

Radio & Space Plasma Physics Group Publications

Group authors are shown boldface

Calendar Year 2005

Refereed Research Papers

- 05-01 Amm, O., E.F. Donovan, H. Frey, **M. Lester**, R. Nakamura, **J.A. Wild**, A. Aikio, M. Dunlop, K. Kauristie, A. Marchaudon, I.W. Mccrea, H.J. Opgenoorth, and A. Strømme, Coordinated studies of the Geospace environment using Cluster, satellite and ground-based data: An interim review, *Ann. Geophysicae*, **23**, 2129-2170, 2005.
- 05-02 **Arnone, E.**, S.G. Ryan, D. Argast, J.E. Norris, and T.C. Beers, Mg abundances in metal-poor halo stars as a tracer of early Galactic mixing, *Astro. Astrophys.*, **430**, 507-522, 2005.
- 05-03 **Baddeley, L.J.**, **T.K. Yeoman**, **D.M. Wright**, K.J. Trattner, and B.J. Kellet, On the coupling between unstable magnetospheric particle populations and resonant high mULF wave signatures in the ionosphere, *Ann. Geophysicae*, **23**, 567-577, 2005.
- 05-04 **Baddeley, L.J.**, **T.K. Yeoman**, and **D.M. Wright**, HF Doppler Sounder measurements of the Ionospheric Signatures of small scale ULF Waves, *Ann. Geophysicae*, **23**, 1807-1820, 2005.
- 05-05 **Badman, S.V.**, **E.J. Bunce**, J.T. Clarke, **S.W.H. Cowley**, J.-C. Gérard, D. Grodent, and **S.E. Milan**, Open flux estimates in Saturn's magnetosphere during the January 2004 Cassini-HST campaign, and implications for reconnection rates, *J. Geophys. Res.*, **110**, A11216, doi: 10.1029/2005JA011240, 2005.
- 05-06 Belenkaya, E.S., S.Y. Bobrovnikov, I.I. Alexeev, V.V. Kalegaev, and **S.W.H. Cowley**, A model of Jupiter's magnetospheric magnetic field with variable magnetopause flaring, *Planet. Space Sci.*, **53**, 863-872, 2005.
- 05-07 Bessalov, P.A., O.N. Savena, and **S.W.H. Cowley**, Synchronized oscillations in whistler wave intensity and energetic electron fluxes in Jupiter's middle magnetosphere, *J. Geophys. Res.*, **110**, A09209, doi: 10:1029/2005JA011147, 2005.
- 05-08 Blagoveshchensky, D.V., **M. Lester**, V.A. Kornienko, I.I. Shagimuratov, **A.J. Stocker**, and **E.M. Warrington**, Observations by the CUTLASS radar, HF Doppler, oblique ionospheric sounding, and TEC from GPS during a magnetic storm, *Ann. Geophysicae*, **23**, 1697-1709, 2005
- 05-09 Bogdanova, Y.V., A. Marchaudon, C.J. Owen, M. Dunlop, H.U. Frey, **J.A. Wild**, A.N. Fazakerley, B. Klecker, J. Davies, and **S.E. Milan**, A mechanism for the formation of the high-altitude stagnant cusp: Cluster observations, *Geophys. Res. Lett.*, **32**, L12101, doi: 10.1029/2005GL022813, 2005.

- 05-10 Borälv, E., H.J. Opgenoorth, K. Kauristie, **M. Lester**, J.-M. Bosqued, J.P. Dewhurst, A. Fazakerley, C.J. Owen, J.A. Slavin, M. Dunlop, and M. Carter, Correlation between ground-based observations of substorm signatures and magnetotail dynamics, *Ann. Geophysicae*, **23**, 997-1011, 2005.
- 05-11 **Bunce, E.J., S.W.H. Cowley**, and **S.E. Milan**, Interplanetary magnetic field control of Saturn's polar cusp auroras, *Ann. Geophysicae*, **23**, 1405-1431, 2005.
- 05-12 **Bunce, E.J., J.D. Nichols**, and **S.W.H. Cowley**, Solar wind-magnetosphere-ionosphere coupling at Jupiter, *Adv. Space Res.*, **36**, 2090-2099, 2005.
- 05-13 **Bunce, E.J., S.W.H. Cowley, D.M. Wright**, A.J. Coates, M.K. Dougherty, N. Krupp, W.S. Kurth, and A.M. Rymer, In-situ observations of compression-induced tail collapse at Saturn, *Geophys. Res. Lett.*, **32**, L20504, doi: 10J029/2005, 2005.
- 05-14 Carlson, H.C., and **S.W.H. Cowley**, Accelerated polar rain electrons as the source of sun-aligned arcs in the polar cap during northward interplanetary magnetic field conditions, *J. Geophys. Res.*, **110**, A05302, doi: 10.1029/2004JA010669, 2005.
- 05-15 Chisham, G., M.P. Freeman, T. Sotirelis, **M. Lester** and J.-P. Villain, A statistical comparison of SuperDARN spectral width boundaries and DMSP particle precipitation boundaries in the morning sector ionosphere, *Ann. Geophysicae*, **23**, 733-743, 2005.
- 05-16 Clarke, J.T., J.-C. Gérard, D. Grodent, S. Wannawichian, J. Gustin, J. Connerney, F. Crary, M. Dougherty, W. Kurth, **S.W.H. Cowley, E.J. Bunce**, T. Hill, and J. Kim, Morphological differences between Saturn's ultraviolet aurorae and those of Earth and Jupiter, *Nature*, **433**, 717-719, 2005.
- 05-17 **Cowley, S.W.H., S.V. Badman, E.J. Bunce**, J.T. Clarke, J.-C. Gérard, D. Grodent, **C.M. Jackman, S.E. Milan**, and **T.K. Yeoman**, Reconnection in a rotation-dominated magnetosphere and its relation to Saturn's auroral dynamics, *J. Geophys. Res.*, **110**, A02201, doi: 10.1029/2004JA010796, 2005.
- 05-18 **Cowley, S.W.H., I.I. Alexeev, E.S. Belenkaya, E.J. Bunce, C.E. Cottis, V.V. Kalegaev, J.D. Nichols**, R. Prangé, and **F.J. Wilson**, A simple axisymmetric model of magnetosphere-ionosphere coupling currents in Jupiter's polar ionosphere, *J. Geophys. Res.*, **110**, A11209, doi: 10.1029/2005JA011237, 2005.
- 05-19 **Dhillon, R.S., and T.R. Robinson**, Observations of time dependence and aspect sensitivity of regions of enhanced UHF backscatter associated with RF heating, *Ann Geophysicae*, **23**, 75-85, 2005.
- 05-20 Dougherty, M.K., N. Achilleos, N. André, C.S. Arridge, A. Balogh, C. Bertucci, M.E. Burton, **S.W.H. Cowley**, G. Erdos, G. Giampieri, K.-H. Glassmeier, K.K. Khurana, J. Leisner, F.M. Neubauer, C.T. Russell, E.J. Smith, D.J. Southwood, and B.T. Tsurutani, Cassini magnetometer observations during Saturn orbit insertion, *Science*, **307**, 1266-1270, 2005.

- 05-21 **Draper, N.C., M. Lester, S.W.H. Cowley, J.A. Wild, S.E. Milan, G. Provan, A. Grocott,** A.N. Fazakerley, A. Lahiff, J.A. Davies, J.-M. Bosqued, J.P. Dewhurst, R. Nakamura, C.J. Owen, J. Watermann, M.G. Henderson, H.J. Singer, and E. Donovan, Cluster magnetotail observations of a tailward-travelling cplasmoid at substorm expansion phase onset and field aligned currents in the plasma sheet boundary layer, *Ann. Geophysicae*, **23**, 3667-3683, 2005.
- 05-22 Dunlop, M., M.G.G.T. Taylor, J.A. Davies, C.J. Owen, F. Pitout, A.N. Fazakerley, Z. Pu, H. Laakso, Y. Bogdanova, Q.-G. Zong, C. Shen, K. Nykyri, B. Lavraud, **S.E. Milan**, T.D. Phan, H. Rème, C.P. Escoubet, C.M. Carr, P. Cargill, M. Lockwood, and B. Sonnerup, Combined Cluster/Double Star observations of dayside reconnection signatures, *Ann. Geophysicae*, **23**, 2867-2875, 2005.
- 05-23 Gérard, J.-C., **E.J. Bunce**, D. Grodent, **S.W.H. Cowley**, J.T. Clarke, and **S.V. Badman**, Signature of Saturn's auroral cusp: Simultaneous HST FUV observations and upstream solar wind monitoring, *J. Geophys. Res.*, **110**, A11201, doi: 10.1029/2005JA011094, 2005.
- 05-24 **Grocott A., T.K. Yeoman, S.E. Milan** and **S.W.H. Cowley**, Inter-hemispheric observations of the ionospheric signature of tail reconnection during IMF-northward non-substorm intervals, *Ann. Geophysicae*, **23**, 1763-1770, 2005.
- 05-25 Grodent, D., J.-C. Gérard, **S.W.H. Cowley**, **E.J. Bunce**, and J.T. Clarke, The global morphology of Saturn's southern ultraviolet aurora, *J. Geophys. Res.*, **110**, A07215. doi: 10.1029/2004JA010983, 2005.
- 05-26 **Hebden, S.R., T.R. Robinson, D.M. Wright, T. Yeoman**, T. Raita, and T. Bösinger, A quantitative analysis of the diurnal evolution of ionospheric Alfvén resonator magnetic resonance features and calculation of changing IAR parameters, *Ann. Geophysicae*, **23**, 1711-1721, 2005.
- 05-27 Hosokawa, K., T. Ogawa, **N. Arnold**, **M. Lester**, N. Sato, and A. Yukimatu, Extraction of polar mesosphere summer echoes from SuperDARN data, *Geophys. Res. Lett.*, **32**, L12801, 10.1029/2005GL022788, 2005.
- 05-28 **Jackman, C.M.**, N. Achilleos, **E.J. Bunce**, **S.W.H. Cowley**, and **S.E. Milan**, Structure of the interplanetary magnetic field during the interval spanning the first Cassini fly-through of Saturn's magnetosphere and its implications for Saturn's magnetospheric dynamics, *Adv. Space Res.*, **36**, 2120-2126, 2005.
- 05-29 **Jackman, C.M.**, N. Achilleos, **E.J. Bunce**, B. Cecconi, J.T. Clarke, **S.W.H. Cowley**, W.S. Kurth, and P. Zarka, Interplanetary conditions and magnetospheric dynamics during the Cassini orbit insertion fly-through of Saturn's magnetosphere, *J. Geophys. Res.*, **110**, A10212, doi:10.1029/2005JA011054, 2005.
- 05-30 Maynard, N.C., W.J. Burke, J.D. Scudder, D.M. Ober, D.R. Weimer, K.D. Siebert, C.T. Russell, **M. Lester**, F. Mozer, and N. Sato, Electron signatures of active merging sites on the magnetopause, *J. Geophys. Res.*, **110**, A10207, doi: A1029/2004JA010639, 2005.
- 05-31 McWilliams, K.A., **T.K. Yeoman**, D.G. Sibeck, **S.E. Milan**, G.J. Sofko, 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*. **23**, 651-651, 2005.

- 05-32 **Milan, S.E., E.J. Bunce, S.W.H. Cowley, and C.M. Jackman**, Implications of rapid planetary rotation for the Dungey magnetotail of Saturn, *J. Geophys. Res.*, **110**, A03209, doi: 10.1029/2004JA010716, 2005.
- 05-33 **Milan, S.E., B. Hubert, and A. Grocott**, Formation and motion of a transpolar arc in response to dayside and nightside reconnection, *J. Geophys. Res.*, **110**, A01212, doi: 10.1029/2004JA010835, 2005.
- 05-34 **Milan, S.E., S. Basu, T.K. Yeoman, and R.E. Sheehan**, A comparison of satellite scintillation measurements with HF radar backscatter characteristics, *Ann. Geophysicae*, **23**, 3451-3455, 2005.
- 05-35 Mitchell, C.N., L. Alfonsi, G. De Franceschi, **M. Lester**, V. Romano, and A.W. Wernik, GPS TEC and scintillation from the polar ionosphere during the October 2003 storm, *Geophys. Res. Letts.*, **32**, L12S03, doi:10.1029/2004GL021644, 2005.
- 05-36 Nakamura, R., O. Amm, H. Laakso, **N. Draper, M. Lester, A. Grocott**, B. Klecker, I.W. McCrea, A. Balogh, H. Reme, and M. Andre, Localised fast flow disturbance observed in the plasma sheet and the ionosphere, *Ann. Geophysicae*, **23**, 553-566, 2005.
- 05-37 **Nichols, J.D., and S.W.H. Cowley**, Magnetosphere-ionosphere coupling currents in Jupiter's middle magnetosphere: Effect of magnetosphere-ionosphere decoupling by field-aligned auroral voltages, *Ann. Geophysicae*, **23**, 799-808, 2005.
- 05-38 Oksavik, K., J. Moen, H.C. Carlson, R.A. Greenwald, **S.E. Milan, M. Lester**, W.F. Denig, and R.J. Barnes, Multi-instrument mapping of the small-scale flow dynamics related to a cusp auroral transient, *Ann. Geophysicae*, **23**, 2657-2670, 2005.
- 05-39 Parkinson, M.L., M. Pinnock, **J.A. Wild, M. Lester, T.K. Yeoman, S.E. Milan**, H. Ye, J.C. Devlin, H.U. Frey, and T. Kikuchi, Interhemispheric asymmetries in the occurrence of magnetically conjugate sub-auroral polarisation streams, *Ann. Geophysicae*, **23**, 1371-1390, 2005.
- 05-40 **Provan, G., M. Lester, A. Grocott, and S.W.H. Cowley**, Pulsed flows observed during an interval of prolonged northward IMF, *Ann. Geophysicae*, **23**, 1207-1225, 2005.
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- 05-42 **Scofield, H.C., T.K. Yeoman, D.M. Wright, S.E. Milan**, A.N. Wright, and R.J. Strangeway, An investigation of the field aligned currents associated with a large scale ULF wave using data from CUTLASS and FAST, *Ann. Geophysicae*, **23**, 487-498, 2005.
- 05-43 **Sinha, A.K., T.K. Yeoman, J.A. Wild, D.M. Wright, S.W.H. Cowley**, and A. Balogh, Evidence of transverse magnetospheric field line oscillations as observed from Cluster and ground magnetometers, *Ann. Geophysicae*, **23**, 919-929, 2005.

- 05-44 Trattner, K.J., S.A. Fuselier, S.M. Petrinec, **T.K. Yeoman**, C. Mouikis, H. Kucharek, and H. Reme, The reconnection sites of spatial cusp structures, *J. Geophys. Res.*, 110, A04207, doi: 10.1029/2004JA010722, 2005.
- 05-45 Trattner, K.J., S.A. Fuselier, **T.K. Yeoman**, C. Carlson, W.K. Peterson, A. Korth, H. Rème, J.A. Sauvaud, and N. Dubouloz, Spatial and temporal cusp structures observed by multiple spacecraft and ground based observations, *Surveys in Geophysics*, **26**, 281-305, 2005.
- 05-46 Uspensky, M.V., A. Koustov, V. Sofieva, O. Amm, K. Kauristie, W. Schmidt, E. Nielsen, T.I. Pulkkinen, R. Pellinen, **S.E. Milan**, and R. Pirjola, Multi-pulse and double-pulse velocities of STARE echoes, *Radio Sci.*, 40, doi: 10.1029/2004RS003151, 2005.
- 05-47 Watt, C.E.J., R. Rankin, I.J. Rae, and **D.M. Wright**, Self-consistent electron acceleration due to inertial Alfvén wave pulses, *J. Geophys. Res.*, **110**, A10S07, doi: 10.1029/2004JA010877, 2005.
- 05-48 **Wild, J.A., S.E. Milan, S.W.H. Cowley**, J.-M. Bosqued, H. Rème, S. Kokubun, Y. Saito, T. Mukai, B.M.A. Cooling, and A. Balogh, Simultaneous in situ observations of the signatures of dayside reconnection at the high and low latitude magnetopause, *Ann. Geophysicae*, **23**, 445-460, 2005.
- 05-49 **Wild, J.A., S.E. Milan**, J.A. Davies, **S.W.H. Cowley**, C.M. Carr, and A. Balogh, Double Star, Cluster, and ground-based observations of magnetic reconnection during an interval of duskward oriented IMF: preliminary results, *Ann. Geophysicae*, **23**, 2903-2907, 2005.
- 05-50 **Wild, J.A., T.K. Yeoman**, and C.L. Waters, Revised time of flight calculations for high latitude geomagnetic pulsations using a realistic magnetospheric magnetic field model, *J. Geophys. Res.*, 110 (A11): Art. No. A11206, 2005.

Unrefereed

- 05-51 **Arnold, N.F.**, Autumn MIST, *Astr. Geophysics*, **46**(3), 36-37, 2005.
- 05-52 **Arnold, N.F.**, Granta MIST, *Astr. Geophysics*, **46**, (4), 18-21, 2005.
- 05-53 **Arnold, N.F.**, Solar variability coupling between atmospheric layers and climate change, *Advances in Astronomy*, ed. J.M.T. Thompson, Imperial College Press, 391-412, 2005.
- 05-54 **Cowley, S.W.H.**, The electric universe: An essay on the scientific life, times, and legacy of Kristian Birkeland, in *London Fieldworks: Little Earth*, edited by B. Gilchrist and J. Joelson, London Fieldworks Publ., ISBN 0-9549497-0-6, pp.64-93, 2005.
- 05-55 **Robinson, T.R.**, SPEAR's first results, *Frontiers*, 21, 8-9, 2005.

- 05-56 **Draper, N.C., M. Lester, J.A. Wild, S.E. Milan, G. Provan, A. Grocott, S.W.H. Cowley,** A.N. Fazakerly, A. Lahiff, J.A. Davies, J.-M. Bosqued, J.P. Dewhurst, R. Nakamura, and C.J. Owen, Simultaneous SuperDARN and Cluster observations of the growth and expansion phases of a substorm, *Proceedings of the 7th International Conference on Substorms, ICS-7*, 103-106, 2005.
- 05-57 Takahashi, K., P.J. Chi, R.E. Denton, **T.K. Yeoman**, V.A. Pilipenko, Chapman conference on magnetospheric ULF waves, *EOS Trans*, 86 (29), 270, 2005.

Ph.D. and M.Phil. Theses

- 05-58 **England, S.L.**, The role of gravity waves in coupled middle-upper atmosphere dynamics, Ph.D. thesis, University of Leicester, 2005.
- 05-59 **Draper, N.C.**, Multi-instrument magnetospheric substorm studies, Ph.D. thesis, University of Leicester, 2005.
- 05-60 **Scofield, H.C.**, Ultra low frequency waves in the magnetosphere-ionosphere system, Ph.D. thesis, University of Leicester, 2005.