

Radio & Space Plasma Physics Group Publications

Group authors are shown boldface

Calendar Year 2004

Refereed research papers

- 04-01 **Baddeley, L.J., T.K. Yeoman, D.M. Wright,** K.J. Trattner and B.J. Kellet, Statistical study of unstable particle populations in the global ring current and their relation to the generation of high m ULF waves, *Ann. Geophysicae*, **22**, 4229-4241, 2004.
- 04-02 **Bunce, E.J., S.W.H. Cowley,** and **T.K. Yeoman,** Jovian cusp processes: Implications for the polar aurora, *J. Geophys. Res.*, **109**, A09S13, doi: 10.1029/2003JA010280, 2004.
- 04-03 Chisham, G., M.P. Freeman, I.J. Coleman, M. Pinnock, M.R. Hairston, **M. Lester,** and G.J. Sofko, Measuring the dayside reconnection rate during an interval of due northward interplanetary magnetic field, *Ann. Geophysicae*, **22**, 4243-4258, 2004.
- 04-04 Clarke, J.T., D. Grodent, **S.W.H. Cowley, E.J. Bunce,** P. Zarka, J.E.P. Connerney, and T. Satoh, Jupiter's auroras, in Jupiter, *Cambridge Univ. Press*, Cambridge, U.K., ISBN 0 521 81808 7, 639-670, 2004.
- 04-05 Coumans, V., J.-C. Gérard, B. Hubert, S.B. Mende, and **S.W.H. Cowley,** Morphology and seasonal variations of global auroral proton precipitation observed by IMAGE-FUV, *J. Geophys. Res.*, **109**, A12205, doi: 10.1029/2003JA010348, 2004.
- 04-06 **Cowley, S.W.H., E.J. Bunce,** and R. Prangé, Saturn's polar ionospheric flows and their relation to the main auroral oval, *Ann. Geophysicae*, **22**, 1379-1394, 2004.
- 04-07 **Cowley, S.W.H., E.J. Bunce,** and J.M. O'Rourke, A simple quantitative model of plasma flows and currents in Saturn's polar ionosphere, *J. Geophys. Res.*, **109**, A05215, doi: 10.1029/2003JA010375, 2004.
- 04-08 Danskin, D.W., A.V. Koustov, R.A. Makarevitch, and **M. Lester,** Observations of double-peaked E-region coherent spectra with the CUTLASS Finland HF radar, *Radio Science*, **39**, doi: 10.1029/2003RS002932, 2004.
- 04-09 **Dhillon, R.S., T.R. Robinson,** and **T.K. Yeoman,** SPS degradation and environmental impact: Effects of extreme background conditions, *Proc. 4th Int. Conf. on Solar Power from Space - SPS '04*, ESA SP-567, 269-273, 2004.
- 04-10 Dougherty, M.K., S. Kellock, D.J. Southwood, A. Balogh, M. Barlow, T. Beek, M.W. Dunlop, R. White, E.J. Smith, L. Wigglesworth, M. Fong, R. Marquedant, B.T. Tsurutani, B. Gerlach, G. Musmann, K.-H. Glassmeier, H. Hartje, M. Rahm, I. Richter, C.T. Russell, D. Huddelston, R.C. Snare, G. Erdos, S. Szalai, F.M. Neubauer, **S.W.H. Cowley,** and G.L. Siscoe, The Cassini magnetic field investigation, *Space Sci. Rev.*, **114**, 331-383, 2004.

- 04-11 **Draper, N.C., M. Lester, J.A. Wild, S.E. Milan, G. Provan, A. Grocott, S.W.H. Cowley,** Y. Bogdanova, J.P. Dewhurst, A. Fazakerly, J.A. Davies, and J.-M. Bosqued, A joint Cluster and ground-based instruments study of two magnetospheric substorm events on 1st September 2002, *Ann. Geophysicae*, **22**, 4217-4228, 2004.
- 04-12 Farrugia, C.J., E.J. Lund, P.E. Sandholt, **J.A. Wild, S.W.H. Cowley,** A. Balogh, C. Mouikis, E. Möbius, M.W. Dunlop, J.-M. Bosqued, C.W. Carlson, G.K. Parks, J.-C. Cerisier, J.D. Kelly, J.-A. Sauvaud, H. Rème, and D.S. Evans, Pulsed flows at the high-altitude cusp poleward boundary, and associated ionospheric convection and particle signatures, during a Cluster - FAST - SuperDARN - Søndrestøm conjunction under a southwest IMF, *Ann. Geophysicae*, **22**, 2891-2905, 2004.
- 04-13 **Grocott, A., T.K. Yeoman,** R. Nakamura, **S.W.H. Cowley,** H.U. Frey, H. Rème, and B. Klecker, Multi-instrument observations of the ionospheric counterpart of a bursty bulk flow in the near-Earth plasma sheet, *Ann. Geophysicae*, **22**, 1061-1075, 2004
- 04-14 **Grocott, A., S.V. Badman, S.W.H. Cowley, T.K. Yeoman,** and P.J. Cripps, The influence of IMF BY on the nature of the nightside high-latitude ionospheric flow during intervals of positive IMF B_z, *Ann. Geophysicae*, **22**, 1755-1764, 2004.
- 04-15 Gustin, J., J.-C. Gérard, D. Grodent, **S.W.H. Cowley,** J.T. Clarke, and A. Grand, Energy-flux relationship in the jovian aurora deduced from HST-STIS spectral observations, *J. Geophys. Res.*, **109**, A10205, doi: 10.1029/2003JA010365, 2004.
- 04-16 **Jackman, C.M.,** N. Achilleos, **E.J. Bunce, S.W.H. Cowley,** M.K. Dougherty, G.H. Jones, **S.E. Milan,** and E.J. Smith, Interplanetary magnetic field at ~9 AU during the declining phase of the solar cycle and its implications for Saturn's magnetospheric dynamics, *J. Geophys. Res.*, **109**, A11203, doi:10.1029/2004JA010614, 2004.
- 04-17 **Jones, T.B., D.M. Wright, J. Milner, T.K. Yeoman,** T. Reid, P. Chapman, and A. Senior, The detection of atmospheric waves produced by the total solar eclipse of 11 August 1999, *J. Atmos. Solar-Terr. Phys.*, **66**, 363-374, 2004.
- 04-18 **Lester, M.,** P.J. Chapman, **S.W.H. Cowley, S.J. Crooks,** J.A. Davies, P. Hamadyk, **K.A. McWilliams, S.E. Milan, M.J. Parsons, D.B. Payne, E.C. Thomas, J.D. Thornhill, N.M. Wade, T.K. Yeoman,** and R.J. Barnes, Stereo CUTLASS – A new capability for the SuperDARN radars, *Ann. Geophysicae*, **22**, 459-473, 2004.
- 04-19 Marchaudon, J.-C. Cerisier, O. Amm, **M. Lester,** C.W. Carlson, and G.K. Parks, Quantitative modeling of the closure of meso-scale parallel currents in the nightside ionosphere, *Ann. Geophysicae*, **22**, 125-140, 2004.
- 04-20 Marchaudon, A., J.-C. Cerisier, J.-M. Bosqued, M.W. Dunlop, **J.A. Wild,** P.M.E. Décreau, M. Foerster, D. Fontaine, and H. Laakso, Transient plasma injections in the dayside magnetosphere: one-to-one correlated observations by Cluster and by SuperDARN, *Ann. Geophysicae*, **22**, 141-158, 2004.
- 04-21 Maynard, N.C., J. Moen, **M. Lester,** D.M. Ober, W.J. Burke, J.D. Scudder, K.D. Siebert, and D.R. Weimer, Temporal/spatial structure of magnetic merging at the magnetopause inferred from 557.7 nm all-sky images, *Ann. Geophysicae*, **22**, 2917-2942, 2004.

- 04-22 **McWilliams, K.A.**, G.J. Sofko, **T.K. Yeoman**, **S.E. Milan**, D.G. Sibeck, T. Nagai, T. Mukai, I.J. Coleman, T. Hori, and F.J. Rich, Simultaneous observations of magnetopause flux transfer events and of their associated signatures at ionospheric altitudes, *Ann. Geophysicae*, **22**, 2181-2199, 2004.
- 04-23 **Milan, S.E.**, A simple model of the flux content of the distant magnetotail, *J. Geophys. Res.*, **109**, A07210, doi: 10.1029/2004JA010397, 2004.
- 04-24 **Milan, S.E.**, Dayside and nightside contributions to the cross polar cap potential: placing an upper limit on a viscous-like interaction, *Ann. Geophysicae*, **22**, 3771-3777, 2004.
- 04-25 **Milan, S.E.**, **S.W.H. Cowley**, **M. Lester**, **D.M. Wright**, J.A. Slavin, M. Fillingim, C. Carlson, and H.J. Singer, Response of the magnetotail to changes in the open-flux content of the magnetosphere, *J. Geophys. Res.*, **109**, A04220, doi: 10.1029/2003JA010350, 2004.
- 04-26 **Milan, S.E.**, **M. Lester**, **T.K. Yeoman**, **T.R. Robinson**, M.V. Uspensky, and J.-P. Villain, HF radar observations of high-aspect angle backscatter from the E region, *Ann. Geophysicae*, **22**, 829-847, 2004.
- 04-27 **Nichols, J.D.**, and **S.W.H. Cowley**, Magnetosphere-ionosphere coupling currents in Jupiter's middle magnetosphere: Effect of precipitation-induced enhancement of the ionospheric Pedersen conductivity, *Ann. Geophysicae*, **22**, 1799-1827, 2004.
- 04-28 Nishitani, N., **M. Lester**, **S.E. Milan**, T. Ogawa, N. Sato, H. Yamagishi, A.S. Yukimatu, and F.J. Rich, Unusual ionospheric echoes with high velocity and very low spectral width observed by the SuperDARN radars in the polar cap during high geomagnetic activity, *J. Geophys. Res.*, **109**, No. A2, A02311, doi: 10.1029/2003JA0100482003, 2004.
- 04-29 Ogawa, T., S. Nozawa, M. Tsutsumi, **N.F. Arnold**, N. Nishitani, N. Sato, and A.S. Yukimatu, Arctic and Antarctic polar mesosphere summer echoes observed with oblique incidence HF radars: analysis using simultaneous MF and VHF radar data, *Ann. Geophysicae*, **22**, 4049-4059, 2004.
- 04-30 Oksavik, K., F. Soraas, J. Moen, R. Pfaff, J.A. Davies, and **M. Lester**, Simultaneous optical, CUTLASS HF radar, and FAST spacecraft observations: Signatures of boundary layer processes in the cusp, *Ann. Geophysicae*, **22**, 511-525, 2004.
- 04-31 **Provan, G.**, **M. Lester**, S.B. Mende, and **S.E. Milan**, Statistical study of high-latitude plasma flow during magnetospheric substorms, *Ann. Geophysicae*, **22**, 3607-3624, 2004.
- 04-32 Rae, I.J., F.R. Fenrich, **M. Lester**, T.A. Fritz, **K.A. McWilliams**, and J.D. Scudder, Solar wind modulation of cusp particle signatures and their associated ionospheric flows, *J. Geophys. Res.*, **109**, A03223, doi: 10.1029/2003JA010188, 2004.
- 04-33 Rietveld M.T., M.J. Kosch, N.F. Blagoveshchenskaya, V.A. Kornienko, T.B. Leyser, and **T.K. Yeoman**, Ionospheric electron heating, optical emissions, and striations induced by powerful HF radio waves at high latitudes: Aspect angle dependence (vol 108, art no 1141, 2003), *J. Geophys. Res.*, **109**, A04306, doi:10.1029/2004JA010460, 2004.

- 04-34 Safargaleev V., A. Serebryanskaya, A. Koustov, **M. Lester**, E. Pchelkina, and A. Vasilyev, A possible origin of dayside Pc1 magnetic pulsations observed at high latitudes, *Ann. Geophysicae*, **22**, 2997-3008, 2004.
- 04-35 Sato, N., **D.M. Wright**, C.W. Carlson, Y. Ebihara, M. Sato, T. Saemundsson, **S.E. Milan**, and **M. Lester**, Generation region of pulsating aurora obtained simultaneously by the FAST satellite and a Syowa-Iceland conjugate pair of observatories, *J. Geophys. Res.*, **109**, A10201, doi: 10.1029/2004JA010419, 2004.
- 04-36 Senior, A., N.D. Borisov, M.J. Kosch, **T.K. Yeoman**, F. Honary, and M.T. Rietveld, Multi-frequency HF radar measurements of artificial F-region field-aligned irregularities, *Ann. Geophysicae*, **22**, 3503-3511, 2004.
- 04-37 Travaglio, C., R. Gallino, **E. Arnone**, J. Cowan, J. Faith, and C. Sneden, Galactic evolutions of Sr, Y, and Zr: a multiplicity of nucleosynthetic processes, *Astrophysical Journal*, **2**, 864-884, 2004.
- 04-38 **Wild, J.A.**, **S.E. Milan**, C.J. Owen, J.M. Bosqued, **M. Lester**, **D.M. Wright**, H. Frey, C.W. Carlson, A.N. Fazakerley, and H. Rème, The location of the open-closed magnetic field line boundary in the dawn sector auroral ionosphere, *Ann. Geophysicae*, **22**, 3625-3639, 2004.
- 04-39 **Wright, D.M.**, **T.K. Yeoman**, and E.E. Woodfield, The effects of high frequency ULF wave activity on the spectral characteristics of coherent HF radar returns: a case study, *Ann. Geophysicae*, **22**, 1843-1849, 2004.
- 04-40 **Wright, D.M.**, **T.K. Yeoman**, **R.S. Dhillon**, **M. Lester**, J.A. Davies, **S.E. Milan**, and E.E. Woodfield, High resolution observations of spectral width features associated with ULF wave signatures in artificial HF radar backscatter, *Ann. Geophysicae*, **22**, 169-182, 2004.

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- 04-41 **Arnold, N.F.** and A. Thomson, Auld Reekie MIST *Astro. and Geophysics*, **45.3**, 29-32, 2004.
- 04-42 **Arnold, N.F.**, Review of *Ionospheric Tomography* by V.E. Kunitsyn and E.D. Tereshenko, *Contemporary Physics*, **45**, 353, 2004.
- 04-43 **Arnold, N.F.**, Autumn MIST, *Astro. and Geophysics*, **45.1**, 27-28, 2004.
- 04-44 Chisham, G., G. Abel, and **S.E. Milan**, Whose field line is it anyway?, *Astro. and Geophysics*, **45**, 3.36-3.38, doi: 10.1046/j.1468-4004.2003.45336.x, 2004.
- 04-45 **Dhillon, R.S.**, **T.R. Robinson**, and **T.K. Yeoman**, SPS degradation and environmental impact: effects of extreme background conditions, Proc. of 4th Int. Conf. on Solar Power from Space - SPS 04, *ESA SP-567*, 269-273, 2004.
- 04-46 **Grocott, A.**, **T.K. Yeoman**, **S.W.H. Cowley**, and H. Rème, Multi-instrument observations of bursty bulk flows and their ionospheric counterparts, in *Substorms-7*, edited by N. Ganushkina and T. Pulkkinen, *Finnish Meteorological Institute*, Helsinki, 107-110, 2004.

- 04-47 **Robinson T.R.**, Book review, An Introduction to Plasma Astrophysics and Magnetohydrodynamics by Marcel Goossens, *The Observatory*, 124, 303, 2004.
- 04-48 **Robinson, T.R., T.K. Yeoman, and R.S. Dhillon**, Environmental impacts of high power density microwave beams on different atmospheric layers, *European Space Agency, Advanced Concepts Team, Ariadna Final Report (03-9102)*, 2004.
- 04-49 **Robinson, T.R., T.K. Yeoman, and R.S. Dhillon**, Environmental impact of high power density microwave beams on different atmospheric layers, *ESA contract report no. 18156/04/NL/MV*, 2004.

Ph.D. and M.Phil. Theses

- 04-50 **Cash, S.R.**, Investigations of the ionospheric Alfvén resonator at auroral latitudes, Ph.D. Thesis, University of Leicester, 2004.
- 04-51 **Goudarzi, A.**, Interhemispheric study of ionospheric flow in the cusp region, M. Phil Thesis, University of Leicester, 2004.
- 04-52 **Nichols, J.D.**, Magnetosphere-ionosphere coupling currents in Jupiter's middle magnetosphere, Ph.D. Thesis, University of Leicester, 2004.