

## Papers in refreed journals or books 2010

**André, M., A. Vaivads, Yu. V. Khotyaintsev, T. Laitinen, H. Nilsson, G. Stenberg, A. Fazakerley and J. G. Trotignon**, Magnetic reconnection and cold plasma at the magnetopause, *Geophys. Res. Lett.*, 37, L22108, doi:10.1029/2010GL044611, 2010.

Asano, Y., I. Shinohara, A. Retinò, P. W. Daly, E. A. Kronberg, T. Takada, R. Nakamura, **Y. V. Khotyaintsev, A. Vaivads**, T. Nagai, W. Baumjohann, A. N. Fazakerley, C. J. Owen, Y. Miyashita, E. A. Lucek and H. Rème, Electron acceleration signatures in the magnetotail associated with substorms, *J. Geophys. Res.*, 115, A05215, doi:10.1029/2009JA014587, 2010.

Carbone, V., S. Perri, **E. Yordanova, P. Veltri, R. Bruno, Y. Khotyaintsev and M. André**, Sign-singularity of the reduced magnetic helicity in the solar wind plasma, *Phys. Rev. Lett.*, 104, 181101, doi:10.1103/PhysRevLett.104.181101, 2010.

Cravens, T. E., M. Richard, Y.-J. Ma, C. Bertucci, J. G. Luhmann, S. Ledvina, I. P. Robertson, **J.-E. Wahlund, K. Ågren**, J. Cui, I. Muller-Wodarg, J. H. Waite, M. Dougherty, J. Bell and D. Ulusen, Dynamical and magnetic field time constants for Titan's ionosphere: Empirical estimates and comparisons with Venus, *J. Geophys. Res.*, 115, A08319, doi:10.1029/2009JA015050, 2010.

Cravens, T. E., R. V. Yelle, **J.-E. Wahlund**, D. E. Shemansky and A. F. Nagy, Composition and structure of the ionosphere and thermosphere, in *Titan from Cassini-Huygens*, edited by R. Brown, J.P. Lebreton, and H. Waite 259-295, ISBN 978-1-4020-9214-5, Springer Netherlands, 2010.

Cui, J., M. Galand, R. V. Yelle, **J.-E. Wahlund, K. Ågren**, J. H. Waite and M. K. Dougherty, Ion transport in Titan's upper ionosphere, *J. Geophys. Res.*, 115, A06314, doi:10.1029/2009JA014563, 2010.

**Edberg, N. J. T., J.-E. Wahlund, K. Ågren, M. W. Morooka**, C. Bertucci and M. K. Dougherty, Electron density and temperature measurements in the cold plasma environment of Titan: Implications for atmospheric escape, *Geophys. Res. Lett.*, 37, L20105, doi:10.1029/2010GL044544, 2010.

**Edberg, N. J. T.**, H. Nilsson, A. O. Williams, M. Lester, S. E. Milan, S. W. H. Cowley, M. Fränz, S. Barabash, and Y. Futaana, Pumping out the atmosphere of Mars through solar wind pressure pulses, *Geophys. Res. Lett.*, 37, L03107, doi:10.1029/2009GL041814, 2010.

Farrell, W. M., W. S. Kurth, R. L. Tokar, **J.-E. Wahlund**, D. A. Gurnett, Z. Wang, R. J. MacDowall, **M. W. Morooka**, R. E. Johnson and J. H. Waite, Modification of the plasma in the near-vicinity of Enceladus by the enveloping dust, *Geophys. Res. Lett.*, 37, L20202, doi:10.1029/2010GL044768, 2010.

- Galand, M., R. Yelle, J. Cui, **J.-E. Wahlund**, V. Vuitton, A. Wellbrock and A. Coates, Ionization sources in Titan's deep ionosphere, *J. Geophys. Res.*, 115, A07312, doi:10.1029/2009JA015100, 2010.
- Garnier, P., I. Dandouras, D. Toublanc, E. C. Roelof, P. C. Brandt, D. G. Mitchell, S. M. Krimigis, N. Krupp, D. C. Hamilton and **J.-E. Wahlund**, Statistical analysis of the energetic ion and ENA data for the Titan environment, *Planet. Space Sci.*, 58, 1811-1822, doi:10.1016/j.pss.2010.08.009, 2010.
- Gedalin, M., M. Medvedev, A. Spitkovsky, V. Krasnoselskikh, M. Balikhin, **A. Vaivads** and S. Perri, Growth of filaments and saturation of the filamentation instability, *Phys. Plasmas*, 17, 032108, doi:10.1063/1.3345824, 2010.
- Gurnett, D. A., A. M. Persoon, A. J. Kopf, W. S. Kurth, **M. W. Morooka, J.-E. Wahlund**, K. K. Khurana, M. K. Dougherty, D. G. Mitchell, S. M. Krimigis and N. Krupp, A plasmopause-like density boundary at high latitudes in Saturn's magnetosphere, *Geophys. Res. Lett.*, 37, L16806, doi:10.1029/2010GL044466, 2010.
- Gustafsson, G. and J.-E. Wahlund**, Electron temperatures in Saturn's plasma disc, *Planet. Space Sci.*, 58, 1018-1025, doi:10.1016/j.pss.2010.03.007, 2010.
- Hamrin, M., P. Norqvist, O. Marghitu, **S. Buchert**, B. Klecker, L. M. Kistler and I. Dandouras, Geomagnetic activity effects on plasma sheet energy conversion, *Ann. Geophys.*, 28, 1813-1825, doi:10.5194/angeo-28-1813-2010, 2010.
- Khotyaintsev, M. V., V. N. Melnik, B. Thidé and **Yu. V. Khotyaintsev**, Radar detection of interplanetary shocks: Scattering by anisotropic Langmuir turbulence, *Adv. Space Res.*, 45, 804-810, doi:10.1016/j.asr.2009.12.005, 2010.
- Khotyaintsev, Y. V., A. Vaivads, M. André**, M. Fujimoto, A. Retinò and C. J. Owen, Observations of slow electron holes at a magnetic reconnection site, *Phys. Rev. Lett.*, 105, 165002, doi:10.1103/PhysRevLett.105.165005, 2010.
- Khotyaintsev, Y. V., P.-A. Lindqvist, A. Eriksson and M. André**, The EFW data in the CAA, in *The Cluster Active Archive, Studying the Earth's Space Plasma Environment*, edited by H. Laakso, M.G.T.T. Taylor, and C. P. Escoubet. Astrophysics and Space Science Proceedings, Berlin: Springer, 97-108, doi: 10.1007/978-90-481-3499-1, 2010.
- Kiyani, K., S. Chapman, **Y. Khotyaintsev**, M. Dunlop and F. Sahraoui, Fractal dissipation of small-scale magnetic fluctuations in solar wind turbulence as seen by Cluster, *AIP Conf. Proc.*, 1216, 136-139, doi:10.1063/1.3395819, 2010.
- Laitinen, T. V., Y. V. Khotyaintsev, M. André, A. Vaivads** and H. Rème, Local influence of magnetosheath plasma beta fluctuations on magnetopause reconnection, *Ann. Geophys.*, 28, 1053-1063, doi:10.5194/angeo-28-1053-2010, 2010.

Lu, Q., C. Huang, J. Xie, R. Wang, M. Wu, **A. Vaivads** and S. Wang, Features of separatrix regions in magnetic reconnection: Comparison of 2-D particle-in-cell simulations and Cluster observations, *J. Geophys. Res.*, 115, A11208, doi:10.1029/2010JA015713, 2010.

**Lindstedt, T., Y. V. Khotyaintsev, A. Vaivads, M. André,** H. Nilsson and M. Waara, Oxygen energization, by localized perpendicular electric fields at the cusp boundary, *Geophys. Res. Lett.*, 37, L09103, doi:10.1029/2010GL043117, 2010.

Lewis, G. R., C. S. Arridge, D. R. Linder, L. K. Gilbert, D. O. Kataria, A. J. Coates, A. Persoon, G. A. Collinson, N. André, P. Schippers, **J.-E. Wahlund, M. Morooka,** G. H. Jones, A. M. Rymer, D. T. Young, D. G. Mitchell, A. Lagg and S. A. Livi, The calibration of the Cassini-Huygens CAPS electron spectrometer, *Planet. Space Sci.*, 58, 427-436, doi:10.1016/j.pss.2009.11.008, 2010.

Marghitu, O., M. Hamrin, B. Klecker, K. Rönmark, **S. Buchert,** L. M. Kistler, **M. André** and H. Rème, Cluster observations of energy conversion regions in the plasma sheet, in *The Cluster Active Archive, Studying the Earth's Space Plasma Environment*, edited by H. Laakso, M.G.T.T. Taylor, and C. P. Escoubet. Astrophysics and Space Science Proceedings, Berlin: Springer, 453-460, doi: 10.1007/978-90-481-3499-1, 2010.

Matsui, H., P. A. Puhl-Quinn, J. W. Bonnell, C. J. Farrugia, V. K. Jordanova, **Y. V. Khotyaintsev,** P.-A. Lindqvist, E. Georgescu and R. B. Torbert, Characteristics of storm time electric fields in the inner magnetosphere derived from Cluster data, *J. Geophys. Res.*, 115, A11215, doi:10.1029/2010JA015450, 2010.

Nishimura, Y., J. Bortnik, W. Li, R. M. Thorne, L. R. Lyons, V. Angelopoulos, S. B. Mende, J. W. Bonnell, O. Le Contell, **C. Cully** and U. Auster, Identifying the driver of pulsating aurora, *Science*, 330, 81-84, doi:10.1126/science.1193186, 2010.

Nilsson, H., **E. Engwall, A. Eriksson,** P. A. Puhl-Quinn and S. Arvelius, Centrifugal acceleration in the magnetotail lobes, *Ann. Geophys.*, 28, 569-576, doi:10.5194/angeo-28-569-2010, 2010.

Ogawa, Y., **S. C. Buchert,** A. Sakurai, S. Nozawa and R. Fujii, Solar activity dependence of ion upflow in the polar ionosphere observed with the European Incoherent Scatter (EISCAT) Tromsø UHF radar, *J. Geophys. Res.*, 115, A07310, doi:10.1029/2009JA014766, 2010.

Olson, J., N. Brenning, **J.-E. Wahlund** and H. Gunell, On the interpretation of Langmuir probe data inside a spacecraft sheath, *Rev. of Sci. Instrum.*, 81, 105106, doi:10.1063/1.3482155, 2010.

**Oppenoorth, H. J.**, R. S. Dhillon, **L. Rosenqvist**, M. Lester, **N. J. T. Edberg**, S. E. Milan, P. Withers and D. Brain, Day-side ionospheric conductivities at Mars, *Planet. Space Sci.*, 58, 1139-1151, doi:10.1016/j.pss.2010.04.004, 2010.

Sorriso-Valvo, L., **E. Yordanova** and V. Carbone, On the scaling properties of anisotropy of interplanetary magnetic turbulent fluctuations, *Europhysics Lett.*, 90, 59001, doi:10.1209/0295-5075/90/59001, 2010.

Sittler, E. C., R. E. Hartle, R. E. Johnson., J. F. Cooper, A. S. Lipatov, C. Bertucci, A. J. Coates, K. Szego, M. Shappirio, D. G. Simpson and **J.-E. Wahlund**, Saturn's magnetospheric interaction with Titan as defined by Cassini encounters T9 and T18: New results, *Planet. Space Sci.*, 58, 327-350, doi:10.1016/j.pss.2009.09.017, 2010.

Trines, R. M. G., R. Bingham, L. O. Silva, J. T. Mendonça, P. K. Shukla, C. D. Murphy, M. W. Dunlop, J. A. Davies, R. Bamford, **A. Vaivads** and P. A. Norreys, Applications of the wave kinetic approach: from laser wakefields to drift wave turbulence, *J. Plasma Phys.*, 76, 903-914, doi: 10.1017/S0022377810000449, 2010.

Ulusen, D., J. G. Luhmann, Y.-J. Ma, S. Ledvina, T. E. Cravens, K. Mandt, J. H. Waite and **J.-E. Wahlund**, Investigation of the force balance in the Titan ionosphere: Cassini T5 flyby model/data comparisons, *Icarus*, 210, 867-880, doi:10.1016/j.icarus.2010.07.004, 2010.

**Vaivads, A.**, A. Retinò, **Yu. V. Khotyaintsev** and **M. André**, The Alfvén edge in asymmetric reconnection, *Ann. Geophys.*, 28, 1327-1331, doi:10.5194/angeo-28-1327-2010, 2010.

Waara, M., H. Nilsson, G. Stenberg, **M. André**, H. Gunell and H. Rème, Oxygen ion energization observed at high altitudes, *Ann. Geophys.*, 28, 907-916, doi:10.5194/angeo-28-907-2010, 2010.

## **Undergraduate diploma theses 2010**

**Gwosch, K.**, The electron density in Saturn's magnetosphere around equinox. Master thesis, Department of Physics and Astronomy, Uppsala University, 2010.

**Shebanits, O.**, Determination of ion number density from Langmuir probe measurements in the ionosphere of Titan, Master thesis, School of Engineering and Department of Physics and Astronomy, Uppsala University, UPTEC F10 041, 2010.

## **Popular science 2010**

**Erik Engwall**, Jordens atmosfär läcker (in Swedish), *Forskning och Framsteg*, 8, 44-47, 2010.