument Arvas, Double-Grid Finite-Difference Frequency-Domain (DG-FDFD) Method for Scattering from Chiral Objects, Morgan and Claypool, 2013.

2012

- Khaled ElMahgoub, Fan Yang, and Atef Z. Elsherbeni, Scattering Analysis of Periodic Structures Using Finite-Difference Time-Domain Method, Morgan and Claypool, 2012.
- Mesut Gokten, Atef Elsherbeni, and Ercument Arvas, Multiresolution Frequency Domain Technique for Electromagnetics, Morgan and Claypool, 2012.

2009

- Atef Elsherbeni and Veysel Demir, The Finite Difference Time Domain Method for Electromagnetics with MATLAB Simulations, SciTech Publishing Inc., Raleigh, NC, 2009.

2007

- Mohamed A. Sharkawy, Veysel Demir, and Atef Z. Elsherbeni, Electromagnetic Scattering using the Iterative Multi-Region Technique, Morgan and Claypool, 2007.
- Wei-Chung Weng, Fan Yang, and Atef Z. Elsherbeni, Electromagnetics and Antenna Optimization Using Taguchi's Method, Morgan and Claypool, 2007.

2006

- A. Z. Elsherbeni and Matthew J. Inman, Antenna Design and Visualization using MATLAB, SciTech Publishing Inc., January 2006.

2003

- B. R. Mahafza and A. Z. Elsherbeni, MATLAB Simulation for Radar Systems Design, CRC Press, December 2003.

Book Chapters: (Total 35)

2023

- Joshua M. Kast;Atef Z. Elsherbeni, Integration of Nonlinear Circuit Elements into FDTD Method Formulation, Chapter 11 in Advances in Time-Domain Computational Electromagnetic Methods, John Wiley, IEEE Press, 2023.
- Mohamed H. Bakr;Shirook Ali;Atef Z. Elsherbeni, Machine Learning Application for Modeling and Design Optimization of High Frequency Structures, Chapter 11 in Advances in Time-Domain Computational Electromagnetic Methods, John Wiley, IEEE Press, 2023.
- Alec Weiss;Atef Z. Elsherbeni;Veysel Demir;Mohammed Hadi, Acceleration of FDTD Code Using MATLAB's Parallel Computing Toolbox, Chapter 12 in Advances in Time-Domain Computational Electromagnetic Methods, John Wiley, IEEE Press, 2023.
- Abdullah Algarni;Atef Z. Elsherbeni;Mohammed Hadi, Cylindrical FDTD Formulation for Low Frequency Applications, Chapter 16 in Advances in Time-Domain Computational Electromagnetic Methods, John Wiley, IEEE Press, 2023.

2021

- Peter Vouras, Damla Guven, Jack Chuang, Camillo Gentile, Kate A. Remley, Benjamin Jamroz, Dylan F. Williams, Jeanne Quimby, Rodney Leonhardt, Robert D. Horansky, Maria Becker, Alec Weiss, Robert D. Jones, Joshua Kast, Atef Elsherbeni, Paritosh Manurkar, Chapter 11: Over-the-air testing with synthetic-aperture techniques, in Metrology for 5G and emerging wireless technologies, edited by Tian Hong Loh, IET Digital Library, 2021.

2018

- M. Hadi, A. Elsherbeni, Ravi Bollimuntha and Melinda Piket-May, "Chapter 7: FDTD in Cartesian and Spherical Grids", in Computational Photonic Sensors, by Hameed and Obayya, Springer, UK, 2018.

2015

- M. Hadi and A. Elsherbeni, "Higher Order FDTD Methods", in Wenhua Yu, Wenxing Li, Atef Elsherbeni, and Yahya Rahmat-Samii (Editors), Advanced Computational Electromagnetics Methods and Applications, Artech House, March 2015.

2009

- B. H. Henin, A. Z. Elsherbeni, M. H. Al Sharkawy, and F. Yang "Line Source Excitation of an Array of Circular Metamaterial Cylinders: Boundary Value Solution and Applications" in Metamaterials and Plasmonics: Fundamentals, Modeling, Applications. Editors: S. Zouhdi, A. Sihvola, and A. P. Vinogradov. NATO Science Series, Springer, 2009.

2008

- M. Gokten, A. Z. Elsherbeni, and E. Arvas, "Electromagnetic Scattering Analysis using the Two-Dimensional MRFD Formulation," Progress in Electromagnetics Research, PIER 79, 387–399, 2008.
- R. K. Challa, D. Kajfez, V. Demir, J. R. Gladden, and A. Z. Elsherbeni, "Permittivity measurement with a non-standard waveguide by using TRL calibration and fractional linear data," Progress In Electromagnetics Research B, (PIER B), vol. 2, pp. 1-13, 2008.

2007

- L. Kuzu, V. Demir, A. Z. Elsherbeni, and E. Arvas, "Electromagnetic scattering from arbitrarily shaped chiral objects using the finite difference frequency domain method," Progress in Electromagnetics Research, (PIER 67), Chief Editor: J. A. Kong, pp. 1–24, 2007.
- M. Gokten, A. Z. Elsherbeni, and E. Arvas, "The multiresolution frequency domain method for general guided wave structures," Progress in Electromagnetics Research, (PIER 69), Chief Editor: J. A. Kong, pp. 55–66, 2007.

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- B. H. Henin, A. Z. Elsherbeni, and M. A. Sharkawy, "Scattering of Obliquely incident plane wave by an array of parallel concentric metamaterial cylinders," Progress in Electromagnetics Research, (PIER 77), Chief Editor: J. A. Kong, pp. 285–307, 2007.

2006

- M. A. Sharkawy, V. Demir, and A. Z. Elsherbeni, "The iterative multi-region algorithm using a hybrid finite difference frequency domain and method of moment techniques," Progress in Electromagnetics Research, (PIER 57), Chief Editor: J. A. Kong, pp. 19–32, 2006.
- O. M. Aly, A. S. Omar, and A. Z. Elsherbeni, "Detection and localization of RF radar pulses in noise environments using wavelet packet transform and higher order statistics," Progress in Electromagnetics Research, (PIER 58), Chief Editor: J. A. Kong, pp. 301–317, 2006.

2005

- Abdelnasser A. Eldek, Atef Z. Elsherbeni, and Charles E. Smith, "Rectangular Slot Antenna with Patch Stub for Ultra Wideband Applications and Phased Array Systems," Progress in Electromagnetic Research (PIER 53), Chief Editor: J. A. Kong, vol., 53, pp. 227–237, 2005.
- Abdelnasser A. Eldek, Atef Z. Elsherbeni, and Charles E. Smith, "Dual-Wideband Square Slot Antenna with A U-shaped Printed Tuning Stub for Wireless Communication Systems," Progress in Electromagnetic Research (PIER 53), Chief Editor: J. A. Kong, vol., 53, pp. 319–333, 2005.
- Atef Z. Elsherbeni, Abdelnasser A. Eldek, and Charles E. Smith, "Wideband Slot and Printed Antennas," Encyclopedia of RF and Microwave Engineering, vol. 6, John Wiley, January 2005.

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- Abdelnasser A. Eldek, Atef Z. Elsherbeni and Charles E. Smith, "Characteristics of Bow-Tie Slot Antenna with Tapered Tuning Stubs for Wideband Operation," Progress in Electromagnetics Research (PIER 49), Chief Editor: J. A. Kong, vol. 49, pp. 53–69, 2004.
- Matthew J. Inman, John M. Earwood, Atef Z. Elsherbeni and Charles E. Smith, "Bayesian Optimization Techniques for Antenna Design," Electromagnetic Wave Monograph Series, Progress in Electromagnetic Research (PIER 49), Chief Editor: J. A. Kong, vol. 49, pp. 71-86, 2004.
- Abdelnasser A. Eldek, Atef Z. Elsherbeni and Charles E. Smith, "Design of Wideband Triangle Slot Antennas with Tuning Stub," Electromagnetic Wave Monograph Series, Progress in Electromagnetic Research (PIER 48), Chief Editor: J. A. Kong, vol. 48, pp. 233-248, 2004.
- Mohamed H. Al Sharkawy, Atef Z. Elsherbeni, and Samir F. Mahmoud, "Electromagnetic Scattering from Parallel Chiral Cylinders of Circular Cross-Sections Using an Iterative Procedure, Electromagnetic," Wave Monograph Series, Progress in Electromagnetic Research (PIER 47), Chief Editor: J. A. Kong, vol. 47, pp. 87-110, 2004.

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- A. Z. Elsherbeni, C. W. Huang, and C. E. Smith, "Handheld Antennas," Handbook of Antennas in Wireless Communications, Editor: Lal Godara, CRC Press, Ch. 12, 2001.
- A. Z. Elsherbeni, C. G. Christodoulou, and J. Gomez-Tagle, "The Finite Difference Time Domain Technique for Microstrip Antennas," Handbook of Antennas in Wireless Communications, Editor: Lal Godara, CRC Press, Ch. 7, 2001.

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- C. W. Huang, J. B. Chen, A. Z. Elsherbeni and C. E. Smith, "FDTD Characterization of Meander Line Antennas for RF and Wireless Communications," Electromagnetic Wave Monograph Series, Progress in Electromagnetic Research (PIER 24), Chief Editor: J. A. Kong, vol. 24, Ch. 9 , pp. 185-200, 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," Electromagnetic Wave Monograph Series, Progress in Electromagnetic Research (PIER 24), Chief Editor: J. A. Kong, vol. 24, Ch. 12, pp. 257-277, 1999.
- A. Z. Elsherbeni J. Colburn, Y. Rahmat-Samii, and C.D. Taylor, Jr., "On the Interaction of Electromagnetic Fields with a Human Head Model Using Computer Visualization," Oristaglio, M. and Spies, B., Ed., Three-Dimensional Electromagnetics: Society of Exploration Geophysicists (SEG), pp. 671-684, 1999.

1997

- M. El-Shenawee, A. Z. Elsherbeni, "Analysis of Signal Distortion on Microstrip Lines with an Overlay and a Notch". Electromagnetic Wave Monograph Series, Progress in Electromagnetic Research (PIER 17), Chief Editor: J. A. Kong, vol. 17, Ch., pp. 73-89, 1997.

1996

- D. Khan, A. Z. Elsherbeni, C. E. Smith and D. Kajfez, "Characteristics of Cylindrical Multiconductor Transmission lines Above a Perfectly Conducting Ground Plane" Electromagnetic Wave Monograph Series, Progress in Electromagnetic Research (PIER 15), Chief Editor: J. A. Kong, vol. 15, Ch. 8, pp. 191-220, 1996.
- A. Z. Elsherbeni, C. E. Smith, and B. Moumneh, "Minimization of the Coupling Between a Two Conductor Microstrip Transmission Line Using Finite Difference Method" Electromagnetic Wave Monograph Series, Progress in Electromagnetic Research (PIER 12), Chief Editor: J. A. Kong, vol. 12, Ch. 1, pp. 1-35, 1996.

1995

- Atef Z. Elsherbeni and C. D. Taylor, Jr., "Electromagnetic Fields Inside Waveguides and Cavities; WGC (version 2.1)" Software Book II, Center on Computer Applications for Electromagnetic Education (CAEME), Sec. 7, Ch. 15, 1995.
- Atef Z. Elsherbeni and C. D. Taylor, Jr., "Interactive Visualization of Two- and Three-Dimensional Antenna Patterns" Software, Book II, Center on Computer Applications for Electromagnetic Education (CAEME), Sec. 4, Ch.8, 1995.
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1991

- Atef Z. Elsherbeni, D. Kajfez and J. Hawes, "Mapping of Vector Fields Inside Waveguides" Software, Book I, Center on Computer Applications for Electromagnetics Education (CAEME), Ch. 10, 1991.