

Radio & Space Plasma Physics Group Publications

Group authors are shown boldface

Calendar Year 2007

Refereed research papers

- 07-01 **Baddeley, L.J., T.K. Yeoman**, K.A. McWilliams, and **D.M. Wright**, Global Pc5 wave activity observed using SuperDARN radars and ground magnetometers during an extended period of northward IMF, *Planet. Space Sci.*, **55**, 792–808, 2007.
- 07-02 **Badman, S.V.**, and **S.W.H. Cowley**, Significance of Dungey cycle flows in Jupiter's and Saturn's magnetospheres, and their identification on closed equatorial field lines, *Ann. Geophysicae*, **25**, 941-951, 2007.
- 07-03 Barber, R.J.; S. Miller; **T. Stallard**, J. Tennyson; P. Hirst, T. Carroll; and A. Adamson, The United Kingdom Infrared Telescope Deep Impact observations: Light curve, ejecta expansion rates and water spectral features, *Icarus*, **187**, 167-176, 2007.
- 07-04 Bannister, N.P., E.J. Bunce, **S.W.H. Cowley**, R. Fairbend, G.W. Fraser, F.J. Hamilton, J.S. Lapington, J.E. Lees, **M. Lester**, **S.E. Milan**, J.F. Pearson, G.J. Price, and R. Willingale, A wide field auroral imager (WFAI) for low Earth orbit missions, *Ann. Geophysicae*, **25**, 519-532, 2007.
- 07-05 Belenkaya, E.S., I.I. Alexeev, M.S. Blokhina, **S.W.H. Cowley**, **S.V. Badman**, V.V. Kalegaev, and M.S. Grigoryan, IMF dependence of the open-closed field line boundary in Saturn's ionosphere and its relation to the UV auroral oval observed by the Hubble Space Telescope, *Ann. Geophysicae*, **25**, 1215-1226, 2007.
- 07-06 Bunce, E.J., **S.W.H. Cowley**, I.I. Alexeev, C.S. Arridge, M.K. Dougherty, J.D. Nichols, and C.T. Russell, Cassini observations of the variation of Saturn's ring current parameters with system size, *J. Geophys. Res.*, **112**, A10202, doi: 10.1029/2007JA012275, 2007.
- 07-07 Chanrion, O., N.B. Crosby, **E. Arnone**, F. Boberg, O. Van der Velde, **A. Odzimek**, A. Mika, C.-F. Enell, P. Berg, M. Ignaccolo, R.J. Steiner, S. Laursen, and T. Neubert, The EuroSprite2005 Observational Campaign: an example of training and outreach opportunities for CAL young scientists, *Adv. Geosci.*, **13**, 3-9, 2007.
- 07-08 Chisham, G., **M. Lester**, **S.E. Milan**, M.P. Freeman, W.A. Bristow, **A. Grocott**, K.A. MacWilliams, J.M. Ruohoniemi, **T.K. Yeoman**, P. Dyson, R.A. Greenwald, T. Kikuchi, M. Pinnock, J. Rash, N. Sato, G. Sofko, J.-P. Villain, and A.D.M. Walker, A decade of the Super Dual Auroral Radar Network (SuperDARN): Scientific achievements, new techniques and future directions, *Surveys in Geophysics*, **28**, 33-109, doi: 10.1007/s10712-007-9017-8, 2007.

- 07-09 **Cnossen, I.**, J. Sanz-Forcada, F. Favata, O. Witasse, T. Zegers, and **N.F. Arnold**, Habitat of early life: Solar X-ray and UV radiation at Earth's surface 4-3.5 billion years ago, *J. Geophys. Res.*, **112**, E02008, doi: 10.1029/2006JE002784, 2007.
- 07-10 **Cowley, S.W.H.**, J.D. Nichols, and D.J. Andrews, Modulation of Jupiter's plasma flow, polar currents, and auroral precipitation by solar wind-induced compressions and expansions of the magnetosphere: A simple theoretical model, *Ann. Geophysicae*, **25**, 1433-1463, 2007.
- 07-11 **Cowley, S.W.H.**, Magnetosphere of the Earth, in *Encyclopedia of Geomagnetism and Paleomagnetism*, edited by D. Gubbins and E. Herrero-Bervera, Springer, Dordrecht, The Netherlands, ISBN-13: 978-1-4020-3992-8, pp.656-664, 2007.
- 07-12 **Dhillon, R.S.**, **T.R. Robinson**, and **T.K. Yeoman**, EISCAT Svalbard radar observations of SPEAR-induced spectral enhancements in the E-region polar cap ionosphere, *Ann. Geophysicae*, **25**, 1801-1814, 2007.
- 07-13 Donovan, E., T. Trondsen, J. Spann, W. Liu, E. Spanswick, **M. Lester**, C.-Y. Tu, A. Ridley, M. Henderson, T. Immel, S. Mende, J. Bonnell, M. Syrjasuo, G. Sofko, L. Cogger, J. Murphree, P.T. Jayachandran, T. Pulkkinen, R. Rankin, and J. Sigwarth, Global auroral imaging in the ILWS era, *Adv. Space Res.*, **40**, 409-418, doi: 10.1016/j.asr.2006.09.028, 2007.
- 07-14 Farrugia, C.J., **A. Grocott**, P.E. Sandholt, **S.W.H. Cowley**, Y. Miyoshi, V.K. Jordanova, and R.B. Torbert, The magnetosphere under weak solar wind forcing, *Ann. Geophysicae*, **25**, 191-205, 2007.
- 07-15 **Fear, R.C.**, **S.E. Milan**, A.N. Fazakerley, C.J. Owen, T. Asikainen, M.G.G.T. Taylor, E.A. Lucek, H. Rème, I. Dandouras, and P.W. Daly, Motion of flux transfer events: A test of the Cooling Model, *Ann. Geophysicae*, **25**, 1669-1690, 2007.
- 07-16 Fujiwara, H., R. Kataoka, M. Suzuki, S. Maeda, S. Nozawa, K. Hosokawa, H. Fukunishi, N. Sato, and **M. Lester**, Electromagnetic energy deposition rate in the polar upper thermosphere derived from the EISCAT Svalbard radar and CUTLASS Finland radar observations, *Ann. Geophysicae*, **25**, 2393-2403, 2007.
- 07-17 **Grocott, A.**, **T.K. Yeoman**, **S.E. Milan**, O. Amm, H.U. Frey, L. Juusola, R. Nakamura, C.J. Owen, H. Rème, and T. Takada, Multi-scale observations of magnetotail flux transport during IMF-northward non-substorm intervals, *Ann. Geophysicae*, **25**, 1709-1720, 2007.
- 07-18 Hubert, B., K. Kauristie, O. Amm, **S.E. Milan**, **A. Grocott**, **S.W.H. Cowley**, and T.I. Pulkkinen, Auroral streamers and magnetic flux closure, *Geophys. Res. Lett.*, **34**, L15105, doi: 10.1029/2007GL030580, 2007.
- 07-19 **Imber, S.M.**, **S.E. Milan**, and B. Hubert, Observations of significant flux closure by dual lobe reconnection, *Ann. Geophysicae*, **25**, 1617-1627, 2007.
- 07-20 Karpachev, A.T., G.F. Deminova, N. Beloff, T.D. Carozzi, P.F. Denisenko, **T.J.T. Karhunen**, and **M. Lester**, Global pattern of the ionospheric response to large-scale gravity waves, *J. Atmos. Solar. Terr. Phys.*, **69**, 906-924, doi: 10.1016/j.jastp.2007.03.001, 2007.

- 07-21 Koustov, A.V., D. André, E. Turunen, T. Raito, and **S.E. Milan**, Heights of SuperDARN F-region echoes estimated from the analysis of HF radio wave propagation, *Ann. Geophysicae*, **25**, 1984-1994, 2007.
- 07-22 **Lester, M.**, Magnetic storms and substorms, in *The Encyclopaedia of Geomagnetism and Paleomagnetism*, edited by D. Gubbins, and E. Herrero-Bervera, Springer, Dordrecht, The Netherlands, 926-928, 2007.
- 07-23 **Lester, M., S.E. Milan, G. Provan,** and J.A. Wild, Review of ionospheric effects of solar wind magnetosphere coupling in the context of the expanding contracting polar cap boundary model, *Space Sci. Rev.*, **124**, 117-130, doi: 10.1007/s11214-006-9132-8, 2007.
- 07-24 Lystrup, M.B., S. Miller, **T. Stallard**, C.G.A. Smith, and A. Aylward, Variability of Jovian ion winds: an upper limit for enhanced Joule heating, *Ann. Geophysicae*, **25**, 847-853, 2007.
- 07-25 Maynard, N.C., W.J. Burke, D.M. Ober, C.J. Farrugia, H. Kucharek, **M. Lester**, F.S. Mozer, C.T. Russell, and K.D. Siebert, Interaction of the bow shock with a tangential discontinuity and solar wind density decrease: Observations of predicted fast mode waves and magnetosheath merging, *J. Geophys. Res.*, **112**, A12219, doi: 10.1029/2007JA012293, 2007.
- 07-26 Melin, H., S. Miller, **T. Stallard**, L.M. Trafton, and T.R. Geballe, Variability in the H₃⁺ emission of Saturn: Consequences for ionisation rates and temperature. *Icarus*, **186**, Issue 1, 234-241, 2007.
- 07-27 **Milan, S.E.**, The auroral oval, *The Encyclopaedia of Geomagnetism and Paleomagnetism*, edited by D. Gubbins, and E. Herrero-Bervera, Springer, Dordrecht, The Netherlands, 2007.
- 07-28 **Milan, S.E., G. Provan,** and B. Hubert, Magnetic flux transport in the Dungey cycle: A survey of dayside and nightside reconnection rates, *J. Geophys. Res.*, **112**, A01209, doi: 10.1029/2006JA011642, 2007.
- 07-29 **Nichols, J.D.**, E.J. Bunce, J.T. Clarke, **S.W.H. Cowley**, J.-C. Gérard, D. Grodent, and W.R. Pryor, Response of Jupiter's UV auroras to interplanetary conditions as observed by the Hubble Space Telescope during the Cassini fly-by campaign, *J. Geophys. Res.*, **112**, A02203, doi: 10.1029/2006JA012005, 2007.
- 07-30 Parkinson, M.L. J.A. Wild, C.L. Waters, **M. Lester**, E.A. Lucek, and P.M.E. Decreau, An auroral westward flow channel (AWFC) and its relationship to field-aligned current, ring current, and plasmopause location determined using multiple spacecraft observations, *Ann. Geophysicae*, **25**, 59-76, 2007.
- 07-31 Penz, T., C.J. Farrugia, V.V. Ivanova, V.S. Semenov, I.B. Ivanov, **S.W.H. Cowley**, H.K. Biernat, and R.B. Torbert, Modelled variations of the reconnection electric field at the dayside magnetopause during continued flux transfer event activity, *J. Geophys. Res.*, **112**, A10S90, doi: 10.1029/2006JA011937, 2007.
- 07-32 Rycroft, M., **A. Odzimek, N. F. Arnold**, M. Füllekrug, A. Kulak, and T. Neubert, New model simulations of the global atmospheric electric circuit driven by thunderstorms and electrified shower clouds: The roles of lightning and sprites, *J. Atmos. Sol.-Terr. Phys.*, **69**, 2485-2509, 2007.

- 07-33 **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 in the morning sector using data from CUTLASS and FAST, *Planet. Space Sci.*, **55**, 770-791, 2007.
- 07-34 **Stallard, T., S. Miller, H. Melin, M. Lystrup, M. Dougherty, and N. Achilleos**, Saturn's auroral/polar H3+ infrared emission I: general morphology and ion velocity structure. *Icarus*, **189**, 1-13, 2007.
- 07-35 **Stallard, T., C. Smith, S. Miller, H. Melin, M. Lystrup, A. Aylward, N. Achilleos, and M. Dougherty**, Saturn's auroral/polar H3+ infrared emission II: a comparison with plasma flow models. *Icarus*, **191**, 678-690, 2007.
- 07-36 Waters, C.L., **T.K. Yeoman**, M.D. Sciffer, P. Ponomarenko, and **D.M. Wright**, Modulation of radio frequency signals by ULF waves, *Ann. Geophysicae*, **25**, 1113-1124, 2007.
- 07-37 Wild, J.A., **S.E. Milan**, J.A. Davies, M.W. Dunlop, **D.M. Wright**, C.M. Carr, A. Balogh, H. Rème, and A.N. Fazakerley, On the location of dayside magnetic reconnection during an interval of duskward oriented IMF, *Ann. Geophysicae*, **25**, 219-238, 2007.
- 07-38 **Yeoman, T.K., N. Blagoveshchenskaya, V. Kornienko, T.R. Robinson, R.S. Dhillon, D.M. Wright, and L.J. Baddeley**, SPEAR: Early results from a very high latitude ionospheric heating facility, *Adv. Space Res.*, **40**, 384-389, 2007.

Unrefereed research papers

- 07-39 **Cowley, S.W.H.**, Book review: "Physics of Space Plasma Activity" by K. Schindler, *The Observatory*, 127, 351-352, 2007.
- 07-40 **Forsyth, C., M. Lester, S.E. Milan, A. Grocott**, H.U. Frey, E. Lucek, H. Rème, and J. Watermann, Observations of tail dynamics using ground and space based instruments during a period of multiple substorm events, *Proc. Eighth Internat. Conf. Substorms*, edited by Syrjäsuo and Donovan, University of Calgary, Alberta, Canada, 65-70, 2007.
- 07-41 **Grocott, A., and T.K. Yeoman**, SuperDARN observations of ionospheric convection during magnetospheric substorms, *Proc. Eighth Internat. Conf. Substorms*, edited by M.T. Syrjäsuo, and E.F. Donovan, University of Calgary, Alberta, Canada, 81-86, 2007.
- 07-42 Hubert, B., M. Palmroth, **S.E. Milan, A. Grocott**, P. Janhunen, K. Kauristie, **S.W.H. Cowley**, T.I. Pulkkinen, and J.-C. Gérard, Monitoring the dayside and nightside reconnection rates during various auroral events using IMAGE-FUV and SuperDARN data, *Proc. Eighth Internat. Conf. Substorms*, edited by M.T. Syrjäsuo and E.F. Donovan, University of Calgary, Alberta, Canada, 117-121, 2007.

Ph.D. and M.Phil. Theses

07-43 **Badman, S.V.**, Solar wind influences on Saturn's magnetospheric and auroral dynamics, Ph.D. thesis, University of Leicester, 2007.

07-44 **Shergill, H.**, A statistical study of high-latitude artificial field-aligned irregularities, Ph.D. thesis, University of Leicester, 2007.

Arnone, E., The response of the middle atmosphere to regional ozone perturbations, Ph.D. thesis, University of Leicester, 2007.