

## Radio & Space Plasma Physics Group Publications

Group authors are shown boldface

### Calendar Year 2001

#### *Refereed Research Papers*

- 01-1 **Arnold, N.F.**, and **T.R. Robinson**, Solar magnetic flux influences on the dynamics of the winter middle atmosphere, *Geophys. Res. Lett.*, **28**, 2381-2384, 2001.
- 01-2 **Arnold, N.F.**, **T.R. Robinson**, **M. Lester**, **P.B. Byrne**, and **P.J. Chapman**, Super Dual Auroral Radar network observations of fluctuations in the spectral distribution of near range meteor echoes in the upper mesosphere and lower thermosphere, *Ann. Geophysicae*, **19**, 425-434, 2001.
- 01-3 **Bunce, E.J.**, and **S.W.H. Cowley**, Local time asymmetry of the equatorial current sheet in Jupiter's magnetosphere, *Planet. Space Sci.*, **49**, 261-274, 2001.
- 01-4 **Bunce, E.J.**, and **S.W.H. Cowley**, Divergence of the equatorial current in the dawn sector of Jupiter's magnetosphere: analysis of Pioneer and Voyager magnetic field data, *Planet. Space Sci.*, **49**, 1089-1113, 2001.
- 01-5 **Cowley, S.W.H.**, and **E.J. Bunce**, Jupiter: Magnetosphere, in *Encyclopedia of Astronomy and Astrophysics*, Institute of Physics Publ., Bristol, Vol. 2, 1341-1350, 2001.
- 01-6 **Cowley, S.W.H.**, and **E.J. Bunce**, Origin of the main auroral oval in Jupiter's coupled magnetosphere-ionosphere system, *Planet. Space Sci.*, **49**, 1067-1088, 2001.
- 01-7 Edwards, T.M., **E.J. Bunce**, and **S.W.H. Cowley**, A note on the vector potential of Connerney et al.'s model of the equatorial current sheet in Jupiter's magnetosphere, *Planet. Space Sci.*, **49**, 1115-1123, 2001.
- 01-8 Fox, N.J., **S.W.H. Cowley**, **J.A. Davies**, R.A. Greenwald, **M. Lester**, M. Lockwood, and H. Lühr, Ionospheric ion and electron heating at the poleward boundary of a poleward-expanding substorm-disturbed region, *J. Geophys. Res.*, **106**, 12845-12862, 2001.
- 01-9 Geiswiler, J., C. Béghin, **E. Kolesnikova**, D. Lagoutte, J.L. Michau, and J.G. Trotignon, Rosetta spacecraft influence on the mutual impedance probe frequency response in the long Debye length mode, *Planet. Space Sci.*, **49**, 633-644, 2001.
- 01-10 Geiswiler, J., **E. Kolesnikova**, J.G. Trotignon, and C. Béghin, Rosetta mission mutual impedance probe modelling: the short and long Debye length plasma cases, *Astrophys. Space Sci.*, **227**, 1217-1224, 2001.
- 01-11 Huang, C.S., G.J. Sofko, A.V. Koustov, J.W. MacDougall, R.A. Greenwald, J.M. Ruohoniemi, J.C. Foster, J.P. Villain, **M. Lester**, J. Watermann, V.O. Papitashvili, and W.J. Hughes, Long-period magnetospheric-ionospheric perturbations during northward interplanetary magnetic field, *J. Geophys. Res.*, **106**, 13091-13103, 2001.

- 01-12 **Jones, T.B., M. Lester, S.E. Milan, T.R. Robinson, D.M. Wright, R.S. Dhillon, and J.A. Davies**, Radio wave propagation aspects of the CUTLASS radar, *J. Atmos. Solar-Terr. Physics*, **63**, 99-105, 2001.
- 01-13 **Khan, H., and S.W.H. Cowley**, Effect of the IMF  $B_y$  component on the ionospheric flow overhead at EISCAT: observations and theory, *Ann. Geophysicae*, **18**, 1503-1522, 2001.
- 01-14 **Khan, H., S.W.H. Cowley, E. Kolesnikova, M. Lester**, M.J. Brittnacher, T.J. Hughes, W.J. Hughes, W.S. Kurth, D.J. McComas, L. Newitt, C.J. Owen, G.D. Reeves, H.J. Singer, C.W. Smith, D.J. Southwood, and J.F. Watermann, Observations of two complete substorm cycles during the Cassini Earth swing-by: Cassini magnetometer data in a global context, *J. Geophys. Res.*, **106**, 30141-30175, 2001.
- 01-15 **Kolesnikova, E., and C. Béghin**, Instability problem of the electric field antennas on the Polar spacecraft, *Radio Sci.*, **36**, 203-221, 2001.
- 01-16 **Kolesnikova, E., C. Béghin, R. Grard, and C.P. Escoubet**, The electrical stability of the electric field antennas in the plasmasphere, *J. Atmos. Solar-Terr. Phys.*, **63**, 1217-1224, 2001.
- 01-17 **Lester, M.**, Magnetosphere of Earth: Substorms, *Encyclopedia of Astronomy and Astrophysics*, Institute of Physics Publi., Bristol, **Vol. 2**, 1606-1613, 2001.
- 01-18 **Lester, M., and S.E. Milan, V. Besser, and R. Smith**, A case study of HF radar spectra and 630.0 nm auroral emission, *Ann. Geophysicae*, **19**, 327-340, 2001.
- 01-19 Lockwood, M., **S.E. Milan**, T. Onsager, C.H. Perry, J.A. Scudder, C. Russell, and M. Brittnacher, Cusp ion steps, field-aligned currents and poleward-moving auroral forms, *J. Geophys. Res.*, **106**, 29555-29569, 2001.
- 01-20 Lockwood, M., H. Opgenoorth, A.P. van Eyken, A. Fazakerley, J.-M. Bosqued, W. Denig, M.A. Hapgood, M.N. Wild, R. Stamper, M. Dunlop, **J.A. Wild, G. Lu, M. Taylor, O. Amm, I. McCrea, K. Kauristie, T. Pulkkinen, A. Strømmer, P. Prikryl, F. Pitout, A. Balogh, H. Reme, R. Behlke, T. Hansen, R. Greenwald, G. Provan, P. Eglitis, S. Morley, D. Alcayde, P.-L. Blelly, J. Moen, E. Donovan, M. Engebretson, M.Lester, J. Waterman, and M.F. Marcucci**, Coordinated Cluster, ground-based instrumentation and low-altitude satellite observations of transient poleward-moving events in the low and high altitude mantle regions, *Ann. Geophysicae*, **19**, 1589-1612, 2001.
- 01-21 Lockwood, M., A. Fazakerley, H.J Opgenoorth, J. Moen, A.P. van Eyken, M. Dunlop, J.-M. Bosqued, G. Lu, C.Cully, P. Eglitis, I.W. McCrea, M.A. Hapgood, M.N. Wild, R. Stamper, W. Denig, M. Taylor, **J.A. Wild, G. Provan, O. Amm, K. Kauristie, T. Pulkkinen, A. Strømme, P. Prikryl, F. Pitout, A. Balogh, H. Rème, R. Behlke, T. Hansen, R. Greenwald, H. Frey, S.K. Morley, D. Alcaydé, P.-L. Blelly, E. Donovan, M. Engebretson, M. Lester, J. Waterman, and M.F. Marcucci**, Coordinated Cluster and ground-based instrument observation of transient changes in the magnetopause boundary layer during an interval of predominantly northward IMF: relation to reconnection pulses and FTE signatures, *Ann. Geophysicae*, **19**, 1613-1640, 2001.
- 01-22 Maynard, N.C., W.J. Burke, P.E. Sandholt, J. Moen, D.M. Ober, **M. Lester**, D.R. Weimer, and A. Egeland, Observations of simultaneous effects of merging in both hemispheres, *J. Geophys. Res.*, **106**, 24551-24577, 2001.

- 01-23 **McWilliams, K.A., S.E. Milan, T.K. Yeoman, J.B. Sigwarth, L.A. Frank, and M. Brittnacher**, IMF  $B_y$  dependence of the relative position of the dayside ultraviolet auroral oval and the HF radar cusp, *J. Geophys. Res.*, **106**, 29027-29036, 2001.
- 01-24 **McWilliams, K.A., T.K. Yeoman, and S.W.H. Cowley**, Two-dimensional electric field measurements in the ionospheric footprint of a flux transfer event, *Ann. Geophysicae*, **18**, 1584-1598, 2001.
- 01-25 **McWilliams, K.A., T.K. Yeoman, J.B. Sigwarth, L.A. Frank, and M. Brittnacher**, The dayside ultraviolet aurora and convection responses to a southward turning of the interplanetary magnetic field, *Ann. Geophysicae*, **19**, 707-721, 2001.
- 01-26 Menk, F.W., **T.K. Yeoman, D.M. Wright, and M. Lester**, Coordinated observations of forced and resonant field line oscillations at high latitudes, *ANARE Rep. Australian Antarctic Division*, Eds. R.J. Morris and P.J. Wilkinson, **146**, 383-404, 2001.
- 01-27 **Milan, S.E., and M. Lester**, Interhemispheric differences in the HF radar signature of the cusp: A review through the study of a case example, *Adv. Polar Upper Atmos. Res.*, **15**, 159-177, 2001.
- 01-28 **Milan, S.E., L.J. Baddeley, M. Lester, and N. Sato**, A seasonal variation in the convection response to IMF orientation, *Geophys. Res. Lett.*, **28**, 471-474, 2001.
- 01-29 **Milan, S.E., and M. Lester**, A classification of spectral populations observed in HF radar backscatter from the E region auroral electrojets, *Ann. Geophysicae*, **19**, 189-204, 2001.
- 01-30 **Milan, S.E., M. Lester, N. Sato, and H. Takizawa**, On the altitude dependence of the spectral characteristics of decametre-wavelength E region backscatter and the relationship with optical auroral forms, *Ann. Geophysicae*, **19**, 205-217, 2001.
- 01-31 **Milan, S.E., N. Sato, M. Ejiri, and J. Moen**, Auroral forms and the field-aligned current structure associated with field line resonances, *J. Geophys. Res.*, **106**, 25825-25833, 2001.
- 01-32 **Milan, S.E., M. Lester, J.R. Dudeney, R.A. Greenwald, G. Sofko, J.P. Villain, and R.P. Lepping**, The excitation of convection in the cusp region as observed by SuperDARN radars, *Adv. Space Res.*, **27**, 1373-1376, 2001.
- 01-33 **Neudegg, D.A.**, Statistical addition method for external noise sources affecting HF-MF-LF systems, *Radio Science*, **36**, 1659-1667, 2001.
- 01-34 **Neudegg, D.A., S.W.H. Cowley, K.A. McWilliams, M. Lester, T.K. Yeoman, J. Sigwarth, G. Haerendel, W. Baumjohann, U. Auster, K.-H. Fornacon, and E. Georgescu**, The UV aurora and ionospheric flows during flux transfer events, *Ann. Geophysicae*, **19**, 179-188, 2001.
- 01-35 Ogawa, T., S.C. Buchert, N. Nishitani, N. Sato, and **M. Lester**, Plasma density suppression process around the cusp revealed by simultaneous CUTLASS and EISCAT Svalbard radar observations, *J. Geophys. Res.*, **106**, 5551-5564, 2001.
- 01-36 Opgenoorth, H.J., M. Lockwood, D. Alcayd e, E. Donovan, M.J. Engebretson, A.P. van Eyken, K. Kauristie, **M. Lester**, J. Moen, J. Waterman, H. Alleyne, M. Andre, M.W. Dunlop, N. Cornilleau-Wehrin, P.M.E. Decreau, A. Fazerkerley, H. Reme, R.

- Andre, O. Amm, A. Balogh, R. Behlke, P.L. Blelly, H. Boholm, E. Borälv, J.M. Bosqued, S. Buchert, M. Candidi, J.C. Cerisier, C. Cully, W.F. Denig, R. Doe, P. Eglitis, R.A. Greenwald, B. Jackal, J.D. Kelly, I. Krauklis, G. Lu, I.R. Mann, M.F. Marcucci, I.W. McCrea, M. Maksimovic, S. Massetti, A. Masson, D.K. Milling, S. Orsini, F. Pitout, **G. Provan**, J.M. Ruohoniemi, J.C. Samson, J.J. Schott, F. Sedgemore-Schulthess, R. Stamper, P. Stauning, A. Strömme, M. Taylor, A. Vaivads, J.P. Villain, I. Voronkov, **J.A. Wild**, and M. Wild, Coordinated ground-based, low altitude satellite and Cluster observations on global and local scales during a transient postnoon sector excursion of the magnetospheric cusp, *Ann. Geophysicae*, **19**, 1491-1508, 2001.
- 01-37 **Rae, I.J., M. Lester, S.E. Milan**, T.A. Fritz, M. Grande, J. Scudder, and C.T. Russell, Observations of the time-varying cusp by Polar, *J. Geophys. Res.*, **106**, 19057-19065, 2001.
- 01-38 Sandholt, P.E., C.J. Farrugia, **M. Lester**, and **S.W.H. Cowley**, Dayside auroral bifurcation sequence during By-dominated interplanetary magnetic field: Relationship with merging and lobe convection cells, *J. Geophys. Res.*, **106**, 15429-15444, 2001.
- 01-39 Sandholt, P.E., C.J. Farrugia, **S.W.H. Cowley**, **M. Lester**, and J.-C. Cerisier, Excitation of transient lobe cell convection and auroral arcs at the cusp poleward boundary during a transition of the interplanetary magnetic field from south to north, *Ann. Geophysicae*, **19**, 487-493, 2001.
- 01-40 Southwood, D.J., M.K. Dougherty, A. Balogh, **S.W.H. Cowley**, E.J. Smith, B.T. Tsurutani, C.T. Russell, G.L. Siscoe, G. Erdos, K.-H. Glassmeier, F. Gliem, and F.M. Neubauer, Magnetometer measurements from the Cassini Earth swingby, *J. Geophys. Res.*, **106**, 30109-30128, 2001.
- 01-41 Uspensky, M.V., A.V. Kustov, P. Eglitis, A. Huuskonen, **S.E. Milan**, T. Pulkkinen, and R. Pirjola, CUTLASS HF radar observations of high-velocity E-region echoes, *Ann. Geophysicae*, **19**, 411-424, 2001.
- 01-42 **Wild, J.A., S.W.H. Cowley, J.A. Davies, H. Khan, M. Lester, S.E. Milan, G. Provan, T.K. Yeoman**, A. Balogh, M.W. Dunlop, K.-H. Fornacon, and E. Georgescu, First simultaneous observations of flux transfer events at the high-latitude magnetopause by the Cluster spacecraft and pulsed radar signatures in the conjugate ionosphere by the CUTLASS and EISCAT radars, *Ann. Geophysicae*, **19**, 1491-1508, 2001.
- 01-43 **Wright, D.M., T.K. Yeoman, I.J. Rae, J. Storey**, A.B. Stockton-Chalk, J.L. Roeder, and K.-H. Trattner, Ground-based and Polar spacecraft observations of a giant (Pg) pulsation and its associated source mechanism, *J. Geophys. Res.*, **106**, 10837-10852, 2001.
- 01-44 **Yeoman, T.K., and D.M. Wright**, ULF waves with drift resonance and drift-bounce resonance energy sources as observed in artificially-induced HF radar backscatter, *Ann. Geophysicae*, **19**, 159-170, 2001.
- 01-45 **Yeoman, T.K., D.M. Wright, A.J. Stocker**, and **T.B. Jones**, An evaluation of range accuracy in the SuperDARN over-the-horizon HF radar systems, *Radio Sci.*, **36**, 801-813, 2001.

*Unrefereed Papers*

- 01-46 **Arnold, N.F.**, MIST in Autumn, *Astr. & Geophys.*, **42**, 1.27-1.38, 2001.
- 01-47 **Arnold, N.F.**, The solar factor, *Physics World*, **14**, 12-20, 2001.
- 01-48 **Arnold, N.F.**, and I. Mann, Yorvic MIST, *Astr. & Geophys.*, **42**, 4.18-4.20, 2001.
- 01-49 **Parsons, M.**, Two radars for the price of one, *Engineering Technology*, September, 24-28, 2001.
- 01-50 **Cowley, S.W.H.**, Book review: "Magnetic Reconnection: MHD Theory and Applications" by E.R. Priest and T.G. Forbes, *Contemporary Physics*, **42**, 194-195, 2001.

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

- 01-51 **Bunce, E.J.**, Large-scale current systems in the Jovian magnetosphere, Ph.D. Thesis, University of Leicester, 2001.
- 01-52 **McWilliams, K.A.**, Ionospheric signatures of dayside reconnection processes, Ph.D. Thesis, University of Leicester, 2001.