

## Refereed publications 2014

**Andrews, D. J., M. André, H. J Opgenoorth, N. J. T. Edberg**, C. Diéval, F. Duru, D. A. Gurnett, D. Morgan, and O. Witasse, Oblique reflections in the Mars Express MARSIS data set: Stable density structures in the Martian ionosphere, *J. Geophys. Res. Space Physics*, 119, 3944–3960, doi:10.1002/2013JA019697, 2014.

Bunce, E. J., D. C. Grodent, S. L. Jinks, **D. J. Andrews**, S. V. Badman, A. J. Coates, S. W. H. Cowley, M. K. Dougherty, W. S. Kurth, D. G. Mitchell, and G. Provan, Cassini night- side observations of the oscillatory motion of Saturn’s northern auroral oval, *J. Geophys. Res. Space Physics*, 119, 3528–3543, doi:10.1002/2013JA019527, 2014.

Deca J., **A. Divin**, G. Lapenta, B. Lembège, S. Markidis, M. Horányi, Electromagnetic Particle-in-Cell Simulations of the Solar Wind Interaction with Lunar Magnetic Anomalies, *Phys. Rev. Lett.*, 112, 151102, doi: <http://dx.doi.org/10.1103/PhysRevLett.112.151102>, 2014.

Farrell, W. M., **J.-E. Wahlund**, M. Morooka, D. A. Gurnett, W. S. Kurth and R. J. MacDowall, An estimate of the dust pickup current at Enceladus, *Icarus*, 239, 217–221, [doi:10.1016/j.icarus.2014.05.034](https://doi.org/10.1016/j.icarus.2014.05.034), 2014.

Fu, H. S., J. B. Cao, C. M. Cully, **Y. V. Khotyaintsev, A. Vaivads**, V. Angelopoulos, Q.-G. Zong, O. Santolík, E. Macúšová, **M. André**, W. L. Liu, H. Y. Lu, M. Zhou, S. Y. Huang, and Z. Zhima, Whistler-mode waves inside flux pileup region: Structured or unstructured?, *J. Geophys. Res. Space Physics*, 119, doi:10.1002/ 2014JA020204, 2014.

Fu, H. S., J. B. Cao, Z. Zhima, **Y. V. Khotyaintsev**, V. Angelopoulos, O. Santolík, Y. Omura, **U. Taubenschuss**, L. Chen, and S. Y. Huang, First observation of rising-tone magnetosonic waves, *Geophys. Res. Lett.*, 41, 7419–7426, doi:10.1002/ 2014GL061867, 2014.

Garnier, P., **M.K.G. Holmberg, J.-E. Wahlund**, G.R. Lewis, P. Schippers, A. Coates, D.A. Gurnett, J.H. Waite, I. Dandouras, Deriving the characteristics of warm electrons (100–500 eV) in the magnetosphere of Saturn with the Cassini Langmuir probe, *Plan. Space Sci.*, 104, 173-184, [doi:10.1016/j.pss.2014.09.008](https://doi.org/10.1016/j.pss.2014.09.008), 2014.

**Graham, D. B., Yu. V. Khotyaintsev, A. Vaivads, M. André**, and A. N. Fazakerley, Electron dynamics in the diffusion region of an asymmetric magnetic reconnection, *Phys. Rev. Lett.* 112, 215004, doi:10.1103/PhysRevLett.112.215004, 2014.

**Graham, D. B.**, and I. H. Cairns, Dynamical evidence for nonlinear Langmuir wave processes in type III solar radio bursts, *J. Geophys. Res. Space Physics*, 119, 2430–2457, doi:10.1002/2013JA019425, 2014.

**Graham, D. B.**, D. M. Malaspina, and I. H. Cairns, Applying bicoherence analysis to spacecraft observations of Langmuir waves, *Geophys. Res. Lett.*, 41, 1367–1374, doi:10.1002/2014GL059565, 2014.

**Graham, D. B., I. H. Cairns, and D. M. Malaspina,** Harmonic waves and sheath rectification in type III solar radio bursts, *J. Geophys. Res. Space Physics*, 119, 723–741, doi:10.1002/2013JA019317, 2014.

Grigorenko E. E., J.-A. Sauvaud, **L. Palin**, C. Jacquay, L. M. Zeleny, THEMIS observations of the current sheet dynamics in response to the intrusion of the high-velocity plasma flow into the near-Earth magnetotail, *J. Geophys. Res. Space Physics*, 119, 8, doi: 10.1002/2013JA019729, 2014.

Grison, B., C. P. Escoubet, O. Santolík, N. Cornilleau-Wehrlin, and **Y. Khotyaintsev**, Wave number determination of Pc 1–2 mantle waves considering He<sup>++</sup> ions: A Cluster study, *J. Geophys. Res. Space Physics*, 119, 7601–7614, doi:10.1002/ 2013JA019719, 2014.

Gunell, H., G. Stenberg Wieser, **M. Mella**, R. Maggiolo, H. Nilsson, F. Darrouzet, M. Hamrin, T. Karlsson, N. Brenning, J. De Keyser, **M. André**, and I. Dandouras, Waves in high-speed plasmoids in the magnetosheath and at the magnetopause, *Ann. Geophys.*, 32, 991–1009, doi:10.5194/angeo-32-991-2014, 2014.

Han, X., M. Fraenz, E. Dubinin, Y. Wei, **D. J. Andrews**, W. Wan, M. He, Z. J. Rong, L. Chai, J. Zhong, K. Li, and S. Barabash, Discrepancy between ionopause and photoelectron boundary determined from Mars Express measurements, *Geophys. Res. Lett.*, 41, doi:10.1002/2014GL062287, 2014.

Hamrin, M., T. Pitkänen, P. Norqvist, T. Karlsson, H. Nilsson, **M. André**, **S. Buchert**, **A. Vaivads**, O. Marghitu, B. Klecker, L. M. Kistler, and I. Dandouras, Evidence for the braking of flow bursts as they propagate toward the Earth, *J. Geophys. Res. Space Physics*, 119, doi:10.1002/2014JA020285, 2014.

**Holmberg, M. K. G., J.-E. Wahlund**, and M. W. Morooka, Dayside/nightside asymmetry of ion densities and velocities in Saturn’s inner magnetosphere, *Geophys. Res. Lett.*, 41, 3717–3723, doi:10.1002/2014GL060229, 2014.

Jinks, S. L., E. J. Bunce, S. W. H. Cowley, G. Provan, T. K. Yeoman, C. S. Arridge, M. K. Dougherty, D. A. Gurnett, N. Krupp, W. S. Kurth, D. G. Mitchell, M. Morooka, **and J.-E. Wahlund**, Cassini multi- instrument assessment of Saturn’s polar cap boundary, *J. Geophys. Res. Space Physics*, 119, 8161–8177, doi:10.1002/ 2014JA020367, 2014.

← **Khotyaintsev, Yu V., P.-A. Lindqvist, C. M. Cully, A. I. Eriksson, and M. André**,

← In-flight calibration of double-probe electric field measurements on Cluster, *Geosci. Instrum. Method. Data Syst.*, 3, 143-151, doi:10.5194/gi-3-143-2014, 2014.

Lapenta, G., M. Goldman, D. Newman, S. Markidis, **A. Divin**, Electromagnetic energy conversion in downstream fronts from three dimensional kinetic reconnection, *Phys. Plasma*, 21, 055702, DOI:10.1063/1.4872028, 2014.

Morgan, D. D., C. Diéval, D. A. Gurnett, F. Duru, E. M. Dubinin, M. Fränz, **D. J. Andrews, H. J. Opgenoorth**, D. Ulusen, I. Mitrofanov, and J. J. Plaut, Effects of a strong ICME on the Martian ionosphere as detected by Mars Express and Mars Odyssey, *J. Geophys. Res. Space Physics*, 119, 5891–5908, doi:10.1002/2013JA019522, 2014.

Ogawa, Y., T. Motoba, **S. C. Buchert**, I. Häggström, and S. Nozawa, Upper atmosphere cooling over the past 33 years, *Geophys. Res. Lett.*, 41, 5629–5635, doi:10.1002/2014GL060591, 2014.

Richard, M. S., T. E. Cravens, C. Wylie, D. Webb, Q. Chediak, R. Perryman, K. Mandt, J. Westlake, J. H. Waite Jr., I. Robertson, B. A. Magee, **N. J. T. Edberg**, An Empirical Approach to Modeling Ion Production Rates in Titan's Ionosphere I: Ion Production Rates on the Dayside and Globally, *J. Geophys. Res.*, doi:10.1002/2013JA019706, 2014.

Romanelli, N., R. Modolo, E. Dubinin, J.-J. Berthelier, C. Bertucci **J.-E. Wahlund**, F. Leblanc, P. Canu, **N. J. T. Edberg**, H. Waite , W. S. Kurth, D. A. Gurnett, A. Coates, D. Michele, Outflow and plasma acceleration in Titan's induced magnetotail: Evidence of magnetic tension forces, *J. Geophys. Res. Space Physics*, 119, doi:10.1002/2014JA020391, 2014.

Sust, M., F. Zanger, O. Montenbruck, **S. Buchert**, A. Garcia-Rodriguez, Spaceborn GNSS-receiving system performance prediction and validation, presented at the 7th ESA Workshop on Satellite Navigation Technologies, NAVITEC 2014, ESTEC, Noordwijk, The Netherlands,  
[http://www.cluster.irfu.se/scb/navitec\\_2014\\_sus\\_et\\_al\\_final\\_for\\_web.pdf](http://www.cluster.irfu.se/scb/navitec_2014_sus_et_al_final_for_web.pdf), 2014.

**Taubenschuss, U., Y. V. Khotyaintsev, O. Santolík, A. Vaivads, C. M. Cully, O. Le Contel, and V. Angelopoulos**, Wave normal angles of whistler mode chorus rising and falling tones, *J. Geophys. Res. Space Physics*, 119, doi:10.1002/2014JA020575, 2014.

Varsani, A., C. J. Owen, A. N. Fazakerley, C. Forsyth, A. P. Walsh, **M. André**, I. Dandouras, and C. M. Carr, Cluster observations of the substructure of a flux transfer event: analysis of high-time-resolution particle data, *Ann. Geophys.*, 32, 1093–1117, doi:10.5194/angeo-32-1093-2014, 2014.

**Viberg, H., Yu. V. Khotyaintsev, A. Vaivads, M. André**, H. S. Fu and N. Cornilleau-Wehrlin, Whistler waves at magnetotail depolarization fronts, *J. Geophys. Res. Space Physics*, 119, 2605–2611, doi:10.1002/2014JA019892, 2014.

**Vigren, E., M. Galand, O. Shebanits, J.-E. Wahlund**, W. D. Geppert, P. Lavvas, V. Vuitton, and R. V. Yelle, Increasing positive ion number density below the peak of ion-electron pair production in Titan's ionosphere, *ApJ.* 786, 69 [doi:10.1088/0004-637X/786/1/69](https://doi.org/10.1088/0004-637X/786/1/69), 2014.

Ye, S.-Y., D. A. Gurnett, W. S. Kurth, T. F. Averkamp, M. Morooka, S. Sakai, and **J.-E. Wahlund**, Electron density inside Enceladus plume inferred from plasma

oscillations excited by dust impacts, *J. Geophys. Res. Space Physics*, 119, 3373–3380, doi:10.1002/2014JA019861, 2014.

Wang, R., Q. Lu, **Yu V. Khotyaintsev**, M. Volwerk, A. Du, R. Nakamura, W. D. Gonzalez, X. Sun, W. Baumjohann, X. Li, T. Zhang, A. N. Fazakerley, C. Huang, and M. Wu, Observation of double layer in the separatrix region during magnetic reconnection, *Geophys. Res. Lett.*, 41, 4851–4858, doi:10.1002/2014GL061157, 2014.

## Licentiate thesis

**Norgren, C.**, Lower hybrid drift waves and electron holes in the Earth's magnetosphere, licentiate thesis, Department of physics and astronomy, Uppsala university, 2014

## Undergraduate diploma theses

Johlander, Andreas, [The formation of the ion seed population at quasi-parallel shocks in space plasma](#), *Student thesis*, Department of physics and astronomy, Uppsala University, and Swedish institute of space physics, [urn:nbn:se:uu:diva-231855](#), 2014.

Karl Lindgren, Small satellite attitude estimation and its impact on mission performance, *Student thesis*, Department of physics and astronomy, Uppsala University, and Swedish institute of space physics, [urn:nbn:se:uu:diva-224818](#), 2014.

Tsimpidas, Dimitrios, Water on the Moon What, where and how? A review of facts and speculations; overview of the LCROSS-Lunar Crater Observation and Sensing Satellite and Chandrayaan-1 mission results; an introduction to the Electrostatic Elevated Dust (EED) Water Transportation Mechanism, *Student thesis*, Department of physics and astronomy, Uppsala University, and Swedish institute of space physics [urn:nbn:se:uu:diva-225120](#), 2014.

Tsimpidas, Dimitrios, Energetic O<sup>+</sup> ions upstream from the Saturnian bow shock, measured by Cassini, *Student thesis*, Department of physics and astronomy, Uppsala University, and Swedish institute of space physics, [urn:nbn:se:uu:diva-220871](#), 2014.