

Publications

Journal Papers:

1. M. Moghaddam, E. Yannakakis, W. C. Chew, and C. Randall, "Modeling of the subsurface interface radar," *J. Electromagn. Waves Appl.*, vol. 5, no. 1, pp. 17-39, 1991.
2. M. Moghaddam, W. C. Chew, B. Anderson, E. Yannakakis, and Q. H. Liu, "Computation of transient electromagnetic waves in inhomogeneous media," *Rad. Sci.*, vol. 26, no. 1, pp. 265-273, 1991.
3. S. M. Lee, W. C. Chew, M. Moghaddam, M. Nasir, S. L. Chuang, R. W. Herrick, and C. L. Balestra, "Modeling of rough-surface effects in an optical turning mirror using the finite-difference time-domain method," *J. Lightwave Technol.*, vol. 9, no. 11, pp. 1471-1480, 1991.
4. M. Moghaddam, W. C. Chew, and M. Oristaglio, "Comparison of the Born iterative method and Tarantola's method for an electromagnetic time-domain inverse problem," *Int. J. Imaging Syst. Tech.*, vol. 3, pp. 318-333, 1991.
5. M. Moghaddam and W. C. Chew, "Nonlinear two-dimensional velocity profile inversion using time-domain data," *IEEE Trans. Geosci. Remote Sensing*, vol. 30, no. 1, pp. 147-156, 1992.
6. M. Moghaddam and W. C. Chew, "Study of some practical issues in inversion with the Born iterative method using time-domain data," *IEEE Trans. Antennas Propagat.*, vol. 41, no. 2, pp. 177-184, 1993.
7. M. Moghaddam and W. C. Chew, "Simultaneous inversion of compressibility and density in the acoustic inverse problem," *Inverse Probl.*, vol. 9, pp. 715-730, 1993.
8. M. Moghaddam and W. C. Chew, "Variable-density linear acoustic inverse problem," *Ultrasonic Imaging*, vol. 15, pp. 255-266, 1993.
9. M. Moghaddam, S. Durden, and H. Zebker, "Radar measurement of forested areas during OTTER," *Remote Sensing Environment*, vol. 47, no. 2, pp. 154-166, 1994.
10. M. Moghaddam and S. Saatchi, "Analysis of scattering mechanisms in SAR imagery over boreal forest: Results from BOREAS '93," *IEEE Trans. Geosci. Remote Sensing*, vol. 33, no. 5, pp. 1290-1296, 1995.
11. R. Treuhaft, S. Madsen, M. Moghaddam, and J. van Zyl, "Vegetation characteristics and underlying topography from interferometric radar," *Rad. Sci.*, vol. 31, no. 6, pp. 1449-1485, 1996.
12. W. Chew, G. Otto, W. Weedon, J.H. Lin, C.C. Lu, Y.M. Wang, and M. Moghaddam, "Nonlinear diffraction tomography: The use of inverse scattering for imaging," *Int. J. Imaging Sys. Tech.*, vol. 7, pp. 16-24, 1996.
13. E. Njoku, Y. Rahmat-Samii, J. Sercel, W. Wilson, and M. Moghaddam, "Evaluation of an inflatable antenna concept for microwave sensing of soil moisture and ocean salinity," *IEEE Trans. Geosci. Remote Sensing*, vol. 37, no. 1, pp. 63-78, 1999. Featured on Cover.
14. M. Moghaddam and S. Saatchi, "Monitoring tree moisture using an estimation algorithm applied to SAR data from BOREAS," *IEEE Trans. Geosci. Remote Sensing*, vol. 37, no. 2, pp. 901-916, 1999. Featured on Cover.

15. S. Saatchi and M. Moghaddam, "Estimation of crown and stem water content and biomass of Boreal forest using polarimetric SAR imagery," *IEEE Trans. Geosci. Remote Sensing*, vol. 38, no. 2, pp. 697-709, March 2000.
16. M. Moghaddam, S. Saatchi, and R. Cuenca, "Estimating subcanopy soil moisture with radar," *J. Geophys. Res. - Atmospheres*, vol. 105, no. D11, pp. 14899-14911, June 16, 2000.
17. Moghaddam, M., "Effect of medium symmetries on parameter estimation with polarimetric interferometry," *J. Electromag. Waves Appl.*, vol. 14, no. 2, pp. 173-184, 2000.
18. Lorenz RD, Elachi C, West RD, Johnson WTK, Janssen MA, Moghaddam M, Hamilton GA, Liepack O, Bunker A, Roth LE, Wall SD, Dente L, Casarano D, Posa F, "Cassini Radio Detection and Ranging (RADAR): Earth and Venus observations," *J. Geophys. Res. – Space Physics*, vol. 106, no. A12, pp. 30271-30279, December 2001.
19. M. Moghaddam, J. Dungan, and S. Acker, "Forest variable estimation from fusion of SAR and multispectral optical data," *IEEE Trans. Geosci. Remote Sensing*, vol. 40, no. 10, pp. 2176-2187, 2002.
20. J. Gamon, K.F. Huemmerich, D. Peddle, J. Chen, D. Fuentes, F. Hall, J. Kimball, S. Goetz, J. Gu, K. McDonald, J. Miller, M. Moghaddam, A. Rahman, J. Roujean, E. Smith, S. Walthall, P. Zarco-Tejada, B. Hu, R. Fernandes, J. Cihlar, "Remote sensing in BOREAS: Lessons learned." *Remote Sensing of Environ*, vol. 89, pp. 139-162, 2004.
21. Lucas, R., M. Moghaddam, and Natasha Cronin, "Microwave scattering from mixed species forests, Queensland, Australia," *IEEE Trans. Geosci. Remote Sensing*, vol. 42, no. 10, pp. 2142-2159, 2004.
22. Liang, P., M. Moghaddam, L. Pierce, and R. Lucas, "Radar Backscattering Model for Multilayer Mixed Species Forests," *IEEE Trans. Geosci. Remote Sensing*, vol. 43, no. 11, 2005.
23. Liang, P., L. Pierce, and M. Moghaddam, "Radiative Transfer Model for Microwave Bistatic Scattering from Forest Canopies," *IEEE Trans. Geosci. Remote Sensing*, vol. 43, no. 11, 2005.
24. Diuk-Wasser, M., G. Dolo, MA. Bagayoko, N. Sogoba, M. B. Toure, M. Moghaddam, N. Manoukis, S. Rian, S. F. Traore, C. E. Taylot, "Patterns of irrigated rice growth and malaria vector breeding in Mali using multitemporal ERS-2 synthetic aperture radar," *Int. J. Remote Sensing*, vol. 27, no.3, pp. 535-548, 2006.
25. Lucas, R., N. Cronin, M. Moghaddam, A. Lee, and C. Witte, "Integration of SAR and Landsat-derived Foliage Projected Cover for Woody Regrowth Mapping, Queensland, Australia," *Remote Sensing of Environment*, Volume 100, Issue 3, 15 February 2006, pp. 388-406.
26. Lucas, R., A. Lee, N. Cronin, M. Moghaddam, C. Witte, and P. Tickle, "Empirical relationships between AIRSAR backscatter and forest biomass, Queensland, Australia," *Remote Sensing of Environment*, Volume 100, Issue 3, 15 February 2006, Pages 407-425
27. Tabatabaenejad, A., and M. Moghaddam, "Bistatic scattering from layered rough surfaces," *IEEE Trans. Geosci. Remote Sensing*, vol. 44, no. 8, pp. 2102-2115, August 2006.

28. Kuo, C.H., and M. Moghaddam, "Electromagnetic Scattering From a Buried Cylinder in layered media with Rough Interfaces," *IEEE Trans. Antennas Propagat.*, vol. 54, no. 8, pp. 2392-2401, August 2006.
29. Kuo, C.H., and M. Moghaddam, "Scattering from Multilayer Rough Surfaces based on the Extended Boundary Condition Method and Truncated Singular Value Decomposition," *IEEE Trans. Antennas Propagat.*, vol. 54, no. 10, pp. 2917-2930, October 2006.
30. Entekhabi, D., and M. Moghaddam, "Mapping Recharge From Space: Roadmap to Meeting The Grand Challenge," *Hydrogeology Journal*, vol. 15, no.1, pp. 105-116, January 2007.
31. Kuo, C.H., and M. Moghaddam, "Electromagnetic scattering from multilayer rough surfaces separated by media of arbitrary dielectric profiles for remote sensing of soil moisture," *IEEE Trans. Geosci. Remote Sensing*, vol. 45, no. 2, pp. 349-367, Feb 2007.
32. Moghaddam, M., Y. Rahmat-Samii, E. Rodriguez, D. Entekhabi, D. Moller, J. Hoffman, L. Pierce, "Microwave Observatory of Subcanopy and Subsurface (MOSS): A mission concept for global deep and subcanopy soil moisture observations," *IEEE Trans. Geosci. Remote Sensing*, vol. 45, no. 8, pp. 2630-2644, August 2007.
33. Kuo, C.H., and M. Moghaddam, "A theoretical analysis of backscattering enhancement of surface plasmons from multilayer rough surfaces," *IEEE Trans. Antennas Propagat.*, *in revision*.
34. Whitcomb, J., M. Moghaddam, K. McDonald, J. Kellndorfer, and E. Podest, "A complete wetlands map of Alaska from JERS-1 SAR imagery," *Remote Sensing Environ.*, *in revision*.
35. Tabatabaenejad, A., and M. Moghaddam, "Layered rough surface electromagnetic inversion using the simulated annealing method," to be submitted, 11/07.
36. Kuo, C.H., and M. Moghaddam, "Multi-Frequency Inversion Algorithm for the Retrieval of the Subsurface Properties of Layered Soil Media from VHF and UHF Radar Measurements," to be submitted, 11/07.

Book Chapters:

- M. Moghaddam, W. Chew, E. Yannakakis, and C. Randall, "Modeling of the Subsurface Interface Radar," in *Review of Progress in Quantitative Nondestructive Evaluation*, vol. 10A, D. Thompson and D. Chimenti, Eds., Plenum Press, New York, 1991.
- W. Chew, W. Weedon, and M. Moghaddam, "Inverse Scattering and Imaging Using Broadband Time-domain Data," in *Ultra-Wideband Short-Pulse Electromagnetics*, L. Carin and L. Felsen, Eds., Plenum Press, New York, 1995.
- M. Moghaddam, "Estimating Forest Parameters and Underlying Layers of Soil Moisture with Low-Frequency Radar," In review.

Other Publications:

- D. Evans and M. Moghaddam, Eds., "LightSAR Science Requirements Document," JPL Publication D-13945, 1998.
- M. Moghaddam, E. Rodriguez, D. Moller, and Y. Rahmat-Samii, NASA Tech Brief: "Dual low-frequency radar for soil moisture under vegetation and at-depth." (2004)
- M. Gudim (Aung), M. Moghaddam, et al., NASA Tech Brief: "Single-chip high-density FPGA implementation of the synthetic aperture radar azimuth prefilter for on-board data reduction," (2004)

Conference papers:

- W. C. Chew and M. Moghaddam, "Resonant frequencies of the axially symmetric modes in a dielectric resonator," Proc. IEEE-MTT International Symposium, Las Vegas, Nevada, 1987.
- M. Moghaddam and W. C. Chew, "Response of a point source in multicylindrically layered half spaces," Joint IEEE-APS and URSI International Symposium, Syracuse, New York, 1988.
- W. C. Chew, B. Anderson, E. Yannakakis, M. Moghaddam, and Q. H. Liu, "Computation of transient electromagnetic waves in inhomogeneous media," Proc. URSI Int. Symp., Stockholm, Sweden, 1989.
- M. Moghaddam, W. C. Chew, and E. Yannakakis, "Time-domain scattering in 2.5 dimensions," Proc. IEEE-APS Int. Symp., Dallas, Texas, 1990.
- M. Moghaddam, E. Yannakakis, and W. C. Chew, "Modeling of the subsurface interface radar," Proc. Rev. of Prog. in Quant. Nondestruct. Eval. (QNDE), La Jolla, California, 1990.
- M. Moghaddam and W. C. Chew, "Nonlinear two-dimensional velocity profile inversion in the time domain," Proc. IEEE-APS Int. Symp., London, Ontario, Canada, 1991.
- M. Moghaddam and W. C. Chew, "Stabilizing Liao's absorbing boundary conditions using single-precision arithmetic," Proc. IEEE-APS Int. Symp., London, Ontario, Canada, 1991.
- M. Moghaddam and W. C. Chew, "Simultaneous inversion of permittivity and conductivity profiles using time-domain data," Proc. Int. Radio Sci. Meeting, Boulder, Colorado, 1992.
- M. Moghaddam, S. Durden, H. Zebker, and J. Klein, "Radar measurement of forested areas during OTTER," Proc. IGARSS '92, Houston, Texas, 1992.
- Freeman, M. Moghaddam, M. Zink, and H. Zebker, "Radiometric correction of SAR images of varying terrain heights," Proc. IGARSS '92, Houston, Texas, 1992.
- M. Moghaddam and W. C. Chew, "Time-domain inverse scattering," Proc. IGARSS '92, Houston, Texas, 1992.
- M. Moghaddam and W. C. Chew, "Simultaneous inversion of permittivity and permeability profiles using time-domain data," Proc. IEEE-APS Int. Symp., Chicago, Illinois, 1992.
- M. Moghaddam and W. C. Chew, "Effect of multiple scattering in inversion using time-domain data," Proc. IEEE-APS International Symposium, Chicago, Illinois, 1992.
- M. Moghaddam and W. C. Chew, "Variable-density linear acoustic inverse problem," Proc. Int. Radio Sci. Meeting, Boulder, Colorado, Jan. 1993.

- M. Moghaddam and B. Houshmand, "Calculation of effective permittivity of a random collection of dielectric cylinders," Proc. IEEE-APS/URSI Int. Symp., Ann Arbor, Michigan, June 1993.
- M. Moghaddam, "A general rough-surface inversion algorithm: Theory and application to SAR data," Proc. PIERS'93, JPL, Pasadena, California, July 1993.
- M. Moghaddam and W. C. Chew, "Variable-Permittivity linear inverse problem for the H_z -polarized case," Proc. PIERS'93, JPL, Pasadena, California, July 1993.
- M. Moghaddam and A. Freeman, "Modifications to the three-component classification algorithm for SAR data," Proc. PIERS'93, JPL, Pasadena, California, July 1993.
- W. C. Chew, G. P. Otto, J. H. Lin, W. H. Weedon, C. C. Lu, Y. M. Wang, and M. Moghaddam, "Nonlinear inverse scattering techniques and their use in processing microwave experimental data," Proc. PIERS'93, JPL, Pasadena, California, July 1993.
- M. Moghaddam and S. Saatchi, "An inversion algorithm applied to SAR data to retrieve surface parameters," Proc. IGARSS'93, Tokyo, Japan, August 1993.
- M. Moghaddam, S. L. Durden, and H. A. Zebker, "Effects of environmental change on radar backscatter in the Oregon transect," Proc. IGARSS'93, Tokyo, Japan, August 1993.
- W. C. Chew, G. Otto, W. Weedon, J. Lin, C. Liu, Y. Wang, and M. Moghaddam, "Nonlinear diffraction tomography - The use of inverse scattering for imaging," presented at the 27th Asilomar Conference on Signals, Systems and Computers, Pacific Grove, CA, November 1993.
- M. Moghaddam and B. Houshmand, "An inverse scattering approach to calculation of effective permittivity of random cylindrical scatterers," presented at the National Radio Science Meeting, Boulder, Colorado, January 1994.
- M. Moghaddam and B. Houshmand, "Nonlinear inverse scattering applied to calculation of effective permittivity of random collections of scatterers," Proc. IEEE-APS/URSI Int. Symp., Seattle, Washington, June 1994.
- S. Saatchi, M. Moghaddam, K. McDonald, and S. Durden, "Comparison of microwave scattering models of vegetation," Proc. IEEE-APS/URSI Int. Symp., Seattle, Washington, June, 1994.
- M. Moghaddam and S. Saatchi, "Analysis of scattering mechanisms over boreal forest: Results from BOREAS'93," Proc. IGARSS'94, Pasadena, California, August 1994.
- M. Moghaddam, "Retrieval of forest canopy parameters for OTTER using an optimization technique," Proc. SPIE Symposium on Satellite and Remote Sensing, Rome, Italy, September 1994.
- S. Saatchi and M. Moghaddam, "Biomass distribution in a Boreal forest using SAR imagery," Proc. SPIE Symposium on Satellite and Remote Sensing, Rome, Italy, September 1994.
- R. Treuhaft, M. Moghaddam, E. Rignot, S. Saatchi, and J. van Zyl, "Extracting vegetation topographic and scattering characteristics from interferometric SAR," presented at the National Radio Science Meeting, Boulder, Colorado, January 1995.
- M. Moghaddam, "Using an inversion algorithm to retrieve parameters and monitor changes over forested areas from SAR data," PIERS'95, July 1995.
- M. Moghaddam and S. Saatchi, "Inversion of moisture content of forest canopy and floor from SAR data," PIERS'96, Innsbruck, Austria, July 1996.

- M. Moghaddam, R. Treuhaft, S. Saatchi, and J. van Zyl, "A hybrid algorithm for estimating forest canopy parameters from polarimetric and interferometric SAR," PIERS'97, Cambridge, MA, July 1997.
- R. N. Treuhaft, M. Moghaddam, K. Sarabandi, and J. J. van Zyl, "Extracting Vegetation and Surface Characteristics from Multibaseline Interferometric SAR," IGARSS'96, Lincoln, Nebraska, May 1996.
- M. Moghaddam and R. Treuhaft, "Limitations in the number of parameters estimated with polarimetric interferometry," PIERS'98 Workshop, Baveno, Italy, July 1998.
- M. Moghaddam, J. Dungan, and J. Coughlan, "Fusion of AIRSAR and TM data for parameter estimation and classification in dense and hilly forests," IGARSS'99, Hamburg, Germany, June 1999.
- M. Moghaddam, J. Dungan, and J. Coughlan, "Fusion of AIRSAR and TM data for variable estimation and classification in dense and hilly forests," Fusion of Earth Data Conference, Sophia Antipolis, France, January 2000.
- M. Moghaddam and R. Treuhaft, "Estimating forest vegetation variables by combining INSAR and POLSAR data and minimizing the need for ancillary data," PIERS-2000, Cambridge, MA, USA, presented July 2000.
- M. Moghaddam and J. Dungan, "Fusion of SAR and TM data for quantitative estimation of forest variables over an extended range of validity," IGARSS'2000, Honolulu, HI, USA, presented July 2000.
- R. West, M. Moghaddam, et al., "Cassini observes the Earth with Ku-band radar and radiometer," IGARSS'2000, Honolulu, HI, USA, presented July 2000.
- M. Moghaddam, "Estimation of comprehensive forest variable sets from multiparameter SAR data over a large area with diverse species," IGARSS'2001, Sydney, Australia, July 2001.
- M. Moghaddam and J. Dungan, "Estimation of forest variables from fusion of SAR and TM data and analytical scattering and reflectance models," IGARSS'2001, Sydney, Australia, July 2001.
- R. Lucas et al., "Use of AIRSAR data for quantifying the biomass of woodlands, Queensland, Australia," AIRSAR workshop, March 2002.
- M. Gudim et al., "Single-chip high-density FPGA implementation of the synthetic aperture radar azimuth prefilter for on-board data reduction," presented at Earth Science Technology Conference, Pasadena, CA, June 2002.
- M. Moghaddam, E. Rodriguez, Y. Rahmat-Samii, and D. Moller, "Dual-low-frequency Radar for Soil Moisture Under Vegetation and At-depth," presented at URSI General Assembly, Maastricht, The Netherlands, August 2002.
- M. Moghaddam, K. McDonald, J. Cihlar, and W. Chan, "Mapping wetlands of Alaska and Canada from satellite radar imagery," presented at the AGU Fall Meeting, San Francisco, CA, December 2002.
- D. Moller, E. Rodriguez, M. Moghaddam, and J. Hoffman, dual-low frequency radar for subcanopy and deep soil moisture measurements," accepted for presentation at Aerospace Conference, Big Sky, Montana, March 2003.
- Rodriguez, E., D. Moller, and M. Moghaddam, "Synthetic aperture processor prototype for a tower-based UHF and VHF soil moisture radar," IGARSS'03, Toulouse, France, July 2003.

- Tabatabaenejad, A., and M. Moghaddam, "Scattering of Electromagnetic Waves from three-layer Rough Surfaces Using the Small Perturbation Method," IEEE-APS, Monterey, CA, June 2004.
- Pierce, L., M. Moghaddam, E. Rodriguez, and P. Siqueira, "A VHF/UHF Simulator for Soil Moisture Beneath Forest Canopies," IEEE-APS, Monterey, CA, June 2004.
- Moghaddam, M., Chih-Hao Kuo, A. Tabatabaenejad, and L. Pierce, "Inversion of Scattering Properties of a Multilayer Subsurface with Rough Interfaces," IEEE-APS, Monterey, CA, June 2004.
- Liang, P., M. Moghaddam, and L. Pierce, "Multilayer bistatic MIMICS," IEEE-APS, Monterey, CA, June 2004.
- Moghaddam, M., L. Pierce, A. Tabatabaenejad, and E. Rodriguez, "Estimation of Soil Moisture at Multiple Depth Layers Using a VHF/UHF Radar," IGARSS'04, Anchorage, AK, September 2004.
- Liang, P., M. Moghaddam, and L. Pierce, "Radar Backscattering Model for Mixed Species Forests," IGARSS'04, Anchorage, AK, September 2004.
- Tabatabaenejad, A., and M. Moghaddam, "Backscattering of Electromagnetic Waves from Layered Rough Surfaces and Its Application in Estimating Deep Soil Moisture," IGARSS'04, Anchorage, AK, September 2004.
- Moghaddam, M., L. Pierce, A. Tabatabaenejad, and E. Rodriguez, "A Tower-based Prototype VHF/UHF Radar for Subsurface Sensing: System Description and Data Inversion Results," presented at the Workshop on Radar Investigations for Planetary Applications, Lunar and Planetary Institute, Houston, Texas, February 2005.
- Tabatabaenejad, A., and M. Moghaddam, "Inversion of Subsurface Properties of a Layered Medium with Rough Boundaries," IEEE-APS, Washington DC, July 2005, and URSI General Assembly, New Delhi, India, October 2005.
- Partridge, P., et al., "Design, Fabrication, and Measurement of a Dual Polarized UHF/VHF Honeycomb Stacked-Patch Array Antenna for use in Space-borne Radar Applications," IEEE-APS, Washington DC, July 2005.
- Moghaddam, M., and A. Tabatabaenejad, "Coherent Model for VHF Scattering from Mixed Forests on Multilayer Rough Ground," IEEE-APS, Washington DC, July 2005, and IGARSS'05, Seoul, Korea, July 2005.
- Kuo, C.H., and M. Moghaddam, "Scattering from Multilayer Rough Surfaces Based on Extended Boundary Condition Method and Scattering Matrix Approach," IEEE-APS, Washington DC, July 2005, and IGARSS'05, Seoul, Korea, July 2005.
- Pierce, L., and M. Moghaddam, "The MOSS VHF/UHF Spaceborne SAR System Testbed," IGARSS'05, Seoul, Korea, July 2005.
- Whitcomb, J., M. Moghaddam, J. Kellndorfer, and K. McDonald, "Use of JERS Satellite Imagery for Boreal Wetlands Mapping," presented at AGU Fall Meeting, December 2005.
- Kuo, C.H., and M. Moghaddam, "Backscattering Enhancement of Surface Plasmons from Multilayer Rough Surfaces," presented at URSI National Meeting, Boulder, CO, January 2006.
- Goykhman, Y., C.H. Kuo, and M. Moghaddam, "An Efficient Forward Scattering Model for Through-the-Wall Imaging of an Arbitrary 2D Object," accepted for presentation at IEEE-APS/URSI, Albuquerque, NM, July 2006.

- Tabatabaenejad, A., and M. Moghaddam, "Scattering of Electromagnetic Waves from an N-Layer Dielectric Structure with Slightly Rough Boundaries," accepted for presentation at IEEE-APS/URSI, Albuquerque, NM, July 2006.
- Kuo, C.H., and M. Moghaddam, "Backscattering of surface plasmons from multilayer rough surfaces," accepted for presentation at IEEE-APS/URSI, Albuquerque, NM, July 2006.
- Kuo, C.H., and M. Moghaddam, "Electromagnetic scattering from a buried cylinder in layer media with rough surfaces," presented at IEEE-APS/URSI, Albuquerque, NM, July 2006.
- Tabatabaenejad, A., M. Moghaddam, and E. Michielssen, "SPM Simulations of One-Dimensional Two-Layer Rough Surfaces: Accuracy and Validity," presented at IEEE-APS/URSI, Albuquerque, NM, July 2006.
- Tabatabaenejad, A., M. Moghaddam, "Scattering of Electromagnetic Waves from a General N-Layer Dielectric Structure with Slightly Rough Boundaries," presented at IGARSS'06, Denver, CO, August 2006.
- Tabatabaenejad, A., M. Moghaddam, "Inversion of Parameters of a Multilayered Rough Surface by a New Approach to Simulated Annealing," presented at IGARSS'06, Denver, CO, August 2006.
- Kuo, C.H., and M. Moghaddam, "Electromagnetic Scattering from Multilayer Rough Surfaces Separated by Arbitrary Dielectric Profiles," presented at IGARSS'06, Denver, CO, August 2006.
- Moghaddam, M., A. Tabatabaenejad, and C.H. Kuo, "Forward and Inverse Scattering Models for Radar Remote Sensing of Planetary Subsurfaces," presented at AGU, San Francisco, CA, December 2006.
- Kuo, C.H., and M. Moghaddam, "A Novel Multi-Frequency Inversion Algorithm for the Retrieval of the Subsurface Properties of Layered Soil Media," IEEE-APS, Honolulu, HI, June 2007.
- Kuo, C.H., and M. Moghaddam, "Two-Dimensional Full-wave Multiple Scattering from Discrete Random Media in Layered Rough Surfaces," IEEE-APS, Honolulu, HI, June 2007.
- Tabatabaenejad, A. M. Moghaddam, and E. Michielssen, "Derivation of Validity Region of SPM Simulation of One-Dimensional Two-Layer Rough Surfaces Using a Fast Solver and Simulated Annealing Method," IEEE-IGARSS07, Barcelona, Spain, July 2007.
- Tabatabaenejad, A., and M Moghaddam, "Inversion of a Layered Rough Surface Model: Maximizing the Number of Retrievable Parameters for the Design of Future Subsurface Sensing Radar Systems," IEEE-IGARSS07, Barcelona, Spain, July 2007.
- Kuo, C.H., and M. Moghaddam, "Two-Dimensional Full-wave Scattering from Discrete Random Media in Layered Rough Surfaces for Subsurface Remote Sensing," IEEE-IGARSS07, Barcelona, Spain, July 2007.
- Whitcomb, J., M. Moghaddam, K. McDonald, J. Kellndorfer, and E. Podest, "Wetlands Map of Alaska Using L-Band Radar Satellite Imagery," IEEE- IGARSS07, Barcelona, Spain, July 2007.

Invited Presentations

- M. Moghaddam, "NASA/JPL AIRSAR: System overview and introduction to data interpretation," presented at the Australasian Remote Sensing Conference, Melbourne, Australia, March 1994.
- W. Chew, W. Weedon, and M. Moghaddam, "Inverse scattering and imaging using broad-band time-domain data," Int. Conf. on Ultrawideband, short-pulse Electromagnetics, Brooklyn, NY, April 1994.
- R. N. Treuhaft, E. Rodriguez, M. Moghaddam, K. Sarabandi, and J. J. van Zyl, "Multibaseline, Multifrequency Interferometric SAR for Vegetation and Surface Topographic Parameter Estimation," URSI 25th General Assembly, Lille, France, August 1996.
- M. Moghaddam, S. Saatchi, and R. Treuhaft, "Estimating soil moisture in a boreal old jack pine forest," IGARSS'97, Singapore, August 1997.
- Treuhaft, M. Moghaddam, and J. van Zyl, "Combining radar interferometry and polarimetry to estimate forest vegetation and surface parameters," PIERS'97, Cambridge, MA, July 1997.
- R. N. Treuhaft, M. Moghaddam, and B. J. Yoder, "Forest Vertical Structure from Multibaseline Interferometric Radar for Studying Growth and Productivity" IGARSS'97, Singapore, August 1997.
- M. Moghaddam and R. Treuhaft, "A hybrid algorithm for estimating forest parameters from POLSAR and INSAR data: an approach to minimizing the need for ancillary data," PIERS'98, Nantes, France, July 1998.
- Saatchi and M. Moghaddam, "Estimation of boreal forest biomass using multichannel SAR imagery," PIERS'97, Cambridge, MA, July 1997.
- R. Treuhaft and M. Moghaddam, "A unified analysis of radar interferometry and polarimetry for the estimation of forest parameters," PIERS'98, Nantes, France, July 1998.
- M. Moghaddam, "Effect of medium symmetries in limiting the number of parameters estimated with polarimetric interferometry," IGARSS'99, Hamburg, Germany, June 1999.
- M. Moghaddam, S. Saatchi, and R. Cuenca, "Estimating subcanopy soil moisture with AIRSAR data," Annual AIRSAR Workshop, Pasadena, CA, USA, February 1999.
- J. Dungan and M. Moghaddam, "Statistical characteristics of optical and radar data used for estimating continuous vegetation variables," PIERS-2000, Cambridge, MA, USA, presented July 2000.
- M. Moghaddam and S. Saatchi, "Estimation of vegetation variables using AIRSAR data containing multiple scattering mechanisms," PIERS-2000, Cambridge, MA, USA, and IGARSS'2000, both presented July 2000.
- M. Moghaddam, "Sensitivity of Vegetation Biomass Estimation Accuracy to SAR Parameter-Diversity using an Analytically Based Algorithm," presented at PIERS'02, Cambridge, MA, July 2002.
- Huang, J., Y. Rahmat-Samii, and M. Moghaddam, "A VHF/UHF dual-band dual-polarized microstrip array," presented at PIERS'2003.
- Moghaddam et al., "Microwave Observatory of Subcanopy and Subsurface (MOSS): A Low-frequency Radar for Global Deep Soil Moisture Measurements," IGARSS'03, Toulouse, France, July 2003.

- Moghaddam et al., "Microwave Observatory of Subcanopy and Subsurface (MOSS) IIP: Final Results and Next Steps," ESTC-2005, Washington DC, June 2005.
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