

## Publications 2007

### Refereed papers

Apatenkov, S. V., V. A. Sergeev, M. V. Kubyshkina, R. Nakamura, W. Baumjohann, A. Runov, I. Alexeev, A. Fazakerley, H. Frey, S. Muhlbacher, P. W. Daly, J.-A. Sauvaud, N. Ganushkina, T. Pulkkinen, G. D. Reeves and **Y. Khotyaintsev**, Multi-spacecraft observations of plasma depolarization/injection in the inner magnetosphere, *Ann. Geophys.*, 25, 801-814, [www.ann-geophys.net/25/801/2007/](http://www.ann-geophys.net/25/801/2007/), 2007.

Baumjohann, W., A. Roux, O. Le Contel, R. Nakamura, J. Birn, M. Hoshino, A. T. Y. Lui, C. J. Owen, J.-A. Sauvaud, **A. Vaivads**, D. Fontaine and A. Runov, Dynamics of thin Current sheets: Cluster observations, *Ann. Geophys.*, 25, 1365-1389, [www.ann-geophys.net/25/1365/2007/](http://www.ann-geophys.net/25/1365/2007/), 2007.

Bertucci, C., F.M. Neubauer, K. Szego, **J.-E. Wahlund**, A.J. Coates, M.K. Dougherty, D.T. Young and W.S. Kurth, Structure of Titan's mid-range magnetic tail: Cassini magnetometer observations during the T9 flyby, *Geophys. Res. Lett.*, 34, L24S02, doi:10.1029/2007/GL030865, 2007.

Carr, C., E. Cupido, C. G. Y. Lee, A. Balogh, T. Beek, C. Dunford, G. Musmann, J. L. Burch, **A. I. Eriksson**, **R. Gill**, K. H. Glassmeier, R. Goldstein, D. Lagoutte, R. Lundin, K. Lundin, B. Lybakk, J. L. Michau, H. Nilsson, C. Pollock, I. Richter and J. G. Trotignon, RPC: The Rosetta Plasma Consortium, *Space Sci. Rev.*, 128, 629-647, doi:10.1007/s11214-006-9136-4, 2007.

Chaufray, J.Y., **R. Modolo**, F. Leblanc, G. Chanteur, R.E. Johnson and J.G. Luhmann, Mars solar wind interaction: Formation of the Martian corona and atmospheric loss to space, *J. Geophys. Res.*, 112, E09009, doi:10.1029/2007JE002915, 2007.

Cully, C.M., R.E. Ergun and **A.I. Eriksson**, Electrostatic structure around spacecraft in tenuous plasmas, *J. Geophys. Res.*, 112, A09211, doi:10.1029/2007JA012269, 2007.

Dubinin, E. M., M. Maksimovic, N. Cornilleau-Wehrlin, D. Fontaine, P. Travnicek, A. Mangeney, O. Alexandrova, K. Sauer, M. Fraenz, I. Dandouras, E. Lucek, A. Fazakerley, A. Balogh and **M. André**, Coherent whistler emissions in the magnetosphere-Cluster observations, *Ann. Geophys.*, 25, 303-317, [www.ann-geophys.net/25/303/2007/](http://www.ann-geophys.net/25/303/2007/), 2007.

Eastwood, J.P., T.-D. Phan, F.S. Mozer, M.A. Shay, M. Fujimoto, **A. Retinò**, M. Hesse, A. Balogh, E.A. Lucek and I. Dandouras, Multi-point observations of the Hall electromagnetic field and secondary island formation during magnetic reconnection, *J. Geophys. Res.*, 112, A06235, doi:10.1029/2006JA012158, 2007.

**Eriksson, A. I., R. Boström, R. Gill, L. Åhlén, S.-E. Jansson, J.-E. Wahlund, M. André**, A. Mälkki, J. A. Holtet, B. Lybakk, A. Pedersen, L. G. Blomberg and the LAP team, RPC-LAP: The Rosetta Langmuir probe Instrument, accepted by *Space Sci. Rev.*, 128, 713-728, doi:10.1007/s11214-006-9005-1, 2007.

Hasegawa, H., R. Nakamura, M. Fujimoto, V. A. Sergeev, E. A. Lucek, H. Rème and **Y. Khotyaintsev**, Reconstruction of a bipolar magnetic signature in an earthward jet in the tail: Flux rope or 3D guide-field reconnection?, *J. Geophys. Res.*, 112, A11206, doi:10.1029/2007/JA012492, 2007.

Johansson, T., G. Marklund, T. Karlsson, S. Liléo, P.-A. Lindqvist, H. Nilsson and **S. Buchert**, Scale sizes of intense auroral electric fields observed by Cluster, *Ann. Geophys.*, 25, 2413-2425, [www.ann-geophys.net/25/2413/2007/](http://www.ann-geophys.net/25/2413/2007/), 2007.

Kuznetsov, E.A., S.P. Savin, E. Amata, M. Dunlop, **Y. Khotyaintsev**, L.M. Zelenyi, E.V. Panov, J. Buechner, S.A. Romanov, J. Blecli, J.L. Rauch and B. Nikutowski, Strong space plasma magnetic barriers and Alfvénic collapse, *Pis'ma v ZhETF*, 85, 288-293, 2007.

Lui, A.T.Y., Y. Zheng, H. Rème, M.W. Dunlop, **G. Gustafsson** and C.J. Owen, Breakdown of the frozen-in condition in the Earth's magnetotail, *J. Geophys. Res.*, *112*, A04215, doi:10.1029/2006JA012000, 2007.

Lui, A.T.Y., Y. Zheng, Y. Zhang, V. Angelopoulos, G.K. Parks, F.S. Mozer, H. Rème, L.M. Kistler, M.W. Dunlop, **G. Gustafsson** and M.G. Henderson, Prelude to THEMIS tail conjunction study, *Ann Geophys.*, *25*, 1001-1009, [www.ann-geophys.net/25/1001/2007/](http://www.ann-geophys.net/25/1001/2007/), 2007.

Ma, Y.-J., A.F. Nagy, G. Toth, T.E. Cravens, C.T. Russell, T.I. Gombosi, **J.-E. Wahlund**, F.J. Crary, A.J. Coates, C.L. Bertucci and F.M. Neubauer, 3D global multi-species Hall-MHD simulation of the Cassini T9 flyby, *Geophys. Res. Lett.*, *34*, L24S10, doi:10.1029/2007/GL031627, 2007.

Menietti, J. D., R. A. Frahm, A. Korth, F. S. Mozer and **Y. Khotyaintsev**, Polar and Cluster observations of a dayside inverted-V conjunction, *Ann. Geophys.*, *25*, 543-555, [www.ann-geophys.net/25/543/2007/](http://www.ann-geophys.net/25/543/2007/), 2007.

**Modolo R., J.-E. Wahlund, R. Bolström**, P. Canu, W.S. Kurth, D. Gurnett, G.R. Lewis, and A.J. Coates, Far plasma wake of Titan from RPWS observations: A case study, *Geophys. Res. Lett.*, *34*, L24S04, doi:10.1029/2007/GL030482, 2007 **(Editor's Highlight)**

**Modolo R., G.M. Chanteur, J.-E. Wahlund**, P. Canu, W.S. Kurth, D. Gurnett, A.P. Matthews and C. Bertucci, Plasma environment in the wake of Titan from hybrid simulation: A case study, *Geophys. Res. Lett.*, *34*, L24S07, doi:10.1029/2007/GL030489, 2007.

Mozer, F.S. and **A. Retinò**, Quantitative estimates of magnetic field reconnection properties from electric and magnetic field measurements, *J. Geophys. Res.*, *112*, A10206, doi:10.1029/2007JA012406, 2007.

Puhl-Quinn, P. A., H. Matsui, E. Mishin, C. Moukikis, L. Kistler, **Y. Khotyaintsev**, P.M.E. Décréau and E. Lucek, Cluster and DMSP observations of SAID electric fields, *J. Geophys. Res.*, *112*, A05219, doi:10.1029/2006JA012065, 2007.

**Retinò, A.**, D. Sundkvist, **A. Vaivads**, F. Mozer, **M. André** and C. J. Owen, In-situ evidence of magnetic reconnection in turbulent plasma, *Nature Physics*, *3*, 235-238, doi:10.1038/nphys574, 2007.

**Rosenqvist, L., A. Kullen and S. Buchert**, An unusual giant spiral arc in the polar cap region during the northward phase of a Coronal Mass Ejection, *Ann. Geophys.*, *25*, 5005-517, [www.ann-geophys.net/25/507/2007/](http://www.ann-geophys.net/25/507/2007/), 2007.

**Stenberg, G.**, T. Oscarsson, **M. André, A. Vaivads**, M. Backrud-Ivgren, **Y. Khotyaintsev, L. Rosenqvist**, F. Sahraoui, N. Cornilleau-Wehrin, A. Fazakerley, R. Lundin and P. M. E. Décréau, Internal structure and spatial dimensions of whistler wave generating regions in the magnetopause boundary layer, *Ann. Geophys.*, *25*, 2439-2451, [www.ann-geophys.net/25/2439/2007/](http://www.ann-geophys.net/25/2439/2007/), 2007.

Sundkvist, D., **A Retinò, A. Vaivads** and S. Bale, Dissipation in turbulent plasma due to reconnection in thin current sheets, *Phys. Rev. Lett.*, *99*, doi:10.1103/PhysRevLett.99.025004, 2007.

Sung, S.-K., K.-H. Ki, D.-H. Lee, K. Takahashi, C.A. Cattell, **M. André, Y.V. Khotyaintsev** and A. Balogh, Simultaneous ground-based and satellite observations of Pc5 Geomagnetic pulsations: A case study using multipoint measurements, *Earth Planets Space*, <http://www.terrapub.co.jp/journals/EPS/pdf/2006/5807/58070873.pdf>, 2007.

Trines, R., R. Bingham, M. W. Dunlop, **A. Vaivads**, J. A. Davies, J. T. Mendonça, L. O. Silva and P. K. Shukla, Spontaneous generation of self-organized solitary wave structures at earth's magnetopause, *Phys. Rev. Lett.*, *99*, doi:10.1103/PhysRevLett.99.205006, 2007.

Trotignon, J. G., J. L. Michau, D. Lagoutte, M. Chabassière, G. Chalumeau, F. Colin, P. M. E. Décréau, J. Geiswiler, P. Gille, R. Grard, T. Hachemi, M. Hamelin, **A. Eriksson**, H. Laakso, J. P. Lebreton, C.

Mazelle, O. Randriamboarison, W. Schmidt, A. Smit, U. Telljohann and P. Zamora. RPC-MIP: the Mutual Impedance Probe of the Rosetta Plasma Consortium, *Space Sci. Rev.*, 128, 713-728, doi:10.1007/s11214-006-9005-1, 2007.

**Vaivads, A.**, O. Santolik, **G. Stenberg**, **M. André**, C. J. Owen, P. Canu, and M. W. Dunlop, Source of whistler emissions at the dayside magnetopause, *Geophys. Res. Lett.*, 34, L09106, doi:10.1029/2006GL029195, 2007.

**Vaivads, A.**, **A. I. Eriksson**, **M. André**, L. G. Blomberg, **J.-E. Wahlund** and S. D. Bale, Low frequency electric field and density fluctuation measurements on Solar Orbiter, *Adv. Space Res.*, 39, 1502-1509, doi:10.1016/j.asr.2006.10.11, 2007.

Wei, H.Y., C.T. Russell, **J.-E. Wahlund**, M.K. Dougherty, C. Bertucci, **R. Modolo**, Y.J. Ma and F.M. Neubauer, Cold ionospheric plasma in Titan's magnetotail, *Geophys. Res. Lett.*, 34, L24S06, doi:10.1029/2007GL030701, 2007.

Yamauchi, M. and **J.-E. Wahlund**, Role of the ionosphere for the atmospheric evolution of planets, *Astrobiology*, 7, 783-800, doi:10.1089/ast.2007.0140, 2007.

**Yordanova E.**, D. Sundkvist, **S. Buchert**, **M. André**, Y. Ogawa, **M. Morooka**, O. Margithu, O. Amm, A. N. Fazakerley, and H. Réme, Energy input from the exterior cusp into the ionosphere: Correlated ground-based and satellite observations, *Geophys. Res. Lett.*, 34, L04102, doi:10.1029/2006GL028617, 2007.

**Ågren, K.**, **J.-E. Wahlund**, **R. Modolo**, D. Lummerzheim, M. Galand, I. Müller-Wodarg, P. Canu, W.S. Kurth, T.E. Cravens, R.V. Yelle, J.H. Waite Jr., A.J. Coates, G.R. Lewis, D.T. Young, C. Bertucci and M.K. Dougherty, On magnetospheric electron impact ionization and dynamics in Titan's ram-side and polar ionosphere-a Cassini case study, *Ann. Geophys.*, 25, 2359-2369, [www.ann-geophys.net/25/2359/2007/](http://www.ann-geophys.net/25/2359/2007/), 2007.

## Other publications

Bale, S. D., M. Maksimovic, **A. Vaivads**, **M. André** and L. Blomberg, Antenna design considerations for the radio and plasma wave (RPW) experiment on Solar Orbiter, submitted to *Proc. of the 2<sup>nd</sup> Solar Orbiter workshop, ESA SP-641*, 2007.

Cully, C.M., R. E. Ergun, E. Lucek, **A. I. Eriksson**, D. N. Baker and C. Mouikis  
Forced current sheets in a flapping magnetotail, in *Proceedings of the 8th International Conference on Substorms*, edited by Syrjäsuo and Donovan, University of Calgary, Alberta, Canada, 43-48, 2007.

**Eriksson, A. I., and E. Winkler**, Photoemission current and solar EUV radiation: Cluster and TIMED observations, in *Proceedings of the 10th Spacecraft Charging Technology Conference (SCTC-10)*, 2007.

**Eriksson, A. I., Y. Khotyaintsev** and P.-A. Lindqvist, Spacecraft wakes in the solar wind, in *Proceedings of the 10th Spacecraft Charging Technology Conference (SCTC-10)*, 2007.

**Eriksson, A. I., E. Engwall, R. Prakash, L. Daldorff**, R. Torbert, I. Dandouras and K. Torkar, Making use of spacecraft-plasma interactions: determining tenuous plasma winds from wake observations and numerical simulations, in *Proceedings of the 10th Spacecraft Charging Technology Conference (SCTC-10)*, 2007.

**Retinò, A.**, Magnetic reconnection in space plasmas: Cluster spacecraft observations, PhD thesis, Acta Universitatis Upsaliensis, Uppsala University, Sweden, ISBN 978-91-554-6898-9, 2007.

**Falkenström, J.**, Statistics of the energy transfer from the solar wind to the magnetosphere, Diploma thesis, Uppsala University, ISSN: 1401-5757, UPTEC F07 007, 2007.

**Prakash, R.**, Simulating the Cluster satellites in a cold plasma flow: A numerical study of spacecraft wake formation, Internship report, Swedish Institute of Space Physics and the Technical University of Delft, 2007.

**Westerberg, M.**, Investigation of the induced magnetospheric boundary at Titan from Langmuir probe observations, Diploma thesis, Master of science program in engineering physics, Uppsala University, 2007.

**Winkler, E.**, Plasma densities and satellite potentials: A study of EUV interaction with the Cluster spacecraft, Diploma thesis, Master of science program in engineering physics, Uppsala University, 2007