

Papers in Conference Proceedings (refereed)

- C1. A. Ali, A. Albasir and O. M. Ramahi, "Microwave Sensor for Imaging Corrosion Under Coatings Utilizing Pattern Recognition," in Proc., 2016 IEEE International Symposium on Antennas and Propagation and USNC-URSI National Radio Science Meeting, Puerto Rico, USA, June 26-July 1, 2016.
- C2. A. Ali, A. Mooman and O. M. Ramahi, "Optimizing Sweeping Frequencies of Microwave Sensors Using Intelligent Feature Selection," in Proc., 2016 IEEE International Symposium on Antennas and Propagation and USNC-URSI National Radio Science Meeting, Puerto Rico, USA, June 26-July 1, 2016.
- C3. A. Albishi and O. M. Ramahi, "Ultrasensitive Microwave Near-field based Sensors for Crack Detection in Metallic Materials," in Proc., in the 2016 IEEE International Symposium on Antennas and Propagation and USNC-URSI National Radio Science Meeting, Puerto Rico, USA, June 26-July 1, 2016.
- C4. A. Z. Ashoor and O. M. Ramahi, "Electromagnetic Energy Harvesting using Dielectric Resonator Antenna," in Proc., 2016 IEEE International Symposium on Antennas and Propagation and USNC-URSI National Radio Science Meeting, Puerto Rico, USA, June 26-July 1, 2016.
- C5. M. Badawe, T. S. Almoneef and O. M. Ramahi, "A True Metasurface Antenna," in Proc., 2016 IEEE International Symposium on Antennas and Propagation and USNC-URSI National Radio Science Meeting, Puerto Rico, USA, June 26-July 1, 2016.
- C6. M. El Badawe and O. M. Ramahi, "Metasurface for Near-Unity Electromagnetic Energy Harvesting and Wireless Power Transfer," in Proc., 2016 IEEE International Symposium on Antennas and Propagation and USNC-URSI National Radio Science Meeting, Puerto Rico, USA, June 26-July 1, 2016.
- C7. M. Ruphuy and O. M. Ramahi, "Huygens Principle for Prediction of Refraction from Electrically-thin Inhomogeneous Media," in Proc., 2016 IEEE International Symposium on Antennas and Propagation and USNC-URSI National Radio Science Meeting, Puerto Rico, USA, June 26-July 1, 2016.
- C8. T. S. Almoneef and O. M. Ramahi, "3-D Stacked Antenna Panels: The Promise of High Efficient Energy Harvesters," in Proc., 2016 IEEE International Symposium on Antennas and Propagation and USNC-URSI National Radio Science Meeting, Puerto Rico, USA, June 26-July 1, 2016.
- C9. A. Z. Ashoor and O. M. Ramahi, "Electrically-Small Dielectric Resonator Elements for Electromagnetic Energy Harvesting," in Proc., META'16, the 7th International Conference on Metamaterials, Photonic Crystals and Plasmonics, Torremolinos (Malaga), Spain, July 25– 28, 2016.
- C10. O. M. Ramahi, "Metamaterial Elements as Huygens Radiators," in Proc., META'16, the 7th International Conference on Metamaterials, Photonic Crystals and Plasmonics, Torremolinos (Malaga), Spain, July 25–28, 2016. (**Keynote Talk**)
- C11. A. Albishi, M El Badawe and O. M. Ramahi, "Microwave Planar Near-Field Sensor based on Metamaterial unit cells for Sensitivity Enhancement," in Proc., META'16, the 7th International Conference on Metamaterials, Photonic Crystals and Plasmonics, Torremolinos (Malaga), Spain, July 25– 28, 2016.
- C12. M. K. El Badawe, A. M. Albishi, and O. M. Ramahi, "Wideband Metasurface Energy Harvester," in Proc., META'16, the 7th International Conference on Metamaterials, Photonic Crystals and Plasmonics, Torremolinos (Malaga), Spain, July 25– 28, 2016.
- C13. T. S. Almoneef and O. M. Ramahi, "Perfect Absorbers for Microwave Energy Harvesting," in Proc., META'16, the 7th International Conference on Metamaterials, Photonic Crystals and Plasmonics, Torremolinos (Malaga), Spain, July 25– 28, 2016.
- C14. A. Albishi and O. M. Ramahi, "Surface Crack Detection in Metallic Materials Using Sensitive Microwave-Based Sensors," in Proc., The 17th annual IEEE Wireless and Microwave

- Technology Conference (WAMICON 2016), Clearwater Beach, FL, USA, April 11-13, 2016.
- C15. M. K. El Badawe and O. M. Ramahi, "Polarization Independent Metasurface Energy Harvester," in Proc., The 17th annual IEEE Wireless and Microwave Technology Conference (WAMICON 2016), Clearwater Beach, FL, USA, April 11-13, 2016.
- C16. A. M. Ali and O. M. Ramahi, "Detecting and Locating Defects in Coated Metallic Structures Using Arrays of Small Microwave Resonators," International Workshop on Structural Health Motioning IWSHM2015, CA, USA, Sept. 1-3, 2015. M. Ali and O. M. Ramahi, "Microwave imaging of subsurface defects in coated metallic structures using small ring resonators," NDT in Canada 2015 Conference, Edmonton July, 16-17, 2015.
- C17. M. R. AlShareef and O. M. Ramahi, "Electrically Small Particles for Harvesting and Channeling Infrared Energy," in Proc., 16th International Symposium on Antenna Technology and Applied Electromagnetics (ANTEM), Victoria, BC, Canada, July 13-17, 2014. **(Winner of the Best Paper Award, Third Place.)**
- C18. A. Ali, M. S. Boybay and O. M. Ramahi, "Measurement of Paint and Coating Thickness on Metallic Plates Using Smart Near Field Microwave Sensor," in Proc., the 2014 IEEE International Symposium on Antennas and Propagation and USNC-URSI National Radio Science Meeting, Memphis, TN, USA, July 6-11, 2014.
- C19. T. Almoneef and O. M. Ramahi, "Can Split-Ring Resonators be Viable for Electromagnetic Energy Harvesting," in Proc., the 2014 IEEE International Symposium on Antennas and Propagation and USNC-URSI National Radio Science Meeting, Memphis, TN, USA, July 6-11, 2014.
- C20. M. R. Alshareef, Bo Cui and O. M. Ramahi, "Fabrication of Infrared Energy Harvester Using Electrically Small Particles," in Proc., TechConnect World 2014 Conference, Expo and National Innovation Summit, Washington, DC, USA, June 15-18, 2014.
- C21. T. Almoneef and O. M. Ramahi, "Novel Electromagnetic Energy Harvester," in proceedings, the 2013 Mediterranean Microwave Symposium, September 2-5, 2013, Saida, Lebanon.
- C22. M. Ruphuy and O. M. Ramahi, "Flat Lenses for Microwaves Applications," in proceedings, the 2013 Mediterranean Microwave Symposium, September 2-5, 2013, Saida, Lebanon.
- C23. F. Aydinoglu, M. Alhazmi, S. Alqarni, B. Cui, O. M. Ramahi and M. Yavuz, "Design and Fabrication of PT-AL2O3-AL Metal-Insulator-Metal Diode," in proceedings, the 24th Canadian Congress of Applied Mechanics (CANCAM 2013), Saskatoon, Saskatchewan, Canada, June 2-6, 2013.
- C24. O. Siddiqui, A. Nauroze, R. Ramzan, and O. M. Ramahi, "Tunneling of Electromagnetic Energy through Wires in Guided Media," in Proc., the 2013 IEEE International Symposium on Antennas and Propagation and USNC-URSI National Radio Science Meeting in Orlando, Florida, USA, July 7-12, 2013.
- C25. Z. Ren, A. Kabiri and O. M. Ramahi, "A Probe for Detecting Magnetostatic Surface Resonant Spheres," in Proc., the 2013 IEEE International Symposium on Antennas and Propagation and USNC-URSI National Radio Science Meeting in Orlando, Florida, USA, July 7-12, 2013.
- C26. V. Nayyeri and O. M. Ramahi, "Effective Modeling of Graphene as a Conducting Sheet in the Finite-Difference Time-Domain Method," in Proc., the 2013 IEEE International Symposium on Antennas and Propagation and USNC-URSI National Radio Science Meeting in Orlando, Florida, USA, July 7-12, 2013.
- C27. B. Alaviki and O. M. Ramahi, "Analysis of the signs of imaginary parts of the effective constitutive parameters in metamaterials," in Proc., the 2013 IEEE International Symposium on Antennas and Propagation and USNC-URSI National Radio Science Meeting in Orlando, Florida, USA, July 7-12, 2013.
- C28. O. M. Ramahi, M. Ruphuy and Z. Ren, "Flat Lenses and Reflectors," in Proc., the 2013 IEEE International Symposium on Antennas and Propagation and USNC-URSI National Radio Science Meeting in Orlando, Florida, USA, July 7-12, 2013.
- C29. T. Almoneef and O. M. Ramahi, "Harvesting Electromagnetic Energy using Metamaterial Particles," in Proc., the 2013 IEEE International Symposium on Antennas and Propagation and USNC-URSI National Radio Science Meeting in Orlando, Florida, USA, July 7-12, 2013.
- C30. A. Nauroze, O. Siddiqui, R. Ramzan, and O. M. Ramahi, "Dielectric Sensing based on Energy Tunneling in Wire-loaded Microstrip Cavities," in Proc., META'13, the 4th International

- Conference on Metamaterials, Photonic Crystals and Plasmonics, Sharjah, United Arab Emirates, March 18-22, 2013.
- C31. Z. Ren, A. Kabiri and O. M. Ramahi, "Magnetostatic Surface Resonance in Anisotropic Spherical and Ellipsoidal Shapes," accepted for presentation in META'13, the 4th International Conference on Metamaterials, Photonic Crystals and Plasmonics, Sharjah, United Arab Emirates, March 18-22, 2013.
- C32. M. Alshareef and O. M. Ramahi, "SRR Array for Energy Harvesting in the Infrared Regime," accepted for presentation in META'13, the 4th International Conference on Metamaterials, Photonic Crystals and Plasmonics, Sharjah, United Arab Emirates, March 18-22, 2013.
- C33. V. Nayyeri, M. Soleimani and O. M. Ramahi, "Effective Modeling of Graphene as a Conducting Sheet in the Finite-Difference Time-Domain Method," accepted for presentation in META'13, the 4th International Conference on Metamaterials, Photonic Crystals and Plasmonics, Sharjah, United Arab Emirates, March 18-22, 2013.
- C34. M. Alshareef and O. M. Ramahi, Energy Harvesting in the Microwaves Spectrum using Electrically Small Resonators, submitted to the 2013 International Microwave Symposium Meeting, Seattle, WA, June 2013.
- C35. A. Ashoor, Z. Ren and O. M. Ramahi, "Localization of Buried Object Using Back Propagation Neural Network, in Proc., the 2012 IEEE Antennas and Propagation Symposium, Chicago, IL, July 8-14, 2012.
- C36. A. Albishi, M. S. Boybay and O. M. Ramahi, "Complementary Split-Ring Resonator as a High Sensitivity Sensor," in Proc., the 2012 IEEE Antennas and Propagation Symposium, Chicago, IL, July 8-14, 2012.
- C37. Z. Ren and O. M. Ramahi, "Scattering from Spherical Particles with Negative Permeability," in Proc., the 2012 IEEE Antennas and Propagation Symposium, Chicago, IL, July 8-14, 2012.
- C38. O. Siddiqui, H. Attia, N. Suwan, and O. M. Ramahi, "Fast Solution for the Radiation of Microstrip Antenna Arrays Covered with Metamaterial Superstrates," in Proc., the 2012 IEEE Antennas and Propagation Symposium, Chicago, IL, July 8-14, 2012.
- C39. H. Attia, O. Siddiqui, and O. M. Ramahi, "Theoretical and Experimental Demonstration of Beam Steering of Patch Antenna with Superstrate," in Proc., the 2012 IEEE Antennas and Propagation Symposium, Chicago, IL, July 8-14, 2012.
- C40. O. Siddiqui and O. M. Ramahi, "A Biosensor Based on Waveguide Energy Tunneling," in Proc., the 2012 Advanced Materials for Sensors, Electronic Devices and Renewable Energy, Najran, Kingdom of Saudi Arabia, May 14-16, 2012.
- C41. O. Siddique, Samir Shariff and O. M. Ramahi, "Negative Refractive Index Metamaterials and their Applications in Microwave Engineering," in Proc., the 2012 Advanced Materials for Sensors, Electronic Devices and Renewable Energy, Najran, Kingdom of Saudi Arabia, May 14-16, 2012.
- C42. O. M. Ramahi, S. Suty, T. Almoneef, and M. Alshareef, "Can Infra-Red Energy Provide a Viable Source of Energy?," in Proc., the 2012 Advanced Materials for Sensors, Electronic Devices and Renewable Energy, Najran, Kingdom of Saudi Arabia, May 14-16, 2012.
- C43. O. M. Ramahi, A. Albishi and M. S. Boybay, "Metamaterial Cells as Sensors for Characterizing Material and Detecting Surface Cracks in Metallic Surface," in Proc., the 2012 Advanced Materials for Sensors, Electronic Devices and Renewable Energy, Najran, Kingdom of Saudi Arabia, May 14-16, 2012.
- C44. B. Mohajer-Iravani and O. M. Ramahi, "Emissions from the Planar Electromagnetic Bandgap Structures Implemented in High Speed Packages," in Proc., IEEE Applied Electromagnetics Conference and IEEE Indian Antenna Week, Kolkata, India, December 18-22, 2011.
- C45. M. Bait-Suwailam, L. Yousefi and O. M. Ramahi, "Analytical Models for Artificial Complementary Resonators," in Proc., the European Microwave Week, Manchester, UK, October 9-14, 2011.
- C46. M. Bait-Suwailam and O. M. Ramahi, "Artificial Complementary Resonators for Mutual Coupling Reduction in Microstrip Antennas," in Proc., the European Microwave Week, Manchester, UK, October 9-14, 2011.

- C47. M. Bait-Suwailam, and O. M. Ramahi, "Mitigation of Electromagnetic Field Leakage from Apertures and Enclosures using Electromagnetic," in Proc., the 2011 IEEE Electromagnetic Compatibility Symposium, Long Beach, CA, August 14-19, 2011.
- C48. O. Siddiqui, H. Attia and O. M. Ramahi, "Main Beam Deflection and Gain Enhancement in Superstrate-Based Antenna Systems," in Proc., the 2011 IEEE Antennas and Propagation Symposium, Spokane, WA, July 3-8, 2011.
- C49. H. Attia, O. Siddiqui and O. M. Ramahi, "Analysis of Gain Enhancement in Antenna Arrays Covered with Metamaterial Superstrates using Transmission Line Modeling," in Proc., the 2011 IEEE Antennas and Propagation Symposium, Spokane, WA, July 3-8, 2011. (Student Paper Finalist).
- C50. H. Attia, L. Yousefi and O. M. Ramahi, "High Gain Microstrip Antennas Loaded with High Characteristic Impedance Superstrates," in Proc., the 2011 IEEE Antennas and Propagation Symposium, Spokane, WA, July 3-8, 2011.
- C51. B. Mohajer-Iravani and O. M. Ramahi, "Reactive Power Radiated from the Planar Electromagnetic Bandgap Structures, A Source of EMI in High Speed Packages," in Proc., the 2011 IEEE Antennas and Propagation Symposium, Spokane, WA, July 3-8, 2011.
- C52. A. Kabiri, L. Talbi, K. Hettak and O. M. Ramahi, "A Super-Miniaturized Low Profile Antenna On a substrate of Rose Curve Resonators," in Proc., the Progress in Electromagnetic Research Symposium, Marrakesh, Morocco, March 20-23, 2011.
- C53. O. M. Ramahi, M. S. Boybay, O. Siddiqui, L. Yousefi, A. Kabiri, H. Attia, M. Bait-Suwailam and Z. Ren, "Metamaterials: An Enabling Technology for Wireless Communications," in Proc., the Progress in Electromagnetic Research Symposium, Marrakesh, Morocco, March 20-23, 2011. (**Invited Paper**)
- C54. M. Pillar and O. M. Ramahi, "Detecting Detecting Material Change in Rectangular Cavities using Neural Networks and Signal Processing Techniques," in Proc. of the Progress in Electromagnetic Research Symposium, Marrakesh, Morocco, March 20-23, 2011.
- C55. M. Kashanianfard, M. Pillar and O. M. Ramahi, "A Neural Network Method for Determining Material Change in Rectangular Cavities," ISAPE, Guangzhou, China, Nov. 29-Dec.1, 2010.
- C56. H. Attia and O. M. Ramahi, "Transmission Line Model to Characterize Microstrip Antennas Capped with Dielectric Superstrates," in Proc., ISAPE, Guangzhou, China, Nov. 29-Dec.1, 2010.
- C57. O. Siddiqui, H. Attia and O. M. Ramahi, "Antenna Beam Control using High Refractive Index Superstrates," ISAPE, Guangzhou, China, Nov. 29-Dec.1, 2010.
- C58. O. M. Ramahi, Z. Ren and M. S. Boybay, "Near-Field Probes using Metamaterial Inclusions for Enhanced Sensitivity," in Proc., the 2010 IEEE Sensors Conference, Hawaii, USA, November 1-4, 2010, pp. 1681-1684. (**Invited Paper**)
- C59. H. Attia, L. Yousefi, and O. M. Ramahi, "Theoretical and Experimental Investigation of Patch Antennas Loaded with Engineered Magnetic Superstrates," *Proceeding of The 3rd European Wireless Technology Conference 2010 (EuWiT)*, Paris, France, Sept. 26-Oct. 01, 2010, pp. 97-100.
- C60. B. Mohajer-Iravani and O. M. Ramahi, "Radiating Emissions from Planar Electromagnetic Bandgap (EBG) Structures," in Proc. of IEEE EMC Symposium, Fort Lauderdale, FL, USA, July 25-30, 2010.
- C61. O. M. Ramahi, "Metamaterial Particles for Direct Sensing and Detection without Inverse Algorithms," in Proc. of the 44th Annual Symposium of the International Microwave Power Institute, Denver, Colorado, USA, July 14-16, 2010. (**Invited Paper**)
- C62. O. M. Ramahi, M. S. Boybay and Z. Ren, "Near-Field Probes using Metamaterial Particles," in Proc., 44th Annual Symposium of the International Microwave Power Institute, Denver, Colorado, USA, July 14-16, 2010. (**Invited Paper**)
- C63. H. Attia, M. Bait-Suwailam and O. M. Ramahi, "Enhanced Gain Planar Inverted-F Antenna with Metamaterial Superstrate for UMTS Applications," in Proc., The 28th Progress in Electromagnetic Research Symposium, Cambridge, MA, USA, 5-8 July, 2010.
- C64. H. Attia and O. M. Ramahi, "Analytical Model to Compute the Far-field Radiation of Patch Antennas Arrays Loaded with Metamaterial-superstrates," in Proc., The 28th Progress in Electromagnetic Research Symposium, Cambridge, MA, USA, 5-8 July, 2010.

- C65. H. Attia, O. Siddiqui and O. M. Ramahi, "Artificial Magneto-Superstrates for Gain and Efficiency Improvement of Microstrip Antenna Arrays," in Proc., The 28th Progress in Electromagnetic Research Symposium, Cambridge, MA, USA, 5-8 July, 2010.
- C66. H. Attia, L. Yousefi and O. M. Ramahi, "High-Gain Low-profile Antenna Using Artificial Magnetic Superstrates," in Proc., 2010 IEEE International Symposium on Antennas and Propagation and CNC/USNC/URSI Radio Science Meeting, Toronto, Ontario, Canada, July 11-17, 2010.
- C67. B. Alavikia and O. M. Ramahi, "A Hybrid Finite Element Method - Surface Integral Equation Using Quasi-Periodic Green's Function in Solving the Problem of Scattering from Infinite Periodic Conducting Grating," in Proc., 2010 IEEE International Symposium on Antennas and Propagation and CNC/USNC/URSI Radio Science Meeting, Toronto, Ontario, Canada, July 11-17, 2010.
- C68. B. Alavikia and O. M. Ramahi, "Limitation of Using Absorbing Boundary Condition to Solve the Problem of Scattering from a Cavity in Metallic Screens," in Proc., 2010 IEEE International Symposium on Antennas and Propagation and CNC/USNC/URSI Radio Science Meeting, Toronto, Ontario, Canada, July 11-17, 2010.
- C69. Mohammed M. Bait-Suwailam and O. M. Ramahi, "Complementary Split-Ring Resonators for Simultaneous Switching Noise Mitigation in High-Speed Circuits," in Proc., 2010 IEEE International Symposium on Antennas and Propagation and CNC/USNC/URSI Radio Science Meeting, Toronto, Ontario, Canada, July 11-17, 2010.
- C70. M. S. Boybay, S. Kim and O. M. Ramahi, "Negative Material Characterization Using Microstrip Line Structures," in Proc., 2010 IEEE International Symposium on Antennas and Propagation and CNC/USNC/URSI Radio Science Meeting, Toronto, Ontario, Canada, July 11-17, 2010.
- C71. A. Kabiri and O. M. Ramahi, "A Simple Approach for Synthesizing of Multipurpose Metamaterials," in Proc., 2010 IEEE International Symposium on Antennas and Propagation and CNC/USNC/URSI Radio Science Meeting, Toronto, Ontario, Canada, July 11-17, 2010.
- C72. A. Kabiri and O. M. Ramahi, "Metamaterials Composed of Rose Curve Inclusions," in Proc., 2010 IEEE International Symposium on Antennas and Propagation and CNC/USNC/URSI Radio Science Meeting, Toronto, Ontario, Canada, July 11-17, 2010.
- C73. Z. Ren, M. S. Boybay and O. M. Ramahi, "Metamaterial Inspired Probe for Noninvasive Near-field Subsurface Sensing," in Proc., 2010 IEEE International Symposium on Antennas and Propagation and CNC/USNC/URSI Radio Science Meeting, Toronto, Ontario, Canada, July 11-17, 2010.
- C74. O. Siddiqui and O. M. Ramahi, "Applications of Wire-Loaded Waveguide Bends and Channels," in Proc., 2010 IEEE International Symposium on Antennas and Propagation and CNC/USNC/URSI Radio Science Meeting, Toronto, Ontario, Canada, July 11-17, 2010.
- C75. L. Yousefi, M. S. Boybay, and O. M. Ramahi, "Experimental Retrieval of the Effective Parameters of Metamaterials using a Strip Line Method," in Proc., 2010 IEEE International Symposium on Antennas and Propagation and CNC/USNC/URSI Radio Science Meeting, Toronto, Ontario, Canada, July 11-17, 2010.
- C76. A. Kabiri and O. M. Ramahi, "nth Order Rose Curve as a Generic Candidate for RF Artificial Magnetic Materials," in Proc., META'10 2nd International Conference on Metamaterials, Photonic Crystals and Plasmonics, Cairo, Egypt, Feb. 22-25, 2010, pp. 459-462. (**Invited Paper**)
- C77. A. Kabiri and O. M. Ramahi, "Effect of Curvature of Metamaterial Inclusions on their Magnetic Properties," in Proc., META'10 2nd International Conference on Metamaterials, Photonic Crystals and Plasmonics, Cairo, Egypt, Feb. 22-25, 2010.
- C78. Z Ren, M. S. Boybay and O. M. Ramahi, "Near-field Subsurface Detection using Metamaterial Inspired Probes," in Proc., META'10 2nd International Conference on Metamaterials, Photonic Crystals and Plasmonics, Feb. 22-25, 2010, Cairo, Egypt, pp. 367-370.
- C79. H. Attia, L. Yousefi, O. Siddiqui and O. M. Ramahi, "Analytical Formulation of the Radiation Field of Printed Antennas in the Presence of Artificial Magnetic Superstrates," in Proc., META'10 2nd International Conference on Metamaterials, Photonic Crystals and Plasmonics, Cairo, Egypt, Feb. 22-25, 2010, pp. 587-591.
- C80. O. M. Ramahi, M. S. Boybay, O. Siddiqui, L. Yousefi, A. Kabiri, H. Attia, M. Bait-Suwailam and Z. Rhen "Metamaterials: An Enabling Technology for Wireless Communications," in Proc.,

International Conference on Communications Technologies ICCT2010, Riyadh, Saudi Arabia, January 18-20, 2010. (**Keynote Talk**)

- C81. M. Kashanianfard and O. M. Ramahi, "A Neural Network Method for Determining Material Change Inside Rectangular Cavities," in Proc., International Conference on Information and Communication Systems, Amman, Jordan, December 20-22, 2009.
- C82. Z. Ren, M. S. Boybay and O. M. Ramahi, "Near-Field Subsurface Detection in Lossy Media using Split Ring Resonator Probe," in Proc., IEEE MTT-S International Microwave Workshop on Wireless Sensing, Local Positioning, and RFID, Cavtat, Croatia, Sept. 24-25, 2009, pp. 33-35.
- C83. A. Kabiri and O. M. Ramahi, "Limitations of Artificial Magnetic Materials with Negative Permeability," in Proc., 2009 IEEE Antennas and Propagation Symposium, Charleston, SC, USA, June 1-5, 2009.
- C84. B. Alavikia and O. M. Ramahi, "Efficient Finite-Element Simulation of Extra-ordinary Transmission of Light through Sub-Wavelength Aperture in a Corrugated Perfectly Conducting Plane at Microwave Frequencies," in Proc., 2009 IEEE Antennas and Propagation Symposium, Charleston, SC, USA, June 1-5, 2009.
- C85. A. Kabiri and O. M. Ramahi, "A Design Recipe for Artificial Magnetic Materials," accepted for presentation at the 2009 IEEE Antennas and Propagation Symposium, Charleston, SC.
- C86. M. Kashanianfard and O. M. Ramahi, "A Method to Realize Epsilon-Near-Zero-Like Materials for Waveguide Discontinuities," in Proc., 2009 IEEE Antennas and Propagation Symposium, Charleston, SC, USA, June 1-5, 2009.
- C87. M. S. Boybay and O. M. Ramahi, "Improved Sensitivity in Coaxial Line Probes using Materials with Negative Permittivity," in Proc., 2009 IEEE Antennas and Propagation Symposium, Charleston, SC, USA, June 1-5, 2009.
- C88. M. M. Bait Suwailam, M. S. Boybay, and O. M. Ramahi, "Single-Negative (SNG) Metamaterials for Mutual Coupling Reduction in High-Profile Antennas," in Proc., 2009 IEEE Antennas and Propagation Symposium, Charleston, SC, USA, June 1-5, 2009.
- C89. M. S. Boybay and O. M. Ramahi, "Experimental Verification of Sensitivity Improvement in Near Field Probes using Single Negative Metamaterials," in Proc., 2009 International Microwave Symposium, Boston, MA, USA, June 7-12, 2009. pp. 1677–1680.
- C90. M. Kashanianfard and O. M. Ramahi, "A Method to Realize Epsilon-Near-Zero-Like Materials for Waveguide Discontinuities," in Proc., 2009 International Microwave Symposium, Boston, MA, USA, June 7-12, 2009.
- C91. M. M. Bait Suwailam, M. S. Boybay, and O. M. Ramahi, "Mutual Coupling Reduction in MIMO antennas Using Artificial Magnetic Materials," in Proc., 13th International Symposium on Antenna Technology and Applied Electromagnetics (ANTEM/URSI), Banff, AB, Canada, Feb. 15-18, 2009.
- C92. A. Akhlagh Moayed, S. Dang, O. M. Ramahi and K. K. Bizheva, "Modeling the Optical Response of Human Retinal Photoreceptors to Plane Wave Illumination with the Finite Integration Technique," Proc. SPIE, Vol. 7168, San Jose, CA, Feb 2009.
- C93. M. M. Bait Suwailam, M. S. Boybay, and O. M. Ramahi, "Electromagnetic Coupling Reduction in High-Profile Antennas Using Single-Negative Metamaterials for MIMO applications," International Conference on Communication, Computer, and Power (ICCCP'09), Muscat, Oman, Feb. 15-18, 2009.
- C94. M. D. Farzan and O. M. Ramahi, "Effects of Discrete Bypass Capacitors in Power/Ground Planes with EBG Structures," IEEE International Symposium on EMC, Detroit, MI, USA, August 18-22, 2008, pp. 1-6.
- C95. B. Alavikia and O. M. Ramahi, "Efficient Finite-Element Solution for the Problem of Scattering from Multiple Cavities," in proceeding, IEEE Antennas and Propagation Society International Symposium and USNC/URSI National Radio Science Meeting, San Diego, CA, July 5-11, 2008.
- C96. A. Kabiri, L. Yousefi and O. M. Ramahi, "Magnetic Loss Tangent Optimization in Design of Artificial Magnetic Slabs," in proceeding, in proceeding, IEEE Antennas and Propagation Society International Symposium and USNC/URSI National Radio Science Meeting, San Diego, CA, July 5-11, 2008.
- C97. F. Seydou, T. Seppanen and O. M. Ramahi, "Computation of the Induced Electromagnetic Field for a Head Model in a Multiple Scattering Environment," in proceeding, IEEE Antennas and

- Propagation Society International Symposium and USNC/URSI National Radio Science Meeting, San Diego, CA, July 5-11, 2008.
- C98. H. Attia and O. M. Ramahi and, "EBG Superstrate for Gain and Bandwidth Enhancement of Microstrip Antennas," in proceeding, IEEE Antennas and Propagation Society International Symposium and USNC/URSI National Radio Science Meeting, San Diego, CA, July 5-11, 2008.
- C99. L. Yousefi and O. M. Ramahi, "Experimental Retrieval of the Effective Parameters of Artificial Magnetic Materials Based on a Microstrip Line Method," in proceeding, IEEE Antennas and Propagation Society International Symposium and USNC/URSI National Radio Science Meeting, San Diego, CA, July 5-11, 2008.
- C100. M. S. Boybay and O. M. Ramahi, "Waveguide Resonators for Verification of Enhancing Evanescent Field Detection using Metamaterials," in proceeding, IEEE Antennas and Propagation Society International Symposium and USNC/URSI National Radio Science Meeting, San Diego, CA, July 5-11, 2008.
- C101. B. Alavikia and O. M. Ramahi, "Efficient Finite-Element Solution for the Problem of Scattering from Multiple Cavities and Holes," ICCE Second International Conference on Communications and Electronics, 4-6 June, 2008, Hoian, Vietnam, pp380–382.
- C102. A. Safavi-Naieni and O. M. Ramahi, "Miniaturization of the Axial Model Helical Antenna," ICCE Second International Conference on Communications and Electronics, 4-6 June, 2008, Hoian, Vietnam, pp. 374–379.
- C103. A. Kabiri, L. Yousefi and O. M. Ramahi, "On the Fundamental Limitations of Artificial Magnetic Material," in proceedings, NATO Advanced Research Workshop on Metamaterial for Secure Information and Communication Technologies, Marrakish, Morocco, 7-10 May, 2008. pp. 234-242. (Invited)
- C104. M. S. Boybay and O. M. Ramahi, "Near-Field Probes using Double and Single Negative Media," in proceedings, NATO Advanced Research Workshop on Metamaterial for Secure Information and Communication Technologies, Marrakish, Morocco, 7-10 May, 2008. pp. 725-731.
- C105. M. S. Boybay and O. M. Ramahi, "Double Negative Metamaterial for Subsurface Detection," in proceeding, the 29th Annual International Conference of IEEE Engineering in Medicine and Biology Society, Lyon, France, August 23-26, 2007. pp. 3485-3488.
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Conference Abstracts

- A1. O. M. Ramahi, T. Almoneef, B. Alavikia and A. Ashoor, "Metasurfaces for Far-Field Wireless Power Transfer," META15, the Sixth International Conference on Metamaterials, Photonic Crystals and Plasmonics, New York, NY, USA, August 4-7, 2015. (Invited).
- A2. O. M. Ramahi, B. Alavikia and A. Kabiri, "Poynting theorem and its implication on the signs of the imaginary parts of the electromagnetic constitutive parameters in passive metamaterial," META'15,

- the Sixth International Conference on Metamaterials, Photonic Crystals and Plasmonics, New York, NY, USA, August 4-7, 2015. (Invited).
- A3. O. M. Ramahi, T. Almoneef, B. Alavikia, and A. Ashoor, "Metasurfaces for Far-Field Wireless Power Transfer," ISSTC 2015, Kushadasi, Turkey, May 11-13, 2015. (Invited).
 - A4. O. M. Ramahi, "Electromagnetic Energy Harvesting in the Microwaves and Infrared Frequency Regimes," MICEEI 2014, Makassar, Indonesia, November 26-30, 2014. (**Keynote Talk**).
 - A5. O. M. Ramahi, T. Almoneef and M. AlShareef, "Harvesting Energy using Metamaterials," META'14, the Fifth International Conference on Metamaterials, May 20-23, 2014, Singapore. (Invited).
 - A6. O. M. Ramahi, A. Albishi and M. S. Boybay, "Split Ring Resonators as Selective Heaters," in Proc., 2012 IEEE Antennas and Propagation Society/URSI International Symposium, Chicago, IL, July 8-14, 2012.
 - A7. M. Bait Suwailam and O. M. Ramahi, "Electromagnetic Coupling Reduction between High-Profile Antennas using Electromagnetic Bandgap (EBG) Structures," in proceeding, IEEE Antennas and Propagation Society International Symposium and USNC/URSI National Radio Science Meeting, San Diego, CA, July 5-12, 2008.
 - A8. B. Yang, X. Shao, N. Goldsman, O. M. Ramahi, and P. N. Guzdar, "Full Wave Modeling of Substrate Doping Effects and Non ideal Conductors in Integrated Circuit Interconnects," International Semiconductor Device Research Symposium, Bethesda, MD, Dec. 7-9, 2005, pp. 368-369.
 - A9. O. M. Ramahi, "Electromagnetic Band Gap Technology for Noise Mitigation," in Proc., First International Workshop on SOP, SIP, SOC Electronics Technologies, Atlanta, GA, Sept. 22-23, 2005. (Invited paper)
 - A10. B. Mohajer-Iravani and O. M. Ramahi, "New EMI Shielding Approaches using Electromagnetic Bandgap Structures," in Proc., IEEE Antennas and Propagation Society/URSI International Symposium, Monterey, CA, June 22-27, 2004.
 - A11. X. Wu and O. M. Ramahi, "Concurrent complementary operators' method for finite element simulation," in Proc., The 7th International Workshop on Finite Elements for Microwave Engineering, Madrid, Spain, May 20-21, 2004.
 - A12. O. M. Ramahi, S. Shahparnia, B. Mohajer-Iravani, and Telesphor Kamgaing, "Noise Mitigation in High-Speed Systems using Electromagnetic High-Impedance Surfaces," in Proc., 2003 International Semiconductor Device Research Symposium, Washington, DC, December 10-12, 2003, pp. 296-297.
 - A13. X. Wu and O. M. Ramahi, "Mitigation of PCB radiation through novel mesh fencing techniques," in Proc., IEEE Antennas and Propagation Society/URSI International Symposium, Columbus, OH, June 22-27, 2003.
 - A14. X. Wu and O. M. Ramahi, "Frequency-domain concurrent complementary operators' method (C-COM) for finite element simulations," in Proc., IEEE Antennas and Propagation Society/URSI International Symposium, Columbus, OH, June 22-27, 2003.
 - A15. X. Shao, O. M. Ramahi, L. Li, B. Mohajeriravani, and Neil Goldsman "Study of electromagnetic field radiation from apertures using the alternating-direction implicit finite-difference time-domain (ADI-FDTD) method", in Proc., IEEE Antennas and Propagation Society/URSI International Symposium, Columbus, OH, June 22-27, 2003.
 - A16. X. Shao, N. Goldsman, and O. M. Ramahi, "The alternating-direction implicit finite-difference time -domain (ADI-FDTD) method and its application to simulation of scattering from highly conductive material," in Proc., IEEE Antennas and Propagation Society/URSI International Symposium, Columbus, OH, June 22-27, 2003.
 - A17. O. M. Ramahi, and S. Trabelsi, "Dielectric measurements and sensors: The excitement and challenges ahead," in Proc., IEEE Antennas and Propagation Society/URSI International Symposium, Columbus, OH, June 22-27, 2003.
 - A18. X. Wu and O. M. Ramahi, "Frequency-domain concurrent complementary operators' method (C-COM) for finite element simulations," in Proc., IEEE Antennas and Propagation Society/URSI International Symposium, Columbus, OH, 22-27, 2003.
 - A19. O. M. Ramahi and X. Wu, "Investigation, analysis, and elimination of ABC-induced instability in

- FDTD simulation”, in Proc., IEEE Antennas and Propagation Society/URSI International Symposium, San Antonio, TX, pp. 247, June 16-21, 2002.
- A20. L. Li, O. M. Ramahi, and B. Archambeault, “Cavity resonance analysis and mitigation based on S-parameter Simulation using FDTD”, in Proc., IEEE Antennas and Propagation Society/URSI International Symposium, San Antonio, TX, pp. 97, June 16-21, 2002.
- A21. G. DeJean, N. Bushyager, E. M. Tentzeris, and O. M. Ramahi, “Review and comparison of absorbing boundary conditions for multiresolution time-domain (MRTD) schemes”, in Proc., IEEE Antennas and Propagation Society/URSI International Symposium, San Antonio, TX, June 16-21, 2002.
- A22. S. Trabelsi, O. M. Ramahi, and M. Salah, “Microstrip antennas for measurements of dielectric properties and moisture of grain,” in Proc., IEEE Antennas and Propagation Society/URSI International Symposium, San Antonio, TX, June 16-21, 2002.
- A23. V. Chebolu and O. M. Ramahi, “The Concurrent complementary operators method applied to the finite difference frequency domain (FDFD) simulation of scattering problems,” in Proc., IEEE Antennas and Propagation Society/URSI International Symposium, San Antonio, TX, June 16-21, 2002.
- A24. O. M. Ramahi, R. Thakker, and S. Trabelsi, “Phased-array radar for breast cancer detection,” in Proc., IEEE Antennas and Propagation Society International Symposium, Boston, MA, July 8-13, 2001.
- A28. V.L. Granatstein, S. Anlage, T.M. Antonsen Jr., Y. Carmel, N. Goldsman, A. Iliadis, B. Jacob, J. Melngalis, P. O’Shea, E. Ott, O. M. Ramahi, J. Rodgers, R.J. Baker, and D.P. Chernin, “Microwave effects and chaos in 21st century analog and digital electronics,” in Proc., the Tenth National Conference on High Power Microwave Technology, Applied Physics Laboratory of Johns Hopkins University, Laurel, MD, April 3-5, 2001.
- A29. X. Zheng, E. Ott, T. Antonsen, S. Anlage, and O. Ramahi “Statistical properties of wave chaotic scattering matrices,” in Proc., the Tenth National Conference on High Power Microwave Technology, Applied Physics Laboratory of Johns Hopkins University, Laurel, MD, April 3-5, 2001.
- A30. V. L. Granatstein, S. Anlage, T. M. Antonsen, Jr., Y. Carmel, N. Goldsman, A. A. Iliadis, B. Jacob, J. Melngalis, E. Ott, O. M. Ramahi, J. Rodgers, and R. J. Baker, ”Studies of the effects of HPM and chaos on integrated electronics,” in Proc., Tenth National Conference on High Power Microwave Technology, Applied Physics Laboratory of Johns Hopkins University, Laurel, MD, April 3-5, 2001.
- A31. O. M. Ramahi, S. Trabelsi, and S. O. Nelson, “Microstrip antennas for dielectric properties measurements and moisture content sensing,” in Proc., Progress in Electromagnetics Research Symposium, Cambridge, MA., July 5-14 2000.
- A32. G. Amendola, G. Cappuccino, and O. M. Ramahi, “FDTD analysis of power dissipation in VLSI lossy interconnects,” in Proc., Progress in Electromagnetics Research Symposium, Cambridge, MA, July 5-14, 2000.
- A33. O. M. Ramahi, “Concurrent implementation of complementary operators in frequency domain methods,” in Proc., Progress in Electromagnetics Research Symposium, Cambridge, Mass., July 5-14 2000.
- A34. O. M. Ramahi, “FDTD analysis of conventional and novel delay lines,” in Proc., Progress in Electromagnetics Research Symposium, Cambridge, MA, July 5-14, 2000.
- A35. O. M. Ramahi and O. Franza, “Dynamic modeling of power distribution grids using the FDTD method,” in Proc., Progress in Electromagnetics Research Symposium, Cambridge, MA, July 5-14 2000.
- A36. O. M. Ramahi, “Finite element implementation of Bayliss-Turkel boundary operators in the three-dimensional vector wave equation,” in proceedings, IEEE Antennas and Propagation Society International Symposium, Orlando, FL, July 11-16, 1999.
- A37. O. M. Ramahi “Absorbing boundary conditions for convex object-conformable boundaries,” in proceedings, IEEE Antennas and Propagation Society International Symposium, Orlando, FL, July 11-16, 1999.
- A38. O. M. Ramahi, “Absorbing boundary conditions for convex object-conformable boundaries,” in

- proceedings, 15th Annual Review of Progress in Applied Computational Electromagnetics meeting, Monterey, CA, March 15-19, 1999.]
- A39. O. M. Ramahi, "The Application of the complementary operators theory to non-analytic boundary conditions and unstaggered FDTD mesh," in Proc., Progress in Electromagnetics Research Symposium, Nantes, France, July 13-17, 1998.
- A40. O. M. Ramahi, "Exact implementation of higher-order Bayliss-Turkel absorbing boundary conditions in finite element simulation," in Proc., URSI Radio Science Meeting, Atlanta, Georgia, June 21-26, 1998.
- A41. O. M. Ramahi, "Exact implementation of higher-order Bayliss-Turkel absorbing boundary conditions in finite element simulation," in Proc., Fourth International Workshop on Finite Elements for Microwave Engineering, Poitiers, France, July 10-11, 1998.
- A42. O. M. Ramahi and B. R. Archambeault, "An effective hybrid FDTD-MoM technique to predict radiation from enclosures," in Proc., URSI Radio Science Meeting, Atlanta, GA, June 21-26, 1998.
- A43. O. M. Ramahi, "Exploring the cause of instabilities arising from the application of higher order ABCs in FDTD simulation," in Proc., URSI Radio Science Meeting, Atlanta, GA, June 21-26, 1998.
- A44. O. M. Ramahi, "Extension of the concurrent complementary operators' theory to numerical boundary conditions," in Proc., URSI Radio Science Meeting, Atlanta, Georgia, June 21-26, 1998.
- A45. O. M. Ramahi, "Towards a more perfect time domain absorbing boundary condition," in Proc., Progress in Electromagnetics Research Symposium, Cambridge, MA, July 7-11, 1997.
- A46. O. M. Ramahi, "Efficient characterization of microstrip structures using higher order boundary operators," in Proc., URSI Radio Science Meeting, Montreal, Canada, July 13-18, 1997.
- A47. O. M. Ramahi, "Concurrent implementation of the complementary operators' method," in proceedings, URSI Radio Science Meeting, Montreal, Canada, July 13-18, 1997.
- A48. O. M. Ramahi, "Field extension using Kirchhoff's surface integral representation," in proceedings, URSI Radio Science Meeting, Baltimore, MD, July 21-26, 1996.
- A49. O. M. Ramahi and R. Mittra, "A systematic approach to improving the solution based on the absorbing boundary condition," in Proc., URSI Radio Science Meeting, Syracuse, New York, June 6-10, 1988.
- A50. O. M. Ramahi and Synthia Furse, "Near and far field extension algorithms in FDTD analysis," in Proc., Progress in Electromagnetics Research Symposium, Cambridge, MA, July 7-11, 1997.
- A51. O. M. Ramahi and C. Brench, "On the modeling of primary sources in FDTD simulations," in Proc., Progress in Electromagnetics Research Symposium, Hong Kong, January 6-9, 1997.
- A52. O. M. Ramahi, A. Z. Elsherbeni and C. Smith, "FDTD analysis of multi-conductor V lines," in proceedings, Progress in Electromagnetics Research Symposium Proceedings, Hong Kong, January 6-9, 1997.
- A53. A. Z. Elsherbeni, O. M. Ramahi, and C. E. Smith, "FDTD analysis of new types of microstrip transmission lines for high frequency applications," in Proc., Progress in Electromagnetics Research Symposium, Innsbruck, Austria, July 8-12, 1996.
- A54. O. M. Ramahi, "On the stability of absorbing boundary conditions," in Proc., Progress in Electromagnetics Research Symposium, Innsbruck, Austria, July 8-12, 1996.
- A55. O. M. Ramahi, "Application of the complementary boundary operators in the FDTD solution of planar and printed circuits problems," in Proc., Progress in Electromagnetics Research Symposium, Seattle, Washington, July 24-28, 1995.
- A56. O. M. Ramahi, "Complementary operators: a method to annihilate artificial reflections arising from the truncation of the computational domain in the solution of partial differential equations," in proceedings, URSI Radio Science Meeting, Newport Beach, California, June 18-23, 1995.
- A57. O. M. Ramahi, "Complementary operators: a method to truncate the computational domain of open region radiation problems," in proceedings, Progress in Electromagnetics Research Symposium, Seattle, Washington, July 24-28, 1995.
- A58. O. M. Ramahi, "Highly accurate absorbing boundary conditions in finite difference time domain applications for EMC simulations," in proceedings, International Symposium on Electromagnetic Compatibility, Rome, Italy, September 13-16, 1994.
- A59. O. M. Ramahi, "Efficient analysis of a class of unbounded geometries using the finite difference

- time domain method,” in Proc., Progress in Electromagnetics Research Symposium, European Space Research and Technology Center, ESTEC, Noordwijk, the Netherlands, July 11-15, 1994.
- A60. O. M. Ramahi and R. Mittra, “Numerically-derived absorbing boundary conditions for the solution of open region scattering problems,” in proceedings, IEEE Antennas and Propagation Society International Symposium, Dallas, Texas, May 7-11, 1990.
- A61. R. Mittra, O. M. Ramahi, A. Khebir, R. Gordon, and A. Kouki, “A review of absorbing boundary conditions for two and three-dimensional electromagnetic scattering problems,” in proceedings, Third Biennial IEEE Conference on Electromagnetic Field Computation, Conference, Bethesda, MD, December 12-14, 1988.
- A62. O. M. Ramahi and R. Mittra, “The real frequency method of synthesizing matching networks for HF antennas,” in Proc., IEEE Antennas and Propagation Society International Symposium, Philadelphia, PA, June 8-13, 1986.