

## Radio & Space Plasma Physics Group Publications

Group authors are shown boldface

### Calendar Year 2002

#### *Refereed Research Papers*

- 02-01 **Arnold, N.F.**, Solar variability coupling between atmospheric layers and climate change, *Phil. Trans. Roy. Soc. Lond.*, **360(A)**, 1801, 2787-2804, 2002.
- 02-02 **Baddeley, L.J., T.K. Yeoman, D.M. Wright, J.A. Davies**, K.J. Trattner, and J.L. Roeder, Morning sector drift-bounce resonance driven ULF waves observed in artificially-induced HF radar backscatter, *Ann. Geophysicae*, **20**, 1487-1498, 2002.
- 02-03 **Bunce, E.J., P.G. Hanlon**, and **S.W.H. Cowley**, A simple empirical model of the equatorial radial field in Jupiter's middle magnetosphere, based on spacecraft fly-by and Galileo orbiter data, *Planet. Space Sci.*, **50**, 789-806, 2002.
- 02-04 **Cash, S.R., J.A. Davies, E. Kolesnikova, T.R. Robinson, D.M. Wright, T.K. Yeoman**, and R.J. Strangeway, Electron acceleration observed by the FAST satellite within the IAR during a 3 Hz modulated EISCAT heating experiment, *Ann. Geophysicae*, **20**, 1499-1507, 2002.
- 02-05 Chisham, G., I.J. Coleman, M.P. Freeman, M. Pinnock, and **M. Lester**, Ionospheric signatures of split reconnection X-lines during conditions of IMF  $B_z < 0$  and  $|B_y| \sim |B_z|$ : Evidence for the antiparallel merging hypothesis, *J. Geophys. Res.*, **107(A10)**, 1323, doi:10.1029/2001JA009124, 2002.
- 02-06 **Cowley, S.W.H., J.D. Nichols**, and **E.J. Bunce**, Distributions of current and auroral precipitation in Jupiter's middle magnetosphere computed from steady-state Hill-Pontius angular velocity profiles: Solutions for current sheet and dipole magnetic field models, *Planet. Space Sci.*, **50**, 717-734, 2002.
- 02-07 Danskin, D.W., A.V. Koustov, T. Ogawa, N. Nishitani, S. Nozawa, **S.E. Milan, M. Lester**, and D. Andre, On the factors controlling the power of F-region coherent echoes, *Ann. Geophysicae*, **20**, 1385-1397, 2001.
- 02-08 **Davies, J.A., T.K. Yeoman, I.J. Rae, S.E. Milan, M. Lester, K.A. McWilliams**, and M. Lockwood, Ground-based observations of the auroral zone and polar cap ionospheric responses to dayside transient reconnection, *Ann. Geophysicae*, **20**, 781-794, 2002.
- 02-09 **Dhillon, R.S., T.R. Robinson**, and **D.M. Wright**, Radar ACFs and turbulence characteristics from artificially generated field-aligned irregularities, *Geophys. Res. Lett.*, **29(17)**, 1830, doi:10.1029/2002GL015128, 2002.
- 02-10 **Gauld, J.K., T.K. Yeoman, J.A. Davies, S.E. Milan**, and F. Honary, SuperDARN radar HF propagation and absorption response to the substorm expansion phase, *Ann. Geophysicae*, **20**, 1631-1645, 2002.

- 02-11 **Grocott, A., S.W.H. Cowley, J.B. Sigwarth, J.F. Watermann, and T.K. Yeoman**, Excitation of twin-vortex flow in the nightside high-latitude ionosphere during an isolated substorm, *Ann. Geophysicae*, **20**, 1577-1601, 2002.
- 02-12 Harris, M.J., **N.F. Arnold**, and A.D. Aylward, A study into the effect of the diurnal tide on the structure of the background mesosphere and thermosphere (CMAT) general circulation model, *Ann. Geophysicae*, **20**, 225-235, 2002.
- 02-13 Hosokawa, K., **E.E. Woodfield, M. Lester, S.E. Milan**, A.S. Yukimatu, N. Sato, and T. Iyemori, Statistical characteristics of spectral width as observed by the conjugate SuperDARN radars, *Ann. Geophysicae*, **20**, 1213-1223, 2002.
- 02-14 Hosokawa, K., M. Sugini, **M. Lester**, N. Sato, A.S. Yukimatu, and T. Iyemori, Simultaneous measurement of duskside subauroral irregularities from the CUTLASS Finland radar and EISCAT UHF system, *J. Geophys. Res.*, **107**(A12), 1457, doi:10.1029/2002JA009416, 2002.
- 02-15 Kavanagh, A.J., F. Honary, I.W. McCrea, E. Donovan, **E.E. Woodfield**, J. Manninen, P.C. Anderson, Substorm related changes in the precipitation in the dayside auroral zone, a multi instrument case study, *Ann. Geophysicae*, **20**, 1321-1334, 2002.
- 02-16 **Kolesnikova, E., T.R. Robinson, J.A. Davies, M. Lester, D.M. Wright**, and R.J. Strangeway, Excitation of Alfvén waves by modulated HF heating of the ionosphere, with application to FAST observations, *Ann. Geophysicae*, **20**, 57-67, 2002.
- 02-17 **Kolesnikova, E.**, and **S.W.H. Cowley**, The effect of instrument limitations on the derivation of plasma flows from energetic ion anisotropies, with an application to Ulysses observations at Jupiter, *Planet. Space Sci.*, **50**, 193-215, 2002.
- 02-18 **Kolesnikova, E., T.R. Robinson**, and **J.A. Davies**, Predicted and observed characteristics of small-scale field-aligned irregularities generated in the F-region by low power HF heating, *Ann. Geophysicae*, **20**, 647-653, 2002.
- 02-19 Kosch, M.J., M.T. Rietveld, **T.K. Yeoman**, K. Cierpka, and T. Hagfors, The high-latitude artificial aurora of 21 February 1999: An analysis, *Adv. Polar Upper Atmos. Res.*, **15**, 1-12, 2002.
- 02-20 Kosch, M.J., M.T. Rietveld, A.J. Kavanagh, C. Davis, **T.K. Yeoman**, F. Honary and T. Hagfors, High-latitude pump-induced optical emissions for frequencies close to the third electron gyro-harmonic, *Geophys. Res. Lett.*, **29**, 2112, doi:10.1029/2002GL015744, 2002.
- 02-21 Koustov, A.V., D.W. Danskin, M.V. Uspensky, T. Ogawa, P. Janhunen, N. Nishitani, S. Nozawa, **M. Lester**, and **S.E. Milan**, Velocities of auroral coherent echoes at 12 and 144 MHz, *Ann. Geophysicae*, **20**, 1647-1661, 2002.
- 02-22 Lu, G., **S.W.H. Cowley, S.E. Milan**, D.G. Sibeck, R.A. Greenwald, and T. Moretto, Solar wind effects on ionospheric convection: A review, *J. Atmos. Solar-Terr. Phys.*, **64**, 145-157, 2002.
- 02-23 Mann, I. R., E. Donovan, M. Dunlop, I. Voronkov, **T.K. Yeoman**, D.K. Milling, **J.A. Wild**, K. Kauristie, O. Amm, S.D. Bale, A. Balogh, A. Viljanen, and H.J. Opgenoorth, Co-ordinated ground-based and Cluster observations of large amplitude

- global magnetospheric oscillations during a fast solar wind speed interval, *Ann. Geophysicae*, **20**, 405-426, 2002.
- 02-24 **Milan, S.E., M. Lester, and T.K. Yeoman**, HF radar polar patch formation revisited: Summer and winter variations in dayside plasma structuring, *Ann. Geophysicae*, **20**, 487-499, 2002.
- 02-25 **Milan, S.E., N. Sato, M. Lester, T.K. Yeoman, Y. Murata, H. Doi, and T. Saemundsson**, The spectral characteristics of E region radar echoes co-located with and adjacent to visual auroral arcs, *Ann. Geophysicae*, **20**, 795-805, 2002.
- 02-26 Moen, J., I.K. Walker, L. Kersley, and **S.E. Milan**, On the generation of cusp HF-backscatter irregularities, *Geophys. Res. Lett.*, **107**(A4), 1044, doi:10.1029/2001/JA000111, 2002.
- 02-27 **Neudegg, D.A.**, Magnetospheric sources of Pc1-2 ULF waves observed in the polar ionospheric waveguide. *Antarctic Science*, **14**, 93-103, 2002.
- 02-28 Prikryl P, **G. Provan, K.A. McWilliams, and T.K. Yeoman**, Ionospheric cusp flows pulsed by solar wind Alfvén waves, *Ann. Geophysicae*, **20**, 161-174, 2002.
- 02-29 **Provan, G., S.E. Milan, M. Lester, T.K. Yeoman, and H. Khan**, Simultaneous observations of the ionospheric footprint of flux transfer events and dispersed ion signatures, *Ann. Geophysicae*, **20**, 281-287, 2002.
- 02-30 **Provan, G., T.K. Yeoman, M. Lester, and S.E. Milan**, A multi-instrument approach to mapping the global dayside merging rate, *Ann. Geophysicae*, **20**, 1905-1920, 2002.
- 02-31 **Provan, G., T.K. Yeoman, S.E. Milan, J.M. Ruohoniemi, and R. Barnes**, An assessment of 'the map-potential' model, the L-shell fitting and beam-swinging techniques for measuring the ionospheric convection pattern using data from SuperDARN radars, *Ann. Geophysicae*, **20**, 191-202, 2002.
- 02-32 **Rae, I.J., M. Lester, J.A. Davies, S.E. Milan, F.R. Fenrich, and J.D. Scudder**, Statistics of the mid-altitude cusp observed by Polar, *Geophys. Res. Lett.*, **29**(8), 1164, doi:10.1029/2001GL013371, 2002.
- 02-33 **Robinson, T.R.**, Effect of multiple scatter on the propagation and absorption of electromagnetic waves in a field-aligned-striated magnetoplasma: Implications for ionospheric modification experiments, *Ann Geophysicae*, **20**, 41-55, 2002.
- 02-34 Sandholt, P.E., C.J. Farrugia, **M. Lester, S.W.H. Cowley, S.E. Milan, W.F. Denig, B. Lybekk, E. Trondsen, and V. Vorobjev**, Multi-stage substorm expansion: Auroral dynamics in relation to plasma sheet particle injection, precipitation, and plasma convection, *J. Geophys. Res.*, **107**(A11), 1342, doi:10.1029/2001JA90016, 2002.
- 02-35 Sato, N., **D.M. Wright, Y. Ebihara, M. Sato, Y. Murata, H. Doi, T. Saemundsson, S.E. Milan, M. Lester, and C.W. Carlson**, Direct comparison of pulsating aurora observed simultaneously by the FAST satellite and on the ground at Syowa, *Geophys. Res. Lett.*, **29**(21), 2041, doi:10.1029/2002GL015615, 2002.
- 02-36 Senior, C., J.-C. Cerisier, F.J. Rich, **M. Lester, and G.K. Parks**, Strong sunward propagating flow bursts in the night sector during quiet solar wind conditions: SuperDARN and satellite observations, *Ann. Geophysicae*, **20**, 771-779, 2002.

- 02-37 Shue, J.-H., P.T. Newell, K. Liou, C.-I. Meng, and **S.W.H. Cowley**, Interplanetary magnetic field  $B_x$  asymmetry effect on auroral brightness, *J. Geophys. Res.*, **107**(A8), 1197, doi:10.1029/2001JA000229, 2002.
- 02-38 Trattner, K.J., S.A. Fuselier, W.K. Peterson, M. Boehm, D. Klumpar, C.W. Carlson, and **T.K. Yeoman**, Temporal versus spatial interpretation of cusp ion structures observed by two spacecraft, *J. Geophys. Res.*, **107**(A10), 1287, doi:10.1029/2001JA000181, 2002.
- 02-39 Vontrat-Reberac, A., J.-C. Cerisier, N. Sato and **M. Lester**, Noon ionospheric signatures of a sudden commencement following a solar wind pressure pulse, *Ann. Geophysicae*, **20**, 639-645, 2002.
- 02-40 **Woodfield, E.E., J.A. Davies, P. Eglitis, and M. Lester**, High and variable spectral width in the pre-dawn sector: A case study involving CUTLASS, EISCATT, ESR and optical data, *Ann. Geophysicae*, **20**, 501-509, 2002.
- 02-41 **Woodfield, E.E., J.A. Davies, M. Lester, T.K. Yeoman, P. Eglitis, and M. Lockwood**, Nightside studies of coherent HF radar spectral width behaviour, *Ann. Geophysicae*, **20**, 1399-1413, 2002.
- 02-42 **Woodfield, E.E., K. Hosokawa, S.E. Milan, N. Sato, and M. Lester**, An interhemispheric, statistical study of nightside spectral width distributions from coherent HF scatter radars, *Ann. Geophysicae*, **20**, 1921-1934, 2002.
- 02-43 **Yeoman, T.K., P.G. Hanlon, and K.A. McWilliams**, A statistical study of the location and motion of the HF radar cusp, *Ann. Geophysicae*, **20**, 275-280, 2002.
- Unrefereed Papers*
- 02-44 **Arnold, N.F.**, MIST in Autumn, *Astr. and Geophys.* **43**, 1.23-1.24, 2002.
- 02-45 **Arnold, N.F.**, and T. Neubert, Cosmic influences on climate, *Astr. & Geophys.*, **43**, 6.9-6.12, 2002.
- 02-46 **Arnold, N.F.**, G. Bailey, and R. Erdélyi, Steel MIST and UKSP together at Sheffield, *Astr. & Geophys.*, **43**, 3.27-3.31, 2002.
- 02-47 **Jones, T.B., D.M. Wright, J. Milner, T.K. Yeoman, T. Reid, A. Senior, and P. Martinez**, The detection of atmospheric waves produced by the total solar eclipse of 11 August 1999, *Conf. Proc. URSI General Assembly*, 2002.
- 02-48 **Cowley, S.W.H.**, Book Review: "An Introduction to Magnetohydrodynamics" by P.A. Davidson, *Contemporary Physics*, **43**, 220-221, 2002.

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

- 02-49 **Dhillon, R.S.**, Radar studies of natural and artificial waves and instabilities in the auroral ionosphere, Ph.D. Thesis, University of Leicester, 2002.
- 02-50 **Francis, N.**, Nonlinear prediction and analysis of solar-geophysical disturbances within the ionosphere, Ph.D. Thesis, University of Leicester, 2002.
- 02-51 **Grocott, A.**, Radar observations of convection in the nightside high latitude ionosphere, Ph.D. Thesis, University of Leicester, 2002.

02-52 **Holdsworth, G.P.**, High latitude ionospheric electron density distributions and auroral oval location, Ph.D. Thesis, University of Leicester, 2002.

02-53 **Woodfield, E.E.**, Studies of nightside spectral width behaviour from coherent high frequency radars, Ph.D. Thesis, University of Leicester, 2002.