

## Radio & Space Plasma Physics Group Publications

Group authors are shown boldface

### Calendar Year 2006

#### *Refereed research papers*

- 06-01 Alexeev, I.I., V.V. Kalegaev, E.S. Belenkaya, S.Y. Bobrovnikov, **E.J. Bunce**, **S.W.H. Cowley**, and **J.D. Nichols**, A global magnetic model of Saturn's magnetosphere, and a comparison with Cassini SOI data, *Geophys. Res. Lett.*, **33**, L08101, doi: 10.1029/2006GL025896, 2006.
- 06-02 **Badman, S.V.**, **S.W.H. Cowley**, J.-C. Gérard, and D. Grodent, A statistical analysis of the location and width of Saturn's southern auroras, *Ann. Geophysicae*, **24**, 3533-3545, 2006.
- 06-03 Bessalov, P.A., S.S. Davydenko, **S.W.H. Cowley**, and **J.D. Nichols**, Interchange instability of the plasma disk in Jupiter's middle magnetosphere and its relation to the radial plasma density distribution, *Ann. Geophysicae*, **24**, 2043-2055, 2006.
- 06-04 Bessalov, P.A., V.G. Misonova, and **S.W.H. Cowley**, Field-aligned particle acceleration on auroral field lines by interaction with transient density cavities stimulated by kinetic Alfvén waves, *Ann. Geophysicae*, **24**, 2313-2329, 2006.
- 06-05 Belenkaya, E.S., **S.W.H. Cowley**, and I.I. Alexeev, Saturn's aurora in the January 2004 events, *Ann. Geophysicae*, **24**, 1649-1663, 2006.
- 06-06 **Bunce, E.J.**, **S.W.H. Cowley**, **C.M. Jackman**, J.T. Clarke, F.J. Crary, and M.K. Dougherty, Cassini observations of the interplanetary medium upstream of Saturn and their relation to Hubble Space Telescope auroral data, *Adv. Space Res.*, **38**, 806-814, 2006.
- 06-07 Clarke, K.E., N. Andre, D.J. Andrews, A.J. Coates, **S.W.H. Cowley**, M.K. Dougherty, G.R. Lewis, H.J. McAndrews, J.D. Nichols, **T.R. Robinson**, and **D.M. Wright**, Cassini observations of planetary-period oscillations of Saturn's magnetopause, *Geophys. Res. Lett.*, **33**, L23104, doi:10.1029/2006GL027821, 2006.
- 06-08 **Cowley, S.W.H.**, Current-voltage and kinetic energy flux relations for relativistic field-aligned acceleration of auroral electrons, *Ann. Geophysicae*, **24**, 325-338, 2006.
- 06-09 **Cowley, S.W.H.**, **D.M. Wright**, **E.J. Bunce**, A.C. Carter, M.K. Dougherty, G. Giampieri, **J.D. Nichols**, and **T.R. Robinson**, Cassini observations of planetary-period magnetic field oscillations in Saturn's magnetosphere: Doppler shifts and phase motion, *Geophys. Res. Lett.*, **33**, L07104, doi: 10.1029/2005GL025522, 2006.
- 06-10 **Draper, N.C.**, **M. Lester**, **S.W.H. Cowley**, J.-M. Bosqued, **A. Grocott**, J.A. Wild, Y. Bogdanova, A.N. Fazakerley, and J.A. Davies, Cluster observations of a magnetic field cavity in the plasma sheet, *Adv. Space Res.*, **38**, 1738-1743, 2006.

- 06-11 **England, S.L.**, A. Dobbin, M.J. Harris, **N.F. Arnold**, and A.D. Aylward, A study into the effects of gravity wave activity on the diurnal tide and airglow emissions in the equatorial mesosphere and lower thermosphere using the Coupled Middle Atmosphere and Thermosphere (CMAT) general circulation model, *J. Atmos. Solar Terr. Phys.* **68**, 293-308, 2006.
- 06-12 Erikson, S., **G. Provan**, F.J. Rich, **M. Lester**, **S.E. Milan**, S. Massetti, J.T. Gosling, M.W. Dunlop, and H. Rème, Electrodynamics of a split transpolar aurora, *J. Geophys. Res.*, **111**, A11319, doi: 10.1029/2006JA011976, 2006.
- 06-13 Farrugia, C.J., V.K. Jordanova, M.F. Thomsen, G. Lu, **S.W.H. Cowley**, and K.W. Ogilvie, A two-ejecta event associated with a two-step geomagnetic storm, *J. Geophys. Res.*, **111**, A11104, doi: 10.1029/2006JA011893, 2006.
- 06-14 Gérard, J.-C., D. Grodent, **S.W.H. Cowley**, D.G. Mitchell, W.S. Kurth, J.T. Clarke, **E.J. Bunce**, J.D. Nichols, M.K. Dougherty, F.J. Crary, and A.J. Coates, Saturn's auroral morphology and activity during quiet magnetospheric conditions, *J. Geophys. Res.*, **111**, A12210, doi: 10.1029/2006JA011965, 2006.
- 06-15 **Grocott, A.**, **M. Lester**, M.L. Parkinson, **T.K. Yeoman**, P.L. Dyson, J.C. Devlin, and H.U. Frey, Towards a synthesis of substormelectrodynamics: HF radar and auroral observations, *Ann. Geophysicae*, **24**, 3365-3381, 2006.
- 06-16 Gustin, J., **S.W.H. Cowley**, J.-C. Gérard, G.R. Gladstone, D. Grodent, and J.T. Clarke, Characteristics of jovian morning bright FUV aurora from Hubble Space Telescope/Space Telescope Imaging Spectrograph imaging and spectral observations, *J. Geophys. Res.*, **111**, A09220, doi: 10.1029/2006JA011730, 2006.
- 06-17 Hu, H., **T.K. Yeoman**, **M. Lester**, R. Lui, and H. Yang, Dayside flow bursts and high latitude reconnection when the IMF is strongly northward, *Ann. Geophysicae*, **24**, 2227-2242, 2006.
- 06-18 Hubert, B., **S.E. Milan**, **A. Grocott**, C. Blockx, **S.W.H. Cowley**, and J.-C. Gérard, Dayside and nightside reconnection rates inferred from IMAGE FUV and Super Dual Auroral Radar Network data, *J. Geophys. Res.*, **111**, A03217, doi: 10.1029/2005JA011140, 2006.
- 06-19 Hubert, B., M. Palmroth, T.V. Laitinen, P. Janhunen, **S.E. Milan**, **A. Grocott**, **S.W.H. Cowley**, T. Pulkkinen, and J.-C. Gérard, Compression of the Earth's magnetotail by interplanetary shocks drives magnetic flux closure, *Geophys. Res. Lett.*, **33**, L10105, doi: 10.1029/2006GL026008, 2006.
- 06-20 **Imber, S.M.**, **S.E. Milan**, and B. Hubert, Ionospheric flow and auroral signatures of dual lobe reconnection, *Ann. Geophysicae*, **24**, 3115-3129, 2006.
- 06-21 **Jackman, C.M.**, and **S.W.H. Cowley**, A model of the plasma flow and current in Saturn's polar ionosphere under conditions of strong Dungey-cycle driving, *Ann. Geophysicae*, **24**, 1029-1055, 2006.
- 06-22 Joelson, J., and **S.W.H. Cowley**, Little Earth: A solar-planetary investigation, *Leonardo*, **39**, 452-454, 2006.

- 06-23 **Karhunen, T.J.T., N.F. Arnold, T.R. Robinson, and M. Lester**, Determination of the parameters of traveling ionospheric disturbances in the high-latitude ionosphere using CUTLASS coherent-scatter radars, *J. Atmos. Solar Terr. Phys.*, **68**, 558-567, 2006.
- 06-24 **Lester, M., S.E. Milan, G. Provan,** and J.A. Wild, The impact of solar wind magnetosphere coupling on the ionosphere, *Space Science Reviews*, doi: 10.1007/s11214-006-9132-8, 2006.
- 06-25 Lockwood, M., B.S. Lanchester, S.K. Morley, K. Throp, **S.E. Milan, M. Lester,** and H.U. Frey, Modelling the observed proton aurora and ionospheric convection responses to changes in the IMF clock angle: 2. The persistence of ionospheric convection, *J. Geophys. Res.*, **111**, A02306, doi:10.1029/2003JA010307, 2006.
- 06-26 Lund, E.J., C.J. Farrugia, P.E. Sandholt, L.M. Kistler, D.H. Fairfield, F.T. Gratton, **S.W.H. Cowley,** J.A. Wild, C. Mouikis, M.W. Dunlop, H. Rème, and C.W. Carlson, The changing topology of the duskside low-latitude boundary layer in relation to IMF orientation, *Adv. Space Res.*, **37**, 497-500, 2006.
- 06-27 Makarevich, R.A., F. Honary, V.S.C. Howells, A.V. Koustov, **S.E. Milan,** J.A. Davies, A. Senior, I.W. McCrea, and P.L. Dyson, A first comparison of irregularity and ion drift velocity measurements in the E region, *Ann. Geophysicae*, **24**, 2375-2389, 2006.
- 06-28 Melin, H.; S. Miller; **T. Stallard;** C. Smith, and D. Grodent, Estimated energy balance in the jovian upper atmosphere during an auroral heating event, *Icarus*, **181**, Issue 1, 256-265, 2006.
- 06-29 **Milan, S.E., J.A. Wild, A. Grocott,** and **N.C. Draper**, Space- and ground-based investigations of solar wind-magnetosphere-ionosphere coupling, *Adv. Space Res.*, **38**, 1671-1677, 2006.
- 06-30 **Milan, S.E., J.A. Wild,** B. Hubert, C.M. Carr, E.A. Lucek, J.M. Bosqued, J.F. Watermann, and J.A. Slavin, Flux closure during a substorm observed by Cluster, Double Star, IMAGE FUV, SuperDARN, and Greenland magnetometers, *Ann. Geophysicae*, **24**, 751-767, 2006.
- 06-31 **Nichols, J.D., S.W.H. Cowley,** and D.J. McComas, Magnetopause reconnection rate estimates for Jupiter's magnetosphere based on interplanetary measurements at ~5 AU, *Ann. Geophysicae*, **24**, 393-406, 2006.
- 06-32 **Odzimek, A,** A. Kulak, A. Michalec, and J. Kubisz, An automatic method to determine the frequency scale of the ionospheric Alfvén resonator using data from Hylaty station, Poland, *Ann. Geophysicae*, **24**, 2151-2158, 2006.
- 06-33 Oksavik, K., J.M. Ruohoniemi, R.A. Greenwald, J.B.H. Baker, J. Moen, H.C. Carlson, **T.K. Yeoman,** and **M. Lester**, Observations of isolated polar cap patches by the EISCAT Svalbard and SuperDARN Finland radars, *J. Geophys. Res.*, **111**, A05310, doi: 10.1029/2005JA011400, 2006.
- 06-34 Pryse, S.E., A.G. Wood, H.R. Middleton, I.W. McCrea, and **M. Lester**, Reconfiguration of polar cap plasma in the magnetic midnight sector, *Ann. Geophysicae*, **24**, 2201-2211, 2006.

- 06-35 **Robinson T.R., T.K Yeoman, R.S Dhillon, M. Lester, E.C. Thomas, J.D. Thornhill, D.M. Wright,** A.P. van Eyken, and I.W. McCrea, First observations of SPEAR induced artificial backscatter from CUTLASS and the EISCAT Svalbard radars, *Ann. Geophysicae*, **24**, 291-309, 2006.
- 06-36 **Scofield, H.C, T.K Yeoman, T.R Robinson, L.J. Baddeley, R.S. Dhillon, D.M Wright,** T Raita, and T. Turenen, First results of artificial stimulation of the ionospheric Alfvén resonator at 78° N, *Geophys. Res. Lett.*, **33**, L19103, doi: 10.1029/2006GRL027384, 2006.
- 06-37 Senior, A; M.J. Kosch,; **T.K. Yeoman,** M.T. Rietveld, and I.W. McCrea, Effects of high-latitude atmospheric gravity wave disturbances on artificial HF radar backscatter, *Ann. Geophysicae*, **24**, 2347-2361, 2006.
- 06-38 Watt, C.E.J., R. Rankin, I.J. Rae, and **D.M. Wright,** Inertial Alfvén waves and acceleration of electrons in non-uniform magnetic fields, *Geophys. Res. Lett.*, **33**, L02106, doi: 10.1029/2005GL024779, 2006.
- 06-39 Willingale, R., P.T. O'Brien, **S.W.H. Cowley,** G.H. Jones, D.J. McComas, K.O. Mason, J. Osborne, A. Wells, M. Chester, S. Hunsberger, D.N. Burrows, N. Gehrels, J.A. Nousek, L. Angelini, L.R. Cominsky, S.L. Snowden, and G. Chincarini, Swift X-ray telescope observations of the Deep Impact collision, *Ap. J.*, **649**, 541-552, 2006.
- 06-40 **Wilson, M.E., T.K. Yeoman, L.J. Baddeley,** and B.J. Kellet, A statistical investigation of the invariant latitude dependence of unstable magnetospheric ion populations in relation to high *m* ULF wave generation, *Ann. Geophysicae.*, **24**, 3027-3040, 2006.
- 06-41 **Wright, D.M.,** Bridging the gap between ground- and space-based investigations of magnetosphere-ionosphere coupling processes, *Adv. Space Res.*, **38**, 1678-1684, 2006.
- 06-42 **Wright, D.M.,** J.A. Davies, **T.K. Yeoman, T.R. Robinson,** and **H. Shergill,** Saturation and hysteresis effects in ionospheric modification experiments observed by the CUTLASS and EISCAT radars, *Ann. Geophysicae*, **24**, 543-553, 2006.
- 06-43 **Yeoman, T.K., D.M. Wright,** and **L.J. Baddeley,** Ionospheric Signatures of ULF Waves: Active Radar Techniques, "*Magnetospheric ULF Waves: Synthesis and New Directions*" eds. K Takahashi, P. J. Chi, R. E. Denton, and R. L. Lysak. ISBN 0-87590-434-4, 2006.

*Unreferreed*

- 06-44 **Cowley, S.W.H.**, Aurorae of Earth and the planets, *The Observatory*, **126**, 392-395, 2006.
- 06-45 Neubert T., I. Kuvvetli, C. Budtz-Jorgensen, N. Østgaard, V. Reglero, and **N. Arnold**, The Atmosphere-Space Interactions Monitor (ASIM) for the International Space Station, *International Living with a Star Workshop*, Goa, 19-20, 2006.
- 06-46 Penz, T., C.J. Farrugia, V.V. Ivanova, V.S. Semenov, **S.W.H. Cowley**, H.K. Biernat, K.W. Ogilvie, and R. Torbert, Reconstruction of the reconnection electric field at the dayside magnetopause during FTE activity, *Problems of Geocosmos VI*, edited by V.N. Troyan, V.S. Semenov, and M.V. Kubyshkina, St. Petersburg Univ., Russia, pp. 151-154, 2006.
- 06-47 **Robinson, T.R.**, and **T.K. Yeoman**, SPEAR, A new window on the polar ionosphere and magnetosphere, *PPARC Annual Report 2005/6*, 2006.
- 06-48 **Wild, J.A.**, **S.E. Milan**, **J.A. Davies**, **S.W.H. Cowley**, M.W. Dunlop, C.J. Owen, J.-M. Bosqued, **M. Lester**, A. Balogh, C.M. Carr, A.N. Fazakerley, and H. Rème, Space and ground-based investigations of dayside reconnection: Cluster, Double-Star and SuperDARN observations, *Proc. Cluster & Double Star Symposium – 5th Anniversary of Cluster in Space*, ESA SP-598, ESA, Noordwijk, The Netherlands, 2006.

*Ph.D. and M.Phil. Theses*

- 06-49 **Jackman, C.M.**, Solar wind-magnetosphere coupling at Saturn, Ph.D. thesis, University of Leicester, 2006.