

## Radio & Space Plasma Physics Group Publications

Group authors are shown boldface

Calendar Year 2012

*Refereed research papers published*

- 12-1 Andrews, D.J., **S.W.H. Cowley**, M.K. Dougherty, L. Lamy, **G. Provan**, and D.J. Southwood, Planetary period oscillations in Saturn's magnetosphere: Evolution of magnetic oscillation properties from southern summer to post-equinox, *J. Geophys. Res.*, **117**, A04224, doi: 10.1029/2011JA017444, 2012.
- 12-2 Arridge, C.S., C.B. Agnor, N. André, K.H. Baines, L.N. Fletcher, D. Gautier, M.D. Hofstadter, G.H. Jones, L. Lamy, Y. Langevin, O. Mousis, N. Nettelmann, C.T. Russell, **T. Stallard**, M.S. Tiscareno, G. Tobie, A. Bacon, C. Chaloner, M. Guest, S. Kemble, L. Peacocke, N. Achilleos, T.P. Andert, D. Banfield, S. Barabash, M. Barthelemy, C. Bertucci, P. Brandt, B. Cecconi, S. Chakrabarti, A.F. Cheng, U. Christensen, A. Christou, A.J. Coates, G. Collinson, J.F. Cooper, R. Courtin, M.K. Dougherty, R.W. Ebert, M. Entradas, A.N. Fazakerley, J.J. Fortney, M. Galand, J. Gustin, M. Hedman, R. Helled, P. Henri, S. Hess, R. Holme, Ö. Karatekin, N. Krupp, J. Leisner, J. Martin-Torres, A. Masters, **H. Melin**, S. Miller, I. Müller-Wodarg, B. Noyelles, C. Paranicas, I. de Pater, M. Pätzold, R. Prangé, E. Quémerais, E. Roussos, A.M. Rymer, A. Sánchez-Lavega, J. Saur, K.M. Sayanagi, P. Schenk, G. Schubert, N. Sergis, F. Sohl, E.C. Sittler, N.A. Teanby, S. Tellmann, E.P. Turtle, S. Vinatier, J.-E. Wahlund, P. Zarka, Uranus Pathfinder: exploring the origins and evolution of Ice Giant planets, *Exp. Astron.*, **33**, 753-791, doi:10.1007/s10686-011-9251-4, 2012.
- 12-3 Baddeley, L.J., I. Haggstrøm, **T.K. Yeoman**, and M. Rietveld, First observations of SPEAR-induced top and bottomside sporadic E-layer heating observed using the EISCAT Svalbard and SuperDARN radars, *J. Geophys. Res.*, **117**, A01307, doi:10.1029/2011JA017079, 2012.
- 12-4 Badman, S.V., N. Achilleos, C.S. Arridge, K.H. Baines, R.H. Brown, E.J. Bunce, A.J. Coates, **S.W.H. Cowley**, M.K. Dougherty, M. Fujimoto, G. Hospodarsky, S. Kasahara, T. Kimura, **H. Melin**, D.G. Mitchell, **T. Stallard**, and C. Tao, Cassini observations of ion and electron beams at Saturn and their relationship to infrared auroral arcs, *J. Geophys. Res.*, **117**, A01211, doi: 10.1029/2011JA017222, 2012.
- 12-5 Badman, S., D. Andrews, **S.W.H. Cowley**, L. Lamy, **G. Provan**, C. Tao, S. Kasahara, T. Kimura, **H. Melin**, M. Fujimoto, **T. Stallard**, R.H. Brown, and K.H. Baines, Rotational modulation and local time dependence of Saturn's infrared H3+ auroral intensity. *J. Geophys. Res.*, **117**, A09228, doi:10.1029/2012JA017990, 2012.
- 12-6 Berthomier, M., A.N. Fazakerley, C. Forsyth, R. Potelette, O. Alexandrova, A. Anastasiadis, A. Aruliah, P.-L. Blelly, C. Briand, R. Bruno, P. Canu, B. Cecconi, T. Chust, I. Daglis, J. Davies, M. Dunlop, D. Fontaine, V. Génot, B. Gustavsson,

- G. Haerendel, M. Hamrin, M. Hapgood, S. Hess, D. Kataria, K. Kauristie, S. Kemble, Y. Khotyaintsev, H. Koskinen, L. Lamy, B. Lanchester, P. Louarn, E. Lucek, R. Lundin, M. Maksimovic, J. Manninen, A. Marchaudon, O. Marghitsu, G. Marklund, **S.E. Milan**, J. Moen, F. Mottez, H. Nilsson, N. Ostgaard, C.J. Owen, M. Parrot, A. Pedersen, C. Perry, J.-L. Pinçon, F. Pitout, T. Pulkkinen, I.J. Rae, L. Rezeau, A. Roux, I. Sandahl, I. Sandberg, E. Turunen, J. Vogt, A. Walsh, C.E.J. Watt, J.A. Wild, M. Yamauchi, P. Zarka, and I. Zouganelis, Alfvén:magnetosphere-ionosphere connection explorers, *Exp. Astron.*, **33**, 445-489, doi:10.1007/s10686-011-9273-y, 2012.
- 12-7 Bonfond, B., D. Grodent, J.-C. Gérard, **T. Stallard**, J.T. Clarke,., M. Yoneda, A. Radioti, J. Gustin, Auroral evidence of Io's control over the magnetosphere of Jupiter. *Geophys. Res. Let.*, **39**, L01105, doi:10.1029/2011GL050253, 2012.
- 12-8 Branduardi-Raymont, G., S.F. Sembay, J.P. Eastwood, D.G. Sibeck, T.A. Abbey, P. Brown, J.A. Carter, C.M. Carr, C. Forsyth, D. Kataria, S. Kemble, **S.E. Milan**, C.J. Owen, L. Peacocke, A.M. Read, A.J. Coates, M.R. Collier, **S.W.H. Cowley**, A.N. Fazakerley, G.W. Fraser, G.H. Jones, R. Lallement, **M. Lester**, F.S. Porter, and **T.K. Yeoman**, AXIOM: Advanced X-ray imaging of the magnetosphere, *Exp. Astron.*, **33**, 403-443, doi:10.1007/s10686-011-9239-0, 2012.
- 12-9 Clausen, L.B.N., J.B.H. Baker, J.M. Ruohoniemi, **S.E. Milan**, and B.J. Anderson, Dynamics of the region 1 Birkeland current oval derived from the Active Magnetosphere and Planetary Electrodynamics Response Experiment (AMPERE), *J. Geophys. Res.*, **117**, A06233, doi:10.1029/2012JA017666, 2012.
- 12-10 **Davey, E.A.**, **M. Lester**, **S.E. Milan**, and **R.C. Fear**, Storm and substorm effects on magnetotail current sheet motion, *J. Geophys. Res.*, **117**, A02202, doi:10.1029/2011JA017112, 2012.
- 12-11 **Davey, E.A.**, **M. Lester**, **S.E. Milan**, **R.C. Fear**, and C. Forsyth, The orientation and current density of the magnetotail current sheet: a statistical study of the effect of geomagnetic conditions, *J. Geophys. Res.*, **117**, A07217, doi:10.1029/2012JA017715, 2012.
- 12-12 Eastwood, J.P., T.D. Phan, **R.C. Fear**, D.G. Sibeck, V. Angelopoulos, M. Øieroset and M.A. Shay, Survival of flux transfer event (FTE) flux ropes far along the tail magnetopause, *J. Geophys. Res.*, **117**, A08222, doi:10.1029/2012JA017722, 2012.
- 12-13 **Fear, R.C.**, and **S.E. Milan**, The IMF dependence of the local time of transpolar arcs: Implications for formation mechanism, *J. Geophys. Res.*, **117**, A03213, doi:10.1029/2011JA017209, 2012.
- 12-14 **Fear, R.C.**, M. Palmroth and **S.E. Milan**, Seasonal and clock angle control of the location of flux transfer event signatures at the magnetopause, *J. Geophys. Res.*, **117**, A04202, doi:10.1029/2011JA017235, 2012.
- 12-15 **Fear, R.C.**, and **S.E. Milan**, Ionospheric flows relating to transpolar arc formation, *J. Geophys. Res.*, **117**, A09230, doi:10.1029/2012JA017830, 2012.
- 12-16 **Fear, R.C.**, **S.E. Milan** and K. Oksavik, Determining the axial direction of high-shear flux transfer events: Implications for models of FTE structure, *J. Geophys. Res.*, **117**, A09220, doi:10.1029/2012JA017831, 2012.

- 12-17 Gillies, D.M., J.-P. St.-Maurice, K.A. McWilliams, and **S.E. Milan**, Global scale observations of ionospheric convection in response to sudden increases in the solar wind dynamic pressure, *J. Geophys. Res.*, **117**, A04209, doi:10.1029/2011JA017255, 2012.
- 12-18 **Grocott, A., S.E. Milan, S.M. Imber, M. Lester, and T.K. Yeoman**, A quantitative deconstruction of the morphology of high-latitude ionospheric convection, *J. Geophys. Res.*, **117**, A05317, doi: 10.1029/2012JA017580, 2012.
- 12-19 Kunduri, B.S.R., J.B. Baker, J.M. Ruohoniemi, L.B.N. Clausen, **A. Grocott**, E. Thomas, M.P. Freeman, and E. Talaat, An examination of inter-hemispheric conjugacy in a sub-auroral polarization stream, *J. Geophys. Res.*, in press, doi:10.1029/2012JA017784, 2012.
- 12-20 Lamy, L., R. Prangé, K.C. Hansen, J.T. Clarke, P. Zarka, B. Cecconi, J. Abouadarham, N. André, N. André, G. Branduardi-Raymont, R. Gladstone, M. Barthélémy, N. Achilleos, P. Guio, M.K. Dougherty, **H. Melin, S.W.H. Cowley, T.S. Stallard, J.D. Nichols**, and G. Ballester, Earth-based detection of Uranus UV aurorae with the Hubble Space Telescope, *Geophys. Res. Lett.*, **39**, L07105, doi: 10.1029/2012GL051312, 2012.
- 12-21 **Milan, S.E.**, J.S. Gosling, and B. Hubert, Relationship between interplanetary parameters and the magnetopause reconnection rate quantified from observations of the expanding polar cap, *J. Geophys. Res.*, **117**, A03226, doi: 10.1029/2011JA017082, 2012.
- 12-22 Moen, J., K. Oksavik, T. Abe, **M. Lester**, Y. Saito, T.A. Bekkeng and K. Jacobsen, First in-situ measurements of HF radar echoing targets, *Geophys. Res. Lett.*, **39**, L07104, doi:10.1029/2012GL051407, 2012.
- 12-23 Motoba, T., K. Hosokawa, Y. Ogawa, N. Sato, A. Kadokura, **S.E. Milan**, and **M. Lester**, Simultaneous ground-satellite observations of meso-scale auroral arc undulations, *J. Geophys. Res.*, **117**, A06213, doi:10.1029/2011JA017291, 2012.
- 12-24 Palmroth, M., **R.C. Fear**, and I. Honkonen, Magnetopause energy transfer dependence on the interplanetary magnetic field and the Earth's magnetic dipole axis orientation, *Ann. Geophys.*, **30**, 515-526, doi:10.5194/angeo-30-515-2012, 2012.
- 12-25 **Provan, G., D.J. Andrews, C.S. Arridge, A.J. Coates, S.W.H. Cowley, G. Cox, M.K. Dougherty, and C.M. Jackman**, Dual periodicities in planetary period magnetic field oscillations in Saturn's tail, *J. Geophys. Res.*, **117**, A01209, doi:10.1029/2011JA017104, 2012.
- 12-26 Ribero, A.J., J.M. Ruohoniemi, J.B.H. Baker, L.B.B. Claussen, R.A. Greenwald and **M. Lester**, A survey of ionospheric plasma irregularities as seen by the mid-latitude Blackstone SuperDARN radar, *J. Geophys. Res.*, **117**, A02311, doi:10.1029/2011JA017207, 2012.
- 12-27 **Robinson, T.R.**, On Klein tunneling in graphene, *Am. J. Phys.*, **80**, 141-147, 2012.
- 12-28 Sembay, S.F., G. Branduardi-Raymont, J.P. Eastwood, D.G. Sibeck, A. Abbey, P. Brown, J.A. Carter, C.M. Carr, C. Forsyth, D. Kataria, S. Kemble, **S.E. Milan**, C.J. Owen, A.M. Read, L. Peacocke, C.S. Arridge, A.J. Coates, M.R. Collier, **S.W.H. Cowley**, A.N. Fazakerley, G. Fraser, G.H. Jones, R. Lallement, **M. Lester**, F.S. Porter, and **T.K. Yeoman**, AXIOM: Advanced X-ray imaging of the magnetosheath, *Astron. Nachr.*, **333**, 388-392, doi: 10.1002/asna.201211672, 2012.

- 12-29 Senior, A., M.T. Rietveld, **T.K. Yeoman**, and M.J. Kosch, The dependence of F-region electron heating on HF radio pump power: Measurements at EISCAT Tromsø, *J. Geophys. Res.*, **117**, A04309, doi:10.1029/2011JA017267, 2012.
- 12-30 Sromovsky, L.A., H.B. Hammel, I. de Pater, P.M. Fry, K.A. Rages, M.R. Showalter, W.J. Merline, P. Tamblyn, C. Neyman, J-L. Margot, J. Fang, F. Colas, J-L. Dauvergne, J.M. Gómez-Forrellad, R. Hueso, A. Sánchez-Lavega, and **T. Stallard**, Episodic bright and dark spots on Uranus, *Icarus*, **220**, 6-22, doi:10.1016/j.icarus.2012.04.009, 2012.
- 12-31 **Stallard, T., H. Melin**, S. Miller, S.V. Badman, R.H. Brown, and K.H. Baines, Peak emission altitude of Saturn's  $H_3^+$  aurora, *Geophys. Res. Lett.*, **39**, L15103, doi: 10.1029/2012GL052806, 2012.
- 12-32 **Stallard, T.**, S. Miller, and **H. Melin**, Clues on Ionospheric Electrodynamics from IR Aurora at Jupiter and Saturn, *AGU Chapman monograph on Auroral Phenomenology*, in press, 2012.
- 12-33 **Stallard, T., H. Melin**, S. Miller, **J. O'Donoghue**, **S.W.H. Cowley**, S.V. Badman, A. Adriani, R.H. Brown, and K.H. Baines, Temperature changes and energy inputs in Giant Planet atmospheres: what we are learning from  $H_3^+$  *Phil. Trans. of the Royal Society A*, **370**, 5213-5224, doi: 10.1098/rsta.2012.0028, 2012.
- 12-34 Weygand, J.M., O. Amm, V. Angelopoulos, **S.E. Milan**, **A. Grocott**, H. Gleisner, and C. Stolle, Comparison between SuperDARN flow vectors and equivalent ionospheric currents from ground magnetometer arrays, *J. Geophys. Res.*, **117**, A05325, doi: 10.1029/2011JA017407, 2012.
- 12-35 **Yeoman, T.K., D.M. Wright**, M.J. Engebretson, M.R. Lessard, V.A. Pilipenko, and H. Kim, Upstream generated Pc3 ULF wave signatures observed near the Earth's cusp, *J. Geophys. Res.*, **117**, A03202, doi:10.1029/2011JA017327, 2012.
- 12-36 **Yeoman, T.K.**, M. James, P.N. Mager, and D.Y. Klimushkin, SuperDARN observations of high-m ULF waves with curved phase fronts and their interpretation in terms of transverse resonator theory, *J. Geophys. Res.*, **117**, A06231, doi:10.1029/2012JA017668, 2012.
- 12-37 Zhang Q., R. Liu, H. Yang, H. Hu, B. Zhang, M. Dunlop, **M. Lester**, Y. Bogdanova and A. Walsh, SuperDARN CUTLASS Finland radar observations of high-latitude magnetic reconnections under northward interplanetary magnetic field (IMF) conditions, *Science China Technological Sciences*, 1-10, 2012.

*Refereed research papers in press*

- 12-38 Kosch, M.J., E. Mjølhus, M. Ashrafi, M.T. Rietveld, **T.K. Yeoman** and S. Nozawa, Angular dependence of pump-induced bottom- and top-side ionospheric plasma turbulence at EISCAT, *J. Geophys. Res.*, in press, 2012.
- 12-39 **Melin, H., T.S. Stallard**, S. Miller, T.R. Geballe, L.M. Trafton **J. O'Donoghue**, Post-equinoctial observations of the ionosphere of Uranus, *Icarus*, in press, 2012.
- 12-40 **Nichols, J.D.**, Candidates for detecting exoplanetary radio emissions generated by magnetosphere-ionosphere coupling, *Mon. Not. R. Astron. Soc. Lett*, in press, 2012.

- 12-41 **Stallard, T.**, S. Miller, and **H. Melin**, Clues on Ionospheric Electrodynamics from IR Aurora at Jupiter and Saturn, *AGU Chapman monograph on Auroral Phenomenology*, in press, 2012.
- 12-42 Vladimirova, T., N.P. Bannister, J. Fothergill, G.W. Fraser, **M. Lester**, **D.M. Wright**, M.J. Pont, D.J. Barnhart, O. Emam, CubeSat mission for space weather monitoring, Proc. 11th Australian Space Science Conference, ASSC11, Canberra, Australia, in press, 2012.

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- 12-43 Fullekrug, M., D. Diver, J-L. Pincon, A.D.R. Phelps, A. Bourdon, C. Helling, E. Blanc, F. Honary, G. Harrison, J-A. Sauvaud, J-B. Renard, **M. Lester**, M. Rycroft, M. Kosch, R.B. Horne, S. Soula, and S. Gaffet, Energetic charged particles above thunderclouds, *Surveys in Geophys.*, submitted, 2012.
- 12-44 Liu, E.X., H.Q. Hu, R.Y. Liu, Z.S. Wu, and **M. Lester**, An adjusted location model for SuperDARN backscatter echoes, *Ann. Geophys.*, submitted, 2012.
- 12-45 **Nichols, J.D.**, M.R. Burleigh, S.L. Casewell, J.T. Clarke, **S.W.H. Cowley**, A.A. West, and G.A. Wynn, Origin of ultra-cool dwarf radio emissions: magnetosphere-ionosphere coupling currents, *Ap. J.*, submitted, 2012.
- 12-46 Oksavik, K., J. Moen, **M. Lester**, T.A. Bekking, and J.A. Bekking, In-situ measurements of plasma irregularity growth in the cusp ionosphere, *J. Geophys. Res.*, submitted, 2012.
- 12-47 **Robinson, T.R.**, Some physical consequences of Fourier duality in phase, *Found. Phys.*, submitted, 2012.
- 12-48 **Stallard, T.**, A. Masters, S. Miller, **H. Melin**, E.J. Bunce, C.S. Arridge, N. Achilleos, M.K. Dougherty and **S.W.H. Cowley**, Saturn's auroral/polar H<sub>3</sub><sup>+</sup> infrared emission: the effect of solar wind compression. *J. Geophys. Res.*, submitted, 2012.
- 12-49 Wannawichian, S., J.T. Clarke, F. Bagenal, W.H. Smyth, C.A. Peterson, and **J.D. Nichols**, Longitudinal modulation of the brightness of Io's auroral footprint emission: Comparison with models, *J. Geophys. Res.*, submitted, 2012.

*Unrefereed research papers*

- 12-50 **Cowley, S.W.H.**, Book review: "Advances in Plasma Astrophysics (IAU Symposium No. 274)" edited by A. Bonanno, E. De Gouveia Dal Pino, and A.G. Kosovichev, *The Observatory*, **132**, 49-50, 2012.
- 12-51 **Cowley, S.W.H.**, Book review: "Numerical Modeling of Space Plasma Flows: ASTRONUM-2010 (ASP Conference Series Vol. 444)" edited by N.V. Pogorelov, E. Audit, and G.P. Zank, *The Observatory*, **132**, 207-208, 2012.
- 12-52 **Fear, R.C.**, and R.T. Wicks, Autumn MIST 2011, *Astron. Geophys.*, **53**(1), 1.27-1.30, doi:10.1111/j.1468-4004.2012.53127.x, 2012.

- 12-53 **Milan, S.E.**, M. Dunlop, A.N. Fazakerley, B. Hubert, B. Lavraud, N. Østgaard, J. Shi, C.P. Escoubet, M.G.G.T. Taylor, P. Falkner, and A. Wielders, KuaFu: exploring the Sun-Earth connection, *Astron. Geophys.*, **53**, 4.21-4.24, 2012.

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

- 12-54 **Williams, A.**, Analysing the motion of solar wind transients using Stereo/HI observations, Ph.D. thesis, University of Leicester, 2012.
- 12-55 **Davey, E.**, The earth's magnetotail during varying levels of geomagnetic activity, 2012.

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