

## **Michael Allan Raadu - Publications 1996 - 2007**

### **Refereed articles 1996 - 2007:**

1. Kuijpers, J., L. Fletcher, M. Abada-Simon, K. D. Horne, M. A. Raadu, G. Ramsay, and D. Steeghs, Magnetic Pumping in the Cataclysmic Variable AE Aquarii, *Astron. and Astrophys.*, 322, 242-255, 1997.
2. Wang, D.-Y., M. Raadu, and N. Brenning, Modulation Instability of Low Frequency Whistler Waves, *Chin. Phys. Lett.*, 14, 287-290, 1997.
3. Raadu, M. A., Effective Distribution Functions for Electrostatic Waves in Dusty Plasmas with a Dust-Size Distribution, *IEEE Trans. Plasma Sci.*, 29, 182-185, 2001.
4. Raadu, M. A., Particle Acceleration Mechanisms in Space Plasmas, *Phys. Chem. of the Earth C*, 26, 55-59, 2001.
5. Shafiq, M. and M. A. Raadu, Test Charge Response of a Dusty Plasma with a Grain Size Distribution, *Phys. Lett. A*, 305, 79-86, 2002.
6. T. Hurtig, N. Brenning and M. A. Raadu, Three-dimensional electrostatic particle-in-cell simulation with open boundaries applied to a plasma entering a curved magnetic field, *Physics of Plasmas*, 10, 4291-4305, 2003
7. Raadu, M. A., Generalised Sagdeev Potentials for Dusty Plasmas with Varying Grain Charges, *Physica Scripta*, 68, 266-270, 2003.
8. Raadu, M. A. and M. Shafiq, Shielding of a Slowly Moving Test Charge in a Dusty Plasma with Dynamical Grain Charging, *Phys. Plasmas*, 10, 3484-3491, 2003.
9. Shafiq, M. and M. A. Raadu, Delayed Shielding of a Test Charge due to Dynamical Grain Charging in a Dusty Plasma, *IEEE Trans. Plasma Sci.*, 32, 627-631, 2004.
10. T. Hurtig, N. Brenning and M. A. Raadu, The penetration of plasma clouds across magnetic boundaries: the role of high frequency oscillations, *Physics of Plasmas*, 11, L33-36, 2004
11. Brenning, N., Hurtig, T., and Raadu, M. A., Conditions for plasmoid penetration across abrupt magnetic boundaries, *Phys. Plasmas*, 12, 012309, 2005
12. Hurtig T, Brenning, N., and Raadu, M. A., The role of high frequency oscillations in the penetration of plasma clouds across magnetic boundaries *Phys. Plasmas*, 12, 012308, 2005

13. Brenning, N., Axnäs, A., Raadu, M. A., Tennfors, E., and Koepke, M., Radiation from an electron beam in a magnetized plasma: Whistler mode wave packets, *Journal Geophys. Res.- Space Phys.*, 111, (no. A11212), 1-13, 2006
14. Shafiq, M., and Raadu, M. A., Effect of grain charging dynamics on the wake potential of a moving test, *Phys. Plasmas*, 14, (no. 012102), pp. 8, 2007
15. Raadu, M. A., and Shafiq, M., Test charge response for a dusty plasma with both grain size distribution and dynamical charging, *Phys. Plasmas*, 14, (no. 012105), pp. 11, 2007

#### **Conference contributions 1996 - 2007:**

- Published in journals/proceedings or electronically:

1. Hellberg, M. A., M. A. Raadu, and R. L. Mace, On Fluid Models of Stationary, Acoustic Double Layers, in *Proc. of The Fifth Symposium on Double Layers - Potential Formation and Related Nonlinear Phenomena in Plasmas*, Sendai, Japan, 17-19 September 1996, Ed. by SENDAI "Plasma Forum", Tohoku University, Sendai 980-77, Japan, World Scientific Publishing Co. Pte. Ltd, Singapore 912805, 3-13, 1997.
2. Mirza, M., M. Shafiq, M. A. Raadu, and K. Khan, Chaotic Behavior of Electron-Positron Dusty Magnetoplasma with Equilibrium Flows, in *Dusty Plasmas in the New Millenium*, *Proc. of the Third International Conference on the Physics of Dusty Plasmas (ICPDP-2002)*, Durban, South Africa, 20-24 May 2002, Ed. R. Bharuthram, M. A. Hellberg, P. K. Shukla, and F. Verheest, *Conference Proceedings Series*, American Institute of Physics, 649, 426-429, 2002.
3. Raadu, M. A. and M. Shafiq, Effect of Grain Charging Dynamics on the Response of a Dusty Plasma to a Moving Test Charge, in *Dusty Plasmas in the New Millenium*, *Proc. of the Third International Conference on the Physics of Dusty Plasmas (ICPDP-2002)*, Durban, South Africa, 20-24 May 2002, Ed. R. Bharuthram, M. A. Hellberg, P. K. Shukla, and F. Verheest, *Conference Proceedings Series*, American Institute of Physics, 649, 430-433, 2002.
4. Shafiq, M. and M. A. Raadu, Electrostatic Response of a Dusty Plasma with a Grain Size Distribution to a Moving Test Charge, in *Dusty Plasmas in the New Millenium*, *Proc. of the Third International Conference on the Physics of Dusty Plasmas (ICPDP-2002)*, Durban, South Africa, 20-24 May 2002, Ed. R. Bharuthram, M. A. Hellberg, P. K. Shukla, and F. Verheest, *Conference Proceedings Series*, American Institute of Physics, 649, 422-425, 2002.
5. Raadu, M.A., Plasma Dielectric for a Dusty Plasma with Mass Distribution and Charge Fluctuations, *Proceedings of XXVIIIth Triennial General Assembly of the International*

Union of Radio Science, Maastricht, The Netherlands, August 17- 24, paper 152 - HGE (published on CD-ROM), 2002.

6. Shafiq, M., and M. A. Raadu, Effect of a Grain Size Distribution on the Response of a Dusty Plasma to a Moving Test Charge, Proceedings of XXVIIth Triennial General Assembly of the International Union of Radio Science, Maastricht, The Netherlands, August 17- 24, paper 501 - HGE2 (published on CD-ROM), 2002.

7. M. Shafiq, M. A. Raadu, "Wake Potential of a Moving Test Charge in a Dusty Plasma with Dynamical Grain Charging", in *Proc. 31st EPS Conf. on Plasma Phys., London, 28 June - 2 July 2004*, ECA Vol. 28G, P-4.074 (4 pp.), 2004

8. M. A. Raadu, M. Shafiq (2004), 'Potential of a Moving Test Charge in a Dusty Plasma in the Presence of Grain Size Distribution and Grain Charging Dynamics', in *Proc of 12th Int. Congress on Plasma Physics, 25-29 October 2004*, Hyper article en ligne, 10 pp., <http://hal.ccsd.cnrs.fr/ccsd-00003135/en/>, 2004

9. N. Brenning, T. Hurtig, M. A. Raadu, "Conditions for Diffusive Penetration of Plasmoids Across Magnetic Barriers", *Proc of 12th Int Congress on Plasma Physics, 25-29 October 2004*, Hyper article en ligne, <http://hal.ccsd.cnrs>, 2004

10. T. Hurtig, N. Brenning, M. A. Raadu, "The Penetration of Plasma Clouds Across Magnetic Boundaries: The Role of High Frequency Oscillations for Magnetic Diffusion", *Proc of 12th Int Congress on Plasma Physics, 25-29 October 2004*, Hyper article en ligne, <http://hal.ccsd.cnrs>, 2004

11. N. Brenning, M. E. Koepke, I. Axnäs and M. A. Raadu, Electromagnetic Radiation from Double Layers, *Proc of 12th Int Congress on Plasma Physics, 25-29 October 2004*, Hyper article en ligne, <http://hal.ccsd.cnrs>, 2004

12. M. A. Raadu, M. Shafiq, "Charge Fluctuation Effects On Solitary Waves", *New Vistas in Dusty Plasmas: Fourth International Conference on the Physics of Dusty Plasmas*, AIP Conference Proceedings, Vol. 799, pp. 486-489, 2005

13. M. Shafiq, M. A. Raadu, "Energy Loss of Test Charges in a Dusty Plasma", *New Vistas in Dusty Plasmas: Fourth International Conference on the Physics of Dusty Plasmas*, AIP Conference Proceedings, Volume 799, pp. 490-493, 2005

14. M. A. Raadu, M. Shafiq, "Wake potential of a test charge using the stationary phase method", *Proc. 32nd EPS Conf. on Plasma Physics*, pp. P-5.119 (4 pp.), 2005

15. M. A. Raadu, Muhammad Shafiq, "Test Charge Response for a Dusty Plasma with Size Distribution and Charging Dynamics", *Proceedings for the 13th International Congress on Plasma Physics (ICPP), May 22-26, 2006, Kiev, Ukraine*, pp. 4, 2006

### **Institution reports - TRITA series 1996 - 2007**

1. T. Hurtig, N. Brenning, M. A. Raadu (2001), 'Experiments on Fast Anomalous Electron Transport Across Magnetic Field Lines', Royal Institute of Technology Report, TRITA-ALP-2001-03, published November 2001, 5 pp.
2. M. Shafiq, M. A. Raadu (2001), 'Potential due to a Slowly Moving Test Charge in Dusty Plasma', Royal Institute of Technology Report, TRITA-ALP-2001-04, published December 2001, 8 pp.
3. M. A. Raadu (2001), 'Electrostatic Equilibrium of Dust Grains with Locally Determined Charges', Royal Institute of Technology Report, TRITA-ALP-2001-05, published December 2001, 16 pp.
4. M. A. Raadu (2002), 'The MHD of Compact Structures in the Solar Corona', Royal Institute of Technology Report, TRITA-ALP-2002-03, published December 2002, 9 pp.
5. M. A. Raadu (2002), 'Plasma Dielectric for a Warm Dusty Plasma with Grain Size Distribution and Charging', Royal Institute of Technology Report, TRITA-ALP-2002-04, published December 2002, 9 pp.
6. T. Hurtig, M. A. Raadu (2003), 'A 3D Electrostatic PIC Code with Moving Grid and Open Boundaries', Royal Institute of Technology Report, TRITA-ALP-2003-03 , published December 2003, 11 pp.