

Proceedings Publications and Presentations: (Total 47 Presentations)**2024**

- Charles Vath and Atef Z. Elsherbeni, “An Interactive Visualization of Electrostatic Electric Field and Potential Distribution,” International Applied Computational Electromagnetics Society (ACES) Symposium, Orlando, Miami, May 2024.
- Lisa K. Elmiladi, Kenneth Y. Hora, Peter H. Aaen, and Atef Z. Elsherbeni, “Wireless Monitoring of S-Parameters Measurement using a Nano-VNA for Biomedical Applications,” International Applied Computational Electromagnetics Society (ACES) Symposium, Orlando, Miami, May 2024.
- Kenneth Y. Hora, Trevor J. Wolf, Collin Kringlen, Atef Z. Elsherbeni, Jamal Rostami, “Sensor Data Relay System for Underground Mine Communications,” International Applied Computational Electromagnetics Society (ACES) Symposium, Orlando, Miami, May 2024.
- Matthew J. Dodd and Atef Z. Elsherbeni, “Simulation of Mutual Coupling in Aperiodic Arrays,” International Applied Computational Electromagnetics Society (ACES) Symposium, Orlando, Miami, May 2024.
- Nelson L. Angels and Atef Z. Elsherbeni, “Safety of Wireless Brain Implants: A Review,” International Applied Computational Electromagnetics Society (ACES) Symposium, Orlando, Miami, May 2024.
- Silje Ostrem, Collin Kringlen, Cameron Evanovich, Atef Elsherbeni, and Peter Aaen, “Towards the Design of a Non-invasive Glucose Monitoring Sensor,” International Applied Computational Electromagnetics Society (ACES) Symposium, Orlando, Miami, May 2024.
- Nolan H. Grant, Atef Z. Elsherbeni, Quang M Nguyen, and Amir Zaghoul, “Automated Pixelated Unit Cell Design for Reflectarray Antennas and Reconfigurable Intelligent Surfaces,” International Applied Computational Electromagnetics Society (ACES) Symposium, Orlando, Miami, May 2024.

2023

- Matthew Dodd and Atef Z. Elsherbeni, “Bowtie Antenna with Integrated Matching Network for Wideband and Circular Polarization,” 2023 IEEE International Symposium on Antennas and Propagation and USNC-URSI Radio Science Meeting, Portland, Oregon, July 23-28, 2020.
- Rachel Lumnitzer and Atef Z. Elsherbeni, “Electromagnetic Visualization Tools for Effective Undergraduate Education,” International Applied Computational Electromagnetics Society (ACES) Symposium, Monterey, CA, 2023.
- Zahid Hassan and Atef Z. Elsherbeni, “Visualization of Electric and Magnetic Fields Inside Circular and Baffle Waveguides and Cavities,” International Applied Computational Electromagnetics Society (ACES) Symposium, Monterey, CA, 2023.

2022

- Yiming Chen, Atef Elsherbeni, and Veysel Demir, “Machine Learning for Microstrip Patch Antenna Design: Observations and Recommendations,” USNC/URSI National Radio Science Meeting, Boulder, Colorado, January 2022.
- Matthew J. Dodd and Atef Elsherbeni, “A Wideband Circularly Polarized Printed Bow-Tie Antenna for Low-SWaP Aerial Applications,” IEEE 20th Biennial Conference on Electromagnetic Field Computation (CEFC), Denver, Colorado, October 9 – 12, 2022.



- Yiming Chen, Atef Elsherbeni, and Veysel Demir, “Machine Learning Design of Printed Patch Antenna,” International Symposium on Antennas and Propagation and USNC-URSI Radio Science Meeting, Denver, Colorado, July 10-15, 2022.
- Joshua Kast and Atef Elsherbeni, “FDTD Formulation for Nonlinear Two-Port Networks using their X-Parameters,” International Symposium on Antennas and Propagation and USNC-URSI Radio Science Meeting, Denver, Colorado, July 10-15, 2022.
- Joseph E. Diener and Atef Z. Elsherbeni, “Tri-Polarization Reconfigurable Patch Antenna for ISM Application,” International Symposium on Antennas and Propagation and USNC-URSI Radio Science Meeting, Denver, Colorado, July 10-15, 2022.
- Alec Weiss, Atef Elsherbeni, Jeanne Quimby, and Jake Rezac, “Framework for Evaluating Channel Estimators in Millimeter-Wave New-Radio Systems,” International Symposium on Antennas and Propagation and USNC-URSI Radio Science Meeting, Denver, Colorado, July 10-15, 2022.
- Orcun Kiris, Atef Z. Elsherbeni, and Yiming Chen, “An Efficient Transmitarray Element using Diagonal Double-Headed Arrows with Vias,” International Symposium on Antennas and Propagation and USNC-URSI Radio Science Meeting, Denver, Colorado, July 10-15, 2022.

2021

- Yiming Chen, Fatih Kaburcuk, Rachel Lumnitzer, Atef Z. Elsherbeni; Veysel Demir; Atif Shamim, “Human Tissues Parameters and Resolution for Accurate Simulations of Wearable Antennas,” International Applied Computational Electromagnetics Society (ACES) Symposium, 2021.
- Yiming Chen, A. Z. Elsherbeni, “Circularly Polarized RFID Tag Antenna Design for Underground Localization System,” USNC/URSI National Radio Science Meeting, Boulder, Colorado, January 2021.
- Abdullah Algarni; Mohammed Hadi; Atef Z. Elsherbeni, “A Perfectly-Matched Layer Formulation Capable of Absorbing Multi-Modal Waves in Cylindrical FDTD,” International Applied Computational Electromagnetics Society (ACES) Symposium, 2021.
- Alec Weiss; Atef Elsherbeni, “Accelerating Simulations of Large Scale Phased-Array Systems,” International Applied Computational Electromagnetics Society (ACES) Symposium, 2021.
- Robert D. Jones; Joseph E. Diener; Yiming Chen; Atef Z. Elsherbeni; Jurgen Brune, “Underground Localization System using a Combination of RFID and IMU Technologies,” International Applied Computational Electromagnetics Society (ACES) Symposium, 2021.
- Joshua M. Kast; Atef Z. Elsherbeni, “Extraction of X-Parameters from FDTD Simulation of a Two-Port Nonlinear Circuit,” International Applied Computational Electromagnetics Society Symposium (ACES), 2021.
- Gurkan Kalinay, Fatih Kaburcuk, Yiming Chen, Atef Z. Elsherbeni, and Veysel Demir, “Dual-Band Microstrip Patch Antenna for 5G Mobile Communications,” International Symposium on Antennas and Propagation and USNC-URSI Radio Science Meeting, Montreal, Canada (Online), December 2021.
- Joshua M. Kast, A. Z. Elsherbeni, “FDTD Simulation of Nonlinear Diode Characteristics using X-Parameter-Based Updating Formulation,” International Conference on Microwave, Antennas and Circuits (ICMAC 2021), Islamabad, Pakistan, December 10-11, 2021.
- Joshua M. Kast, A. Z. Elsherbeni, “Extraction of Nonlinear X-Parameters from FDTD Simulation of a One-Port Device,” USNC/URSI National Radio Science Meeting, Boulder, Colorado, January 2021.
- Alec Weiss, A. Z. Elsherbeni, and Jeanne Quimby, “Hybrid Simulation Framework for 5G OFDM Channel Estimator Testing,” USNC/URSI National Radio Science Meeting, Boulder, Colorado, January 2021.

- Alec Weiss; Atef Elsherbeni; Jeanne Quimby, “Verification of an Evaluator for a New-Radio Channel Estimator,” United States National Committee of URSI National Radio Science Meeting (USNC-URSI NRSM), 2021.

2020

- Alec J. Weiss, Jeanne Quimby, Rod Leonhardt, Ben Jamroz, Dylan Williams, Kate Remley, Peter Vouras, and Atef Elsherbeni, “Configuration and Control of a Millimeter-Wave Synthetic Aperture Measurement System with Uncertainties,” 94th ARFTG Microwave Measurement Conference, San Antonio TX, Jan 26-29, 2020.
- Joshua M. Kast, Atef Z. Elsherbeni, “Simulation of a Nonlinear Frequency Multiplier using the FDTD Technique,” International Applied Computational Electromagnetics Society (ACES) Symposium, July 27-31, 2020.
- Z. Su, K. Klionovski, H. Liao, A. Shamim, Yiming Chen, and A. Z. Elsherbeni, “3D Antenna in Package Design: Maximizing Radiation Pattern Isotropy and CP Coverage,” 2020 IEEE International Symposium on Antennas and Propagation and USNC-URSI Radio Science Meeting, Montreal, Canada (Online), July 5-10, 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,” International Applied Computational Electromagnetics Society (ACES) Symposium, July 27-31, 2020.
- Abdullah M. Algarni, Atef Z. Elsherbeni, Mohammed Hadi, “Implementation of Passive and Active Circuit Elements in Cylindrical Finite-Difference Time-Domain Formulation,” International Applied Computational Electromagnetics Society (ACES) Symposium, July 27-31, 2020.
- F. Kaburcu, Atef Z. Elsherbeni, Rachel Lumnitzer, and Allison Tanner “SAR and Temperature Distributions in a Head Model Due to Electromagnetic Radiation with Frequencies up to 100 GHz,” 2020 IEEE International Symposium on Antennas and Propagation and USNC-URSI Radio Science Meeting, Montreal, Canada (Online), July 5-10, 2020.
- Yiming Chen, Atef Z. Elsherbeni, Khalid Alharbi, and Rabah Aldhaheer, “Cavity Backed Patch-Slot Antenna for Lower Band 5G Communications,” URSI GASS 2020, Rome, Italy, 29 August - 5 September 2020.
- Madison Le, Mohammed Hadi, Atef Elsherbeni, “Quantifying Sub-gridding Errors in Standard and Hybrid Higher Order 2D FDTD Simulations,” International Applied Computational Electromagnetics Society (ACES) Symposium, July 27-31, 2020.
- Yuhao Feng, Yiming Chen, Atef Z. Elsherbeni, Khalid Alharbi, “Arrow Patch-Slot Antenna for 5G Lower Frequency Band Communications,” International Applied Computational Electromagnetics Society (ACES) Symposium, July 27-31, 2020.
- Rachel Lumnitzer, Allison Tanner, Atef Z. Elsherbeni, “Debye Coefficients for Biological Tissues From 100 MHz to 100 GHz,” International Applied Computational Electromagnetics Society (ACES) Symposium, July 27-31, 2020.
- Alec Weiss, Atef Elsherbeni, “Computational Performance of MATLAB and Python for Electromagnetic Applications,” International Applied Computational Electromagnetics Society (ACES) Symposium, July 27-31, 2020.

2019

- Madison Le, M. F. Hadi, and A. Z. Elsherbeni, “Quantifying Subgridding Errors when Modeling Multiscale Structures with FDTD,” International Applied Computational Electromagnetics Society (ACES) Symposium, Miami, Florida, April 2019.
- Joseph Diener and A. Z. Elsherbeni, “Miniaturized Omnidirectional UHF RFID Antennas,” International Applied Computational Electromagnetics Society (ACES) Symposium, Miami, Florida, April 2019.



- Alec Weiss, Veysel Demir, A. Z. Elsherbeni, and M. Hadi, “Accelerating the FDTD Algorithm on CPUs with MATLAB’s Parallel Computing Toolbox,” International Applied Computational Electromagnetics Society (ACES) Symposium, Miami, Florida, April 2019.
- Andres Velasco, Mohammed F. Hadi, Atef Z. Elsherbeni, Joseph E. Diener, “Debye Coefficients for Low Frequency FDTD Dispersive Soils Analysis,” International Applied Computational Electromagnetics Society (ACES) Symposium, Nanjing, China, August 2019.

2018

- Allee D. Zarrini, A. Elsherbeni, and Jurgen F. Brune, “Directional of Arrival Tag Response for Reverse RFID Localization,” International Applied Computational Electromagnetics Society (ACES) Symposium, Denver, Colorado, March 2018.
- Joseph E. Diener, Jeanne Quimby, Kate A. Remley, and A. Elsherbeni, “Millimeter-wave Frequency FDTD Simulation for Error Vector Magnitude of Modulated Signals,” International Applied Computational Electromagnetics Society (ACES) Symposium, Denver, Colorado, March 2018.
- Kyle Patel, Robert Jones, and A. Elsherbeni, “A Cost-Effective Far-Field Antenna Pattern Measurement System,” International Applied Computational Electromagnetics Society (ACES) Symposium, Denver, Colorado, March 2018.

2017

- Joseph E. Diener, Robert D. Jones, and Atef Z. Elsherbeni, “Isoflux Phased Array Design for CubeSat,” IEEE International Symposium on Antennas and Propagation & USNC/URSI National Radio Science Meeting, pp. 1811-1812, San Diego, CA, July 9-14, 2017.