

Programme overview

Spring MIST, Southampton, 26-28 March 2018

Monday 26 March 2018

Session 1 “The ionosphere, thermosphere and aurora I”

Presentations: Building 2 (“The Arts Annexe”), Lecture Theatre J

Coffee: Building 38, Hartley Suite

- 13:00 An in-situ multi-point observation of the thermosphere using CubeSats coordinated with ground-based instruments, and model studies - *A.L. Aruliah*
- 13:18 Determining neutral temperatures in the high-latitude upper atmosphere - *J.M. Chadney*
- 13:36 Extending the Met Office weather and climate model into the thermosphere - *D. Jackson*
- 13:54 Assessing quasi-periodicities in Jovian X-ray emissions: techniques and heritage survey - *C.M. Jackman*
- 14:12 Multi-scale observation of polar cap aurora - *J.A. Reidy*
- 14:30 Coffee

Session 2 “The ionosphere, thermosphere and aurora II”

Presentations: Building 2 (“The Arts Annexe”), Lecture Theatre J

Posters: Building 38, Hartley Suite

- 15:10 The height of green and blue aurora - *D.K. Whiter*
- 15:28 Characterising temporal variability in ionospheric flows using SuperDARN data – *M.-T. Walach*
- 15:46 The ionospheric response to intense bombing during World War II - *C.J. Scott*
- 16:04 An update on the development of EISCAT_3D - *I.W. McCrea*
- 16:22 Preliminary evaluation of MArtian Global Ionospheric Conductivities (MAGIC) - *B.E.S. Hall*
- 16:40 Magnetosphere-Ionosphere Coupling in Global MHD Simulations - *J.W.B. Eggington*
- 17:00 Poster session

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Tuesday 27 March 2018

Session 3 “Substorms and the magnetotail I”

Presentations: Building 2 (“The Arts Annexe”), Lecture Theatre J

Coffee: Building 38, Hartley Suite

- 09:00 Effect of magnetospheric convection timescales on magnetotail flux rope core field – *S. Browett*
- 09:18 Dynamical noise in a toy model of “Earth-like” planetary magnetotails - *R. Burston*
- 09:36 Global scale simulation of northward IMF magnetospheric dynamics: Vlasiator results – *R.C. Fear*
- 09:54 Evaluating single spacecraft observations of planetary magnetotails with a simple Monte Carlo simulation - *A.W. Smith*
- 10:12 Magnetospheric Multiscale observations of intense electric fields and electron-scale substructure within magnetotail flux ropes - *J.E. Stawarz*
- 10:30 Coffee

Session 4 “Substorms and the magnetotail II”

Presentations & business meeting: Building 2 (“The Arts Annexe”), Lecture Theatre J

Lunch: Building 38, Hartley Suite

- 11:10 Tailward propagation of magnetic energy density variations with respect to substorm onset times - *J.C. Coxon*
- 11:28 A direct diagnosis of the plasma waves responsible for the explosive energy release of substorm onset - *N.M.E. Kalmoni*
- 11:46 Examining the gains and losses of magnetic flux during substorms. - *M.K. Mooney*
- 12:04 Energisation of the ring current by substorms - *J.K. Sandhu*
- 12:22 Lunch
- 13:20 Business meeting

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Session 5 “The solar wind and the magnetosheath I”

Presentations: Building 2 (“The Arts Annexe”), Lecture Theatre J

Coffee: Building 38, Hartley Suite

- 14:20 Hybrid simulations of space plasma turbulence - *D. Burgess*
- 14:38 Exospheric neutral hydrogen densities derived from solar wind charge exchange emission - *J.A. Carter*
- 14:56 Guide field reconnection: exhaust structure and heating - *J.P. Eastwood*
- 15:14 Coffee

Session 6 “The solar wind and the magnetosheath II”

Presentations: Building 2 (“The Arts Annexe”), Lecture Theatre J

MIST cup: Jubilee Sports Hall

Conference dinner: Building 40, Garden Court

- 15:55 Production of negative hydrogen ions within MMS due to solar wind bombardment – *I. Gingell*
- 16:13 Solar cycle variation of the statistical and scaling properties of bursts in the solar wind - *E. Tindale*
- 16:31 Space plasma physics with ALPS: The Arbitrary Linear Plasma Solver - *D. Verscharen*
- 16:49 A new method to determine the kappa distribution functions of space plasmas from reduced data-sets - *G. Nicolaou*
- 17:15 MIST Cup
- 19:30 Conference dinner

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Wednesday 28 March 2018

Session 7 “Magnetospheric driving and current systems”

Presentations: Building 2 (“The Arts Annexe”), Lecture Theatre J

Coffee: Building 38, Hartley Suite

- 09:00 Global MHD/test particle simulations of radiation belts dynamics during extreme space weather events - *R.T. Desai*
- 09:18 Increases and decreases in radiation belt electron content with geomagnetic activity – *C. Forsyth*
- 09:36 A homogenous aa index - *M. Lockwood*
- 09:54 Dynamical networks characterization of space weather events - *L. Orr*
- 10:12 The field-aligned current structure associated with sub-auroral polarization streams - *H. Sangha*
- 10:30 Statistical correlation analysis of field-aligned currents measured by Swarm – *M.W. Dunlop*
- 10:48 Carriers and Sources of magnetopause current - *X.C. Dong*
- 11:06 Coffee

Session 8 “Waves through the magnetosphere”

Location: Building 46, Lecture Theatre B

- 11:45 Particle-in-cell models of diffusion due to whistler mode waves: comparing quasi-monochromatic to broadband waves - *O. Allanson*
- 12:03 A solar wind-parameterised, probabilistic model of ground-measured ULF waves in Earth’s magnetosphere - *S.N. Bentley*
- 12:21 Field Line Resonances in 3D - *T. Elsdén*
- 12:39 Testing current theories behind Ultra-Low Frequency modulated radiation belt precipitation - *I. J. Rae*
- 12:57 The origin of the whistler-mode spectral "gap" at half electron gyrofrequency in the magnetosphere - *C.E.J. Watt*
- 13:15 Using ground-based instruments to estimate magnetospheric plasma distributions – *S.J. Wharton*
- 13:33 Announcement of NAM 2019 and close of meeting

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Posters

Saturn's aurora during the Cassini mission grand finale – *S.V. Badman*

Calibrating SuperDARN interferometer – *G. Chisham*

Filamentary currents in five FTEs observed by MMS – *J.C. Coxon*

Flux content of flux transfer events at Mercury – *R.C. Fear*

The influence of the interplanetary magnetic field on Antarctic clouds – *M.P. Freeman*

Electromagnetic radial diffusion estimates from ground- and space-based measurements for the March 2013 case study – *M. Georgiou*

Solar Stormwatch: Using citizen science to investigate CME distortions – *S. Jones*

Towards understanding the role of the ionospheric electric field in geomagnetically induced currents: Electric field variability on different temporal and spatial scales as measured by EISCA – *A.J. Kavanagh*

Investigating ionospheric variability caused by lower boundary perturbations – *L. Nugent*

A new technique for measuring heating of the lower thermosphere by auroral processes – *D.J. Price*

How directly driven are the polar ionospheric equivalent currents? – *R. Shore*

Electron acceleration at quasi-perpendicular shocks in sub and supercritical regimes: 2D and 3D simulations – *D. Trotta*

Pattern of small-scale structures in the turbulent magnetosheath – *T. Wang*