

Radio & Space Plasma Physics Group Publications

Group authors are shown boldface

Calendar Year 2009

Refereed research papers published

- 09-01 **Arnone, E.**, A. Kero, C.F. Enell, M. Carlotti, C.J. Rodger, E. Papandrea, **N.F. Arnold**, B.M. Dinelli, M. Ridolfi, E. Turunen, Seeking sprite-induced signatures in remotely sensed middle atmosphere NO₂: latitude and time variations, *Plasma Sources Sci. Technol.*, **18** (3), Art 034014, 2009.
- 09-02 **Badman, S.V.**, **D.M. Wright**, **L.B.N. Clausen**, **R.C. Fear**, **T.R. Robinson**, and **T.K. Yeoman**, Cluster spacecraft observations of a ULF wave enhanced by Space Plasma Exploration by Active Radar (SPEAR), *Ann. Geophysicae*, **27**, 3591-3599, 2009.
- 09-03 Blagoveshchenskaya, N.F., H.C. Carlson, V.A. Kornienko, T.D. Borisova, M.T. Rietveld, **T.K. Yeoman**, and A. Brekke, Phenomena induced by powerful HF pumping towards magnetic zenith with a frequency near the F-region critical frequency and the third electron gyro harmonic frequency, *Ann. Geophysicae*, **27**, 131-145, 2009.
- 09-04 Blagoveshchenskaya, N.F., T.D. Borisova, V.A. Kornienko, A.S. Kalishin, **T.R. Robinson**, **T.K. Yeoman**, **D.M. Wright**, and L.J. Baddeley, SPEAR-induced field-aligned irregularities observed from bi-static HF radioscattering in the polar ionosphere, *J. Atmos. Solar-Terr. Phys.*, **71**, 11-20, doi:10.1016/j.jastp.2008.09.026, 2009.
- 09-05 Borisova, T.D., N.F. Blagoveshchenskaya, V. A. Kornienko, A.S. Yanzhura, A.S. Kalishin, **T.R. Robinson**, **T.K. Yeoman**, and L.J. Baddeley, Peculiarities of artificial ionospheric radiation under the action of high-power HF radio waves, emitted by the SPEAR facility, on the sporadic E layer of the polar ionosphere, *Geomag. Aeron.*, **49**, 653-663, doi: 10.1134/S0016793209050120, 2009.
- 09-06 Borisova, T.D., N.F. Blagoveshchenskaya, V.A. Kornienko, A.S. Yanzhura, A.S. Kalishin, **T.R. Robinson**, **T.K. Yeoman**, and L.J. Baddeley, Erratum: "Peculiarities of artificial ionospheric radiation under the action of high-power HF radio waves, emitted by the SPEAR facility, on the sporadic E layer of the polar ionosphere", *Geomag. Aeron.*, **49**, 822, doi: 10.1134/S0016793209060176, 2009.
- 09-07 **Boakes, P.D.**, **S.E. Milan**, G.A. Abel, M.P. Freeman, G. Chisham, and B. Hubert, A statistical study of the open magnetic flux content of the magnetosphere at the time of substorm onset, *Geophys. Res. Lett.*, **36**, L04105, doi: 10.1029/2008GL037059, 2009.
- 09-08 Boesswetter, A., U. Auster, I. Richter, M. Fränz, B. Langlais, S. McKenna-Lawlor, S. Simon, U. Motschmann, K.-H. Glassmeier, **N.J.T. Edberg**, and R. Lundin, Rosetta swing-by at Mars - An analysis of the ROMAP measurements in comparison with results of 3D multi-ion hybrid simulations and MEX/ASPERA-3 data, *Ann. Geophysicae*, **27**, 2383-2398, 2009.

- 09-09 Cai, H.T., I.W. McCrea, M.W. Dunlop, J.A. Davies, Y.V. Bogdanova, F. Pitout, **S.E. Milan**, M. Lockwood, and S.Y. Ma, Cusp response during a sequence of fast IMF B_z reversals, *Ann. Geophysicae*, **27**, 2721-2737, 2009.
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- 09-11 Clarke, J.T., **J.D. Nichols**, J.-C. Gérard, D. Grodent, K.C. Hansen, W.R. Kurth, G.R. Gladstone, J. Duval, S. Wannawichian, E. Bunce, **S.W.H. Cowley**, F.J. Crary, M.K. Dougherty, L. Lamy, D. Mitchell, W. Pryor, K. Retherford, **T. Stallard**, B. Zieger, P. Zarka, and B. Cecconi, The response of Jupiter's and Saturn's auroral activity to the solar wind, *J. Geophys. Res.*, **114**, A05210, doi: 10.1029/2008JA013694, 2009.
- 09-12 **Clausen, L.B.N.**, **T.K. Yeoman**, **R.C. Fear**, R. Behlke, E.A. Lucek, and M.J. Engebretson, First simultaneous measurements of waves generated at the bow shock in the solar wind, the magnetosphere and on the ground, *Ann. Geophysicae*, **27**, 357-371, 2009.
- 09-13 **Clausen, L.B.N.**, **T.K. Yeoman**, and E.A. Lucek, Comprehensive survey of Pc 5 band spectral content in Cluster magnetic field data, *Ann. Geophysicae*, **27**, 3237-3248, 2009.
- 09-14 **Cnossen, I.**, M.J. Harris, **N.F. Arnold**, and E. Yigit, Modelled effect of changes in the CO₂ concentration on the middle and upper atmosphere: sensitivity to gravity wave parameterization, *J. Atmos. Solar-Terr. Phys.*, **71**, 1484-1496, 2009.
- 09-15 **Dhillon, R.S.**, **T.R. Robinson**, and **T.K. Yeoman**, Aspect sensitive E- and F- region SPEAR-induced incoherent backscatter observed by the EISCAT Svalbard radar, *Ann. Geophysicae*, **27**, 65-81, 2009.
- 09-16 Dunlop, M.W., Q.-H. Zhang, C.-J. Xiao, J.-S. He, Z. Pu, **R.C. Fear**, C. Shen, and C.P. Escoubet, Reconnection at high latitudes: Antiparallel merging, *Phys. Rev. Lett.*, **102**, 075005, doi:10.1103/PhysRevLett.102.075005, 2009.
- 09-17 **Edberg, N.J.T.**, A.I. Eriksson, U. Auster, S. Barabash, A. Böswetter, C.M. Carr, **S.W.H. Cowley**, E. Cupido, M. Fränz, K.-H. Glassmeier, R. Goldstein, **M. Lester**, R. Lundin, R. Modolo, H. Nilsson, I. Richter, M. Samara, and J.G. Trotignon, Simultaneous measurements of the Martian plasma environment by Rosetta and Mars Express, *Planet. Spac Sci.*, **57**, 1085-1096, 2009.
- 09-18 **Edberg, N.J.T.**, D.A. Brain, **M. Lester**, **S.W.H. Cowley**, R. Modolo, M. Fränz, and S. Barabash, Plasma boundary variability at Mars as observed by Mars Global Surveyor and Mars Express, *Ann. Geophysicae*, **27**, 3537-3550, 2009.
- 09-19 **Edberg, N.J.T.**, U. Auster, S. Barabash, A. Böswetter, D.L. Brain, J.L. Burch, C.M. Carr, **S.W.H. Cowley**, E. Cupido, F. Duru, A.I. Eriksson, M. Fränz, K.-H. Glassmeier, R. Goldstein, **M. Lester**, R. Lundin, R. Modolo, H. Nilsson, I. Richter, M. Samara, and J.G. Trotignon, Rosetta and Mars Express observations of the influence of high solar wind pressure on the Martian plasma environment, *Ann. Geophysicae*, **27**, 4543-4545, 2009.
- 09-20 **Fear, R.C.**, **S.E. Milan**, A.N. Fazakerley, K.-H. Fornacon, C.M. Carr and I. Dandouras, Simultaneous observations of flux transfer events by THEMIS, Cluster, Double Star and SuperDARN: Acceleration of FTEs, *J. Geophys. Res.*, **114**, A10213, doi:10.1029/2009JA014310, 2009.

- 09-21 **Forsyth, C., M. Lester, R.C. Fear,** E. Lucek, I. Dandouras, A.N. Fazakerley, H. Singer, and **T.K. Yeoman**, Solar wind and substorm excitation of the wavy neutral sheet, *Ann. Geophysicae*, **27**, 2457-2474, 2009.
- 09-22 **Grocott, A.,** J.A. Wild, **S.E. Milan,** and **T.K. Yeoman**, Superposed epoch analysis of the ionospheric convection evolution during substorms: onset latitude dependence, *Ann. Geophysicae*, **27**, 591-600, 2009.
- 09-23 **Grocott, A.,** S.V. Badman, **S.W.H. Cowley, S.E. Milan, J.D. Nichols,** and **T.K. Yeoman**, Magnetosonic mach number dependence of the efficiency of reconnection between the interplanetary and terrestrial magnetic fields, *J. Geophys. Res.*, **114**, A07219, doi: 10.1029/2008JA014330, 2009.
- 09-24 Grodent, D., B. Bonfond, A. Radioti, J.-C. Gérard, J. Xianzhe, **J.D. Nichols,** and J.T. Clarke, The auroral footprint of Ganymede, *J. Geophys. Res.*, **114**, A07212, doi: 10.1029/2009JA014289, 2009.
- 09-25 Horne, R.B., **M.M. Lam,** and J.C. Green, Energetic electron precipitation from the outer radiation belt during geomagnetic storms, *Geophys. Res. Lett.*, **36**, L19104, doi: 10.1029/2009GL040236 2009.
- 09-26 Hubert, B., C. Blockx, **S.E. Milan,** and **S.W.H. Cowley**, Statistical properties of flux closure induced by solar wind dynamic pressure fronts, *J. Geophys. Res.*, **114**, A07211, doi: 10.1029/2008JA013813, 2009.
- 09-27 Iwanski, R., **A. Odzimek, L.B.N. Clausen,** V. Kanawade, **I. Cnossen,** and **N. Edberg**, Meteorological study of the first observation of red sprites from Poland, *Acta. Geophysica*, **57**, 760-777, 2009.
- 09-28 Jackman, C.M., L. Lamy, M.P. Freeman, P. Zarka, B. Cecconi, W.S. Kurth, **S.W.H. Cowley,** and M.K. Dougherty, On the character and distribution of lower-frequency radio emissions at Saturn and their relationship to substorm-like events, *J. Geophys. Res.*, **114**, A08211, doi: 10.1029/2008JA013997, 2009.
- 09-29 Jacobsen, K.S., T.D. Phan, J.P. Eastwood, D.G. Sibeck, V. Angelopoulos, J.P. McFadden, M. Engebretson, **G. Provan,** D. Larson, and K.H. Glassmeier, THEMIS observations of extreme magnetopause motion caused by a hot flow anomaly, *J. Geophys. Res.*, **114**, A08210, doi: 10.1029/2008JA013873, 2009.
- 09-30 **Kellett, S.,** E.J. Bunce, A.J. Coates, and **S.W.H. Cowley**, Thickness of Saturn's ring current determined from north-south Cassini passes through the current layer, *J. Geophys. Res.*, **114**, A04209, doi: 10.1029/2008JA013942, 2009.
- 09-31 Kurth, W.S., E.J. Bunce, J.T. Clarke, F.J. Crary, D.C. Grodent, A.P. Ingersoll, U.A. Dyudina, L. Lamy, D.G. Mitchell, A.M. Persoon, W.R. Pryor, J. Saur, and **T. Stallard**, Auroral processes in *Saturn from Cassini-Huygens*, edited by M.K. Dougherty, L.W. Esposito, and S.M. Krimigis, Springer Science & Business Media, p.333-374. doi: 10.1007/978-1-4020-9217-6, 2009.
- 09-32 **Lam, M.M.,** R.B. Horne, N.P. Meredith, and S.A. Glauert, Radiation belt electron flux variability during three CIR-driven geomagnetic storms, *J. Atmos. Solar-Terr. Phys.*, **71**, 1145-1156, 2009.

- 09-33 Lamy, L., B. Cecconi, R. Prangé, P. Zarka, **J.D. Nichols**, and J.T. Clarke, An auroral oval at the footprint of Saturn's kilometric radio sources, co-located with the UV aurorae, *J. Geophys. Res.*, **114**, A10212, doi: 10.1029/2009JA014401, 2009.
- 09-34 Lindstedt, T., Y.V. Khotyaintsev, A. Vaivads, M. André, **R.C. Fear**, B. Lavraud, S. Haaland, and C.J. Owen, Separatrix regions of magnetic reconnection at the magnetopause, *Ann. Geophysicae*, **27**, 4039-4056, 2009.
- 09-35 **Milan, S.E.**, **A. Grocott**, **C. Forsyth**, S.M. Imber, **P.D. Boakes**, and B. Hubert, A superposed epoch analysis of auroral evolution during substorm growth, onset and recovery: open magnetic flux control of substorm intensity, *Ann. Geophysicae*, **27**, 659-668, 2009.
- 09-36 **Milan, S.E.**, **J. Hutchinson**, **P.D. Boakes**, and B. Hubert, Influences on the radius of the auroral oval, *Ann. Geophysicae*, **27**, 2913-2924, 2009.
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- 09-39 Mitchell, D.G., J.F. Carbary, **S.W.H. Cowley**, T.W. Hill, and P. Zarka, The dynamics of Saturn's magnetosphere, in *Saturn from Cassini-Huygens*, edited by M.K. Dougherty, L.W. Esposito, and S.M. Krimigis, Springer Science & Business Media, pp. 257-279, doi: 10.1007/978-1-4020-9217-6, 2009.
- 09-40 **Nichols, J.D.**, J.T. Clarke, J.-C. Gérard, D. Grodent, and K.C. Hansen, The variation of different components of Jupiter's auroral emission, *J. Geophys. Res.*, **114**, A06210, doi:10.1029/2009JA014051, 2009.
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- 09-42 **Nichols, J.D.**, **S.V. Badman**, E.J. Bunce, J.T. Clarke, **S.W.H. Cowley**, F.J. Crary, M.K. Dougherty, J.-C. Gérard, D. Grodent, K.C. Hansen, W.S. Kurth, D.G. Mitchell, W.R. Pryor, **T.S. Stallard**, D.L. Talboys, and S. Wannawichian, Saturn's equinoctial auroras, *Geophys. Res. Lett.*, **36**, L24102, doi:10.1029/2009GL041491, 2009.
- 09-43 **Provan, G.**, **D.J. Andrews**, C.S. Arridge, **S.W.H. Cowley**, **S.E. Milan**, M.K. Dougherty, and **D.M. Wright**, Polarization and phase of planetary-period magnetic field oscillations on high latitude field lines in Saturn's magnetosphere, *J. Geophys. Res.*, **114**, A02225, doi: 10.1029/2008JA013782, 2009.
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- 09-47 Seran, E., M. Godefroy, J.-C. Cerisier, J.-J. Berthelier, K. Kauristie, **M. Lester**, and L.E. Sarri, What can we learn from HF signal scattered from a discrete arc?, *Ann. Geophysicae*, **27**, 1887-1896, 2009.
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- 09-53 Vanhamäki, H., K. Kauristie, O. Amm, A. Senior, D. Lummerzheim, and **S.E. Milan**, Electrodynamics of an omega-band as deduced from optical and magnetometer data, *Ann. Geophysicae*, **27**, 3387-3409, 2009.
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- 09-55 **Williams, A.O.**, J.A. Davies, **S.E. Milan**, A.P. Rouillard, C.J. Davis, C.H. Perry, and R.A. Harrison, Space weather prediction using the STEREO Heliospheric Imagers: A theoretical assessment, *Ann. Geophysicae*, **27**, 4359-4368, 2009.
- 09-56 **Wright, D.M.**, **R.S. Dhillon**, **T.K. Yeoman**, **T.R. Robinson**, **E.C. Thomas**, L.J. Baddeley, and S. Imber, Excitation thresholds of field-aligned irregularities and associated ionospheric hysteresis at very high latitudes observed using SPEAR-induced HF radar backscatter, *Ann. Geophysicae*, **27**, 2623-2631, 2009.

Unrefereed research papers

- 09-57 **Cowley, S.W.H.**, Book review: "Numerical Modeling of Space Plasma Flows: ASTRONUM-2008 (ASP Conference Series Vol. 406)" edited by N.V. Pogorelov, E. Audit, P. Colella, and G.P. Zank, *The Observatory*, **129**, 393-394, 2009.

- 09-58 Eriksson, A.I., R. Gill, J.-E. Wahlund, M. Andre, A. Mälkki, B. Lybäck, A. Pedersen, J.A. Holtet, L.G. Blomberg, and **N.J.T. Edberg**, RPC-LAP: The Langmuir probe instrument of the Rosetta Plasma Consortium, In *Rosetta: ESA's mission to the origin of the solar system* (edited by R. Schulz, C. Alexander, H. Boehnhardt and K.-H. Glassmeier), pp. 435-447. Springer, ISBN: 978-0-387-77517-3, 2009.
- 09-59 **Odzimek, A., L.B.N. Clausen**, V. Kanawade, **I. Cnossen**, **N.J.T. Edberg**, F. Faedi, A. Del Moro, U. Ural, K. Byckling, P. Krzaczkowski, R. Iwanski, P. Struzik, M. Pajek and W. Gajda, SPARTAN Sprite-Watch Campaign 2007, in *15th Young Scientists Conf. on Astron. and Space Phys., Proc. of Contributed Papers*, edited by V.Ya. Choliy and G. Ivashchenko, Logos, Kyiv, pp. 64-67, 2009.
- 09-60 **Odzimek, A.**, and **M. Lester**, Modelling the Earth's global atmospheric electric circuit — development, challenges and directions, *Publ. Inst. Geophys. Pol. Acad. Sci., D*, **73**(412), 37–53, 2009.
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