

GEOSPACE REVISITED

A CLUSTER / MAARBLE / VAN ALLEN PROBES

CONFERENCE

SCIENTIFIC PROGRAMME

RHODES, GREECE

15-20 SEPTEMBER 2014

GEOSPACE REVISITED

A CLUSTER / MAARBLE / VAN ALLEN PROBES CONFERENCE

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ISLAND OF RHODES, GREECE

15-20 SEPTEMBER 2014

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PLENARY SESSIONS

MONDAY, 15 SEPTEMBER 2014

Radiation Belts and Ring Current – The Energetic Geospace

Delphi Amphitheatre

Chair: C. Philippe Escoubet

09:00-10:00

James Van Allen and the quest for the discovery of Radiation Belts: from Mercury to the Heliosphere

Keynote Lecture by Stamatios M. Krimigis

10:00-10:25

The ring current: Cluster results (invited)

Dandouras I.

10:25-10:40

Ring current development in the strongly compressed magnetosphere

Kalegaev V.V. and N.A.Vlasova

10:40-10:55

Impact of interplanetary coronal mass ejections on radiation belt dynamics

Katsavrias Ch., I.A. Daglis, M. Georgiou, D.L. Turner, I. Sandberg, G. Balasis and C. Papadimitriou

10:55-11:25

Coffee break

Chair: Daniel N. Baker

11:25-11:50

Radiation belts and ring current - the energetic geospace (invited)

Reeves G.D., H.E. Spence, B.A. Larsen, C.A. Kletzing and D.G. Mitchell

11:50-12:05

Bounce and drift invariants from the rice convection model-equilibrium versus empirical magnetic models: a test of storm-time electron observations by the Van Allen probes

Roeder J.L., C.L. Lemon, M.W. Chen, J.F. Fennell, S.G. Claudepierre, T. Mulligan, J.B. Blake and J.H. Clemmons

12:05-12:30

Dynamics of relativistic electrons during non-storm times (invited)

Li X., Q. Schiller, L. Blum and A. Jaynes

12:30-12:45

Inner radiation zone and slot region electron fluxes: Van Allen probes ECT/MagEIS data

Fennell J.F., S. Claudepierre, P. O'Brien, J.B. Blake, J.H. Clemmons, H. Spence, G. Reeves and J.L. Roeder

12:45-13:00

Relationships between core radiation belt electrons and seed populations

Spence H.E., A.J. Boyd and C.L. Huang

13:00-14:00

Lunch break

Chair: Ioannis A. Daglis

14:00-14:25

Van Allen probes observations of wave-particle interactions in the Earth's radiation belts (invited)

Claudepierre S.G., J.F. Fennell, J.B. Blake, T.P. O'Brien and I.R. Mann

14:25-14:40

Van Allen probes, NOAA and ground observations of an intense Pc 1 wave event extending 12 hours in MLT

Engebretson M.J., J.L. Posch, J.R. Wygant, C.A. Kletzing, M.R. Lessard, R.B. Horne, G.D. Reeves, A.Y. Ukhorskiy, J.F. Fennell, K. Oksavik and T. Raita

14:40-14:55

Recent results from the Electric and Magnetic Field Instrument Suite and Integrated Science (EMFISIS) on the Van Allen probes

Kletzing C.A.

14:55-15:10

Experimental analysis of dispersion relations of EMIC triggered emissions

Grison B., O. Santolik and N. Cornilleau-Wehrin

15:10-15:25

Understanding the role of EMIC waves in radiation belt and ring current dynamics: recent advances

Usanova M.E. and I.R. Mann

15:25-15:40

Losses in the radiation belts caused by EMIC waves

Kersten T., R.B. Horne, N.P. Meredith and S.A. Glauert

15:40-15:55

Spectral shapes of whistler-mode chorus emissions

Macusova E., O. Santolik, J.S. Pickett, D.A. Gurnett and N. Cornilleau-Wehrlin

15:55-16:25

Coffee break

Chair: Sebastien Bourdarie

16:25-16:50

Plasma wave measurements in Earth's magnetosphere by Juno, Van Allen Probes, and Cluster (invited)

Kurth W.S., G.B. Hospodarsky, S.J. Bolton, D.A. Gurnett, O. Santolik, C.A. Kletzing, R.M. Thorne and J.S. Pickett

16:50-17:05

ULF waves as a driver of relativistic electrons: pro and con

Pilipenko V.A., O.V. Kozyreva and M.J. Engebretson

17:05-17:20

The 1, 2, 3 of the Van Allen radiation belts: impacts of dynamics driven by observed ULF wave power

Mann I.R., L.G. Ozeke, K.R. Murphy, S. Claudepierre, D. Turner, I.J. Rae, D.K. Milling, A. Kale, J. Fennell and D.N. Baker

17:20-17:35

Dependence of radiation belt electron enhancements on the earthward propagation of Pc5 waves during magnetic storms

Georgiou M., I.A. Daglis, E. Zesta, G. Balasis, I.R. Mann, Ch. Katsavrias and K. Tsinganos

17:35-18:00

ERG satellite project: exploration of the inner magnetosphere (invited)

Asamura K., T. Takashima, Y. Miyoshi, K. Shiokawa, K. Seki, T. Hori, Y. Miyashita, K. Keika, M. Shoji, I. Shinohara, M. Hirahara, N. Higashio, H. Matsumoto, S. Kasahara, T. Mitani, Y. Kazama, Y. Kasaba, A. Matsuoka, H. Kojima, M. Fujimoto, T. Ono, and ERG project group

Medieval Inn of the Language of Aragon

Evening

Public talk of Stamatios M. Krimigis: “The first human journey to the Galaxy: the Odyssey of the Voyagers” (in Greek).

TUESDAY, 16 SEPTEMBER 2014

**Radiation Belts and Ring Current –
The Energetic Geospace (continued)**

Chair: Eamonn J. Daly

09:00-09:15

Calculating ULF wave power vs. L and time: multi-spacecraft analysis using the Van Allen Probes, THEMIS and GOES

Sarris T.E. and X. Li

09:15-09:30

An assessment of the quasilinear treatment of equatorial magnetosonic waves

Walker S.N., M.A. Balikhin, K.H. Yearby, N. Cornilleau-Wehrlin and C. Carr

09:30-09:45

THEMIS observations of a gap in whistler mode chorus emissions inside the source region

Taubenschuss U., O. Santolik, Y. Khotyaintsev, W. Li, A. Vaivads, O. LeContel and J. Bonnell

09:45-10:00

Investigation of fine structure of chorus wave packets using multicomponent data from Van Allen Probes and multipoint measurements from Cluster spacefleet

Santolik O., W.S. Kurth, G.B. Hospodarsky, J.S. Pickett and C.A. Kletzing

**Upstream Transient Phenomena
and Their Effects on Geospace**

Chair: Stein Haaland

10:00-10:25

Connecting upstream transient phenomena and their effects on geospace: the major solar eruptions of 7 March 2012 (invited)

Patsourakos S. and the Hellenic National Space Weather Research Network

10:25-10:40

Long-lived whistler waves in the free solar wind: Cluster observations

Lacombe C., O. Alexandrova, L. Matteini, O. Santolik, N. Cornilleau-Wehrlin, A. Mangeney, Y. de Conchy and M. Maksimovic

10:40-10:55

A modified hot flow anomaly model produced by IMF current sheet interacting with Earth's bow shock

Parks G. K., Z. W. Yang, Y. Liu, E. Lee, S. Y. Fu, J. B. Cao, N. Lin, I. Dandouras, H. Reme, P. Canu and M. L. Goldstein

10:55-11:10

Acceleration of solar wind ions to MeV energies by electromagnetic in the foreshock

Stasiewicz K., M. Strumik, M. Grzesiak and D. Przepiorka

11:10-11:40**Coffee break****Chair: Arnaud Masson****11:40-11:55**

Observational properties of foreshock cavitons

Kajdic P., X. Blanco-Cano, N. Omidia and B. Lavraud

11:55-12:20

Altered solar wind - magnetosphere interaction at low Mach numbers (invited)

Lavraud B.

12:20-12:35

Two-scale nature of electron solitary waves at the dayside magnetopause

Graham D. B., Yu.V. Khotyaintsev, A. Vaivads and M. Andre

12:35-13:00

Multi-scale analysis of dayside reconnection and future Swarm-Cluster coordination (invited)

Dunlop M.W.

13:00-14:00**Lunch break****Chair: Ondrej Santolik****14:00-14:15**

Foreshock electron beams and electrostatic waves observed by Cluster

Soucek J., M. Basovnik, A. Tomori, O. Santolik and A. Fazakerley

14:15-14:30

Interaction of flux transfer events and Kelvin-Helmholtz waves at Earth's magnetopause

Raeder J., S. Kavosi and K. Germaschewski

14:30-14:45

Dual-spacecraft reconstruction of a three-dimensional magnetic flux rope at the Earth's magnetopause

Hasegawa H., B.U.O. Sonnerup, S. Eriksson, T.K.M. Nakamura and H. Kawano

14:45-15:00

Characteristics of the flank magnetopause: Cluster results

Haaland S., J. Reistad, P. Tenfjord, L.Maes, J. De Keyser, R. Maggiolo, C. Anekallu and N. Dorville

15:00-15:25

Dawn-dusk asymmetries in the coupled Solar wind-magnetosphere-ionosphere system (invited)

Walsh A.P., S. Haaland, C. Forsyth, A.M. Keesee, J. Kissinger, K. Li, A. Runov, J. Soucek, B.M. Walsh, S. Wing and M.G.G.T. Taylor

15:25-15:40

Ion acceleration at the Earth's parallel bow shock: what can we learn from Cluster?

Kis A., M. Scholer, B. Klecker, O. Agapitov, V. Krasnosselskikh, E. Kronberg, P. Daly, I. Dandouras, I. Lempferger, V. Wertztergom and A. Novak

15:40-15:45

M4 - a mission candidate for ESA M4

Vaivads A. and M4 team

15:45-16:15

Coffee break

Chair: Kazuo Shiokawa

16:15-16:30

Temporal and spatial scales of a high-flux-electron disturbance in the cusp region: Cluster observations

Shi J. K., Z.Y. Zhang, K. Torkar, M. Dunlop, A. Fazakerley, Z.W. Cheng and Z.X. Liu

16:30-16:45

Effect of solar wind speed and IMF fluctuations on activity indices

Pulkkinen T.I., A. Dimmock, R. Naderpour, A. Osmane and K. Nykyri

16:45-17:00

Interaction of magnetic clouds with the terrestrial bow shock and implications on their geoeffectivity

Fontaine D., L. Turc and P. Savoini

17:00-17:15

Long-term analysis of cosmic ray background seen by the RAPID electron detector on Cluster

Daly P.W.

17:15-17:30

Relativistic (MeV) electron acceleration at geosynchronous orbit during High-Intensity Long-Duration Continuous AE Activity (HILDCAA) events

Hajra R., B.T. Tsurutani and E. Echer

Rhodon Theater**Evening**

Public outreach talk of Ioannis A. Daglis on “The music of space” (in Greek), followed by the award ceremony for the winners of the “Sounds of Space” musical composition competition of the MAARBLE project (in English and Greek)

Space-Borne and Ground-Based Remote Sensing of Geospace

Chair: Craig Kletzing

09:00-09:15

Geospace science with cubesats: present and future

T. Moretto Jørgensen

09:15-09:30

Storm-time penetration electric fields observed by SWARM and ground-based magnetometers

Bhaskar A. and G. Vichare

09:30-10:00

Auroral kilometric radiation generation in the neighbourhood of a double layer (invited)

Pottelette R., M. Berthomier and J. Pickett

10:00-10:30

Ground-based optical and ULF/ELF/VLF wave measurements at subauroral latitudes prepared for the ERG project (invited)

Shiokawa K., C.W. Jun, C. Martinez, N. Sunagawa, Y. Miyoshi, T. Nagatsuma, M. Ishii, M. Ozaki, M. Connors, I. Schofield, P.T. Jayachandran, I. Poddelsky, B. Shevtsov and D. Baishev

10:30-10:45

Statistical analysis of VLF/ELF emissions at subauroral latitudes in Athabasca, Canada

Martinez C., K. Shiokawa, Y. Miyoshi, M. Ozaki, I. Schofield and M. Connors

10:45-11:00

ULF wave observations in the topside ionosphere by the Swarm mission

Balasis G., I.A. Daglis, C. Papadimitriou, M. Georgiou and R. Haagmans

11:00-11:30

Coffee break

Chair: Drew L. Turner

11:30-12:00

The Dynamic Magnetosphere: Cluster and Ground-Based observations (invited)

Imber S., M. Lester and S.E. Milan

12:00-12:15

A statistical study of low frequency ULF waves as measured by space-borne and ground-based magnetometers

Papadimitriou C., G. Balasis and I.A. Daglis

12:15-12:30

Use of the IMAGE ground magnetometer networks ULF wave observations to derive radial diffusion coefficients in the radiation belts

Dimitrakoudis S., G. Balasis, C. Papadimitriou, A. Anastasiadis and I.A. Daglis

12:30-13:00

Resolving global geospace processes: what ENA imaging can and cannot do (invited)

Brandt P.C., M. Sitnov, E.C. Roelof and D.G. Mitchell

13:00-13:05

Nitrogen Ion TRacing Observatory (NITRO) concept: a new direction one step from Cluster

Yamauchi M., I. Dandouras and The NITRO proposal team

13:05-14:00

Lunch break

15:00-18:00 Poster Session

Chairs: Stavros Dimitrakoudis, Constantinou Papaditriou

Radiation belts and ring current – the energetic geospace

1. Van Allen probes observations of wave- particle interactions in the pre-midnight sector of the magnetosphere
Korotova G.I., D.G. Sibeck, H.E. Spence, C.A. Kletzing, J.R. Wygant, K.J. Hwang, R. Redmon and P.S. Moya
2. Dynamical evolution of the Earth's magnetosphere in response to a sudden ring current injection
Choe S. and G. Park
3. New and reprocessed products derived from NOAA GOES and POES particle flux measurements
Rodriguez J.V., J.C. Green and R.J. Redmon
4. Observations of Chorus and Hiss by Double Star TC1
Yearby K.H., H. Aryan, M.A. Balikhin and V. Krasnoselskikh
5. Comparison of the convection electric field of Saturn with the ones of the Earth's and Jupiter's

- Andriopoulou M., E. Roussos, N. Krupp, C. Paranicas, M. Thomsen, S. Krimigis, K.H. Glassmeier and M. Dougherty
6. EMIC wave occurrence and wave property statistics from Cluster and THEMIS
Mella M., Y. Khotyaintsev, A. Vaivads and M. Andre
 7. Outer radiation belt dynamics following the arrival of an interplanetary shock: what the Cluster-CIS and the Double Star-HIA data can tell us
Dandouras I., N. Ganushkina and H. Reme
 8. Extremely high-energy plasma/particle sensor for electron (XEP-e) of the ERG satellite
Higashio N. and H. Matsumoto
 9. Annual and semiannual ring current effects derived from geomagnetic field strength during Solar cycles 19-23
Okpala K.C. and F.N. Okeke
 10. Wave normal angles of whistler mode chorus rising and falling tones
Taubenschuss U., Y. Khotyaintsev, O. Santolik, A. Vaivads, C.M. Cully, O. LeContel and V. Angelopoulos.
 11. Estimation of the location of the source region of the equatorial noise emissions from the Cluster measurements
Hrbackova Z., O. Santolik, J.S. Pickett and D.A. Gurnett
 12. An instrument dedicated for measurements inside the radiation belts - radiation protection of the ELMAVAN instrument for the Resonance mission
Santolik O., I. Kolmasova, R. Lan and L. Uhlir

Upstream transient phenomena and their effects on geospace

13. FORSPEF: an operational service for the prediction of solar energetic particle events and flares
Anastasiadis A., I. Sandberg, A. Papaioannou, M.K. Georgoulis, G. Tsiropoula, K. Tziotziou, A.C. Katsiyannis, P. Jiggins and A. Hilgers
14. Solar – terrestrial coupling: an approach based on wavelet analysis
Katsavrias Ch., A. Hillaris and P. Preka–Papadema
15. The formation of the ion seed population at quasi-parallel shocks
Johlander A., A. Vaivads, Y. Khotyaintsev, A. Retino, I. Dandouras, E. Yordanova and M. Andre
16. (MOVED TO ORAL) Ion acceleration at the Earth’s parallel bow shock: what can we learn from Cluster?
Kis A., M. Scholer, B. Klecker, O. Agapitov, V. Krasnosselskikh, E. Kronberg, P. Daly, I. Dandouras, I. Lempenger, V. Wertzgerom and A. Novak

17. Multi-spacecraft study of the geometry of mirror type magnetic fluctuations
Tatrallyay M. and G. Erdos
18. Recognition of Cluster bow shock crossings
Klos T. and H. Laakso
19. Magnetopause orientation and motion: comparison of constrained minimum variance and multi-spacecraft triangulation
C.R. Anekallu, N. Dorville and S. Haaland
20. Generic residue analysis and BV method comparison
Dorville N., C.R. Anekallu, Stein Haaland and Gerard Belmont
21. Microscale dynamics within Kelvin Helmholtz waves: a probe of localized reconnection occurrence
Varsani A., C.J. Owen, A.N. Fazakerley, I.J. Rae, C. Forsyth, A.P. Walsh, M. Andre, I. Dandouras and C.M. Carr
22. Observations of waves in plasmoids in the magnetosheath
Gunell H., G. Stenberg Wieser, M. Mella, R. Maggiolo, H. Nilsson, F. Darrouzet, M. Hamrin, T. Karlsson, N. Brenning, J. De Keyser, M. Andre and I. Dandouras
23. Constraints on plasma entry by impulsive penetration across the magnetopause
De Keyser J., M. Echim and H. Gunell
24. Particle acceleration and field-aligned currents in the cusp: preliminary results from GI programme
Pitout F., M. Berthomier, B. Grison, A. Marchaudon, P. Canu, M. Dunlop and A.N. Fazakerley
25. Particle Injections near the Exterior Cusp observed by Cluster
Escoubet C.P., B. Grison, E.J. Berchem, K.J. Trattner, B. Lavraud, F. Pitout, R. Richard, M.G.G.T. Taylor, H. Laakso, A. Masson, M. Dunlop, I. Dandouras, H. Reme, A. Fazakerley and P. Daly

Space-borne and ground-based remote sensing of geospace

26. NTC radiation from plasmasphere flanks: local and remote views by the Cluster satellites
Decreau P., P. Canu, F. Darrouzet, F. El-Lemdani Mazouz, S. Rochel Grimald, J.L. Rauch, X. Vallieres

Transient processes in the magnetotail and in the plasma sheet

27. Detailed analysis of the small-scale magnetic island in the near-Earth magnetotail
Isavnin A. and I. Vogiatzis

28. Slow electron holes: magnetotail observations
Norgren C., M. Andre, A. Vaivads and Y. Khotyaintsev
29. Examining the polytropic index of the plasma sheet using Cluster
Forsyth C., A.N. Fazakerley, I.J. Rae, C.E.J. Watt, Z. Yao and C.J. Owen
30. Ion acceleration in the vicinity of a near-Earth X-line.
Grigorenko E.E., E.A. Kronberg, P.W. Daly and M.S. Dolgonosov
31. Magnetic nulls in the Earth's magnetotail
Eriksson E., A. Vaivads, Y.V. Khotyaintsev, S. Markidis, M. Andre, H. Fu and T. Karlsson
32. The current system of dipolarizing flux bundles
Liu J., V. Angelopoulos, A. Runov, Xuzhi Zhou and Zhonghua Yao
33. In situ observations of energetic ion acceleration in the near-Earth jet braking region
Retino A., Y. Khotyaintsev, A. Vaivads, O. Le Contel, H. Fu, B. Zieger and R. Nakamura
34. Dipolarization fronts in the near-Earth space and substorm dynamics
Vogiatzis I., A. Isavnin, Q.G. Zong, E.T. Sarris, S.W. Lu and A.M. Tian
35. Ion flux dropout observed near dipolarization front
Chen T. and X. Shi
36. Altitude distribution and position of the auroral density cavity in quasi-static potential structures
Alm L., G.T. Marklund, T. Karlsson and B. Li
37. Fermi acceleration through stochastic electric fields
Kovaios S., V. Tsiolis, Th. Pisokas, H. Isliker and L. Vlahos

The role of cold plasma in geospace dynamics

38. High-latitude ionospheric convection from Cluster EDI revisited: interhemispheric differences and solar cycle effects
Forster M. and S.E. Haaland
39. Cold and hot ion distributions in the Earth's magnetosphere
Li K., P. Daly, M. Andre, S. Haaland, E. Kronberg, A. Eriksson and Y. Wei
40. Ionospheric outflow above a sunlit and a dark polar cap
Maes L., R. Maggiolo, S. Haaland, I. Dandouras, J. De Keyser, R. Fear and D. Fontaine
41. O⁺ escape from the terrestrial magnetosphere
Slapak R., H. Nilsson and L.G. Westerberg
42. Modulation of the plasmasheet O⁺ density by the solar wind
Maggiolo R., L.M. Kistler and J. De Keyser
43. Fate of cold ions in the inner magnetosphere: energization and drift inferred from morphology and mass dependence
Yamauchi M., I. Dandouras, H. Reme and Y. Ebihara

44. The role of the plasmasphere in the generation and propagation of magnetospheric ULF waves with applications to radiation belt modeling
Claudepierre S.G., F. Toffoletto, J.G. Lyon and M. Wiltberger
45. Systematic analysis of whistler mode waves in plasmaspheric plumes
Kolmasova I., O. Santolik, F. Darrouzet, M. Usanova and N. Cornilleau-Wehrin
46. Cold plasma density: asymmetries and solar cycle effects
Lybekk B., S. Haaland and A. Pedersen
47. Electron densities inferred from plasma wave spectra obtained by the Van Allen probes EMFISIS Waves instrument
Kurth W.S., S. De Pascuale, J.B. Faden, S. Thaller, C.A. Kletzing and J.R. Wygant
48. Heavy ions density deduced from wave propagation properties and particle measurement: a comparison between STAFF, WHISPER and CIS instruments on-board Cluster spacecraft
Rauch J.L., P. Robert, P.M.E. Decreau, I. Dandouras, X. Vallieres, I. Galkina, A. Denazelle, S. Aoutou, P. Canu, N. Cornilleau-Wehrin

Combining modelling efforts and in-situ observations to better understand geospace dynamics

49. 2D current sheet configuration: Cluster observations vs. laboratory experiment.
Yushkov E.V., A.G. Frank, A.V. Artemyev, A.A. Petrukovich and I.Y. Vasko
50. Boundary conditions at $L^*=8$ for use in radiation belt models
Sicard-Piet A., V. Maget, D. Lazaro, D. Turner and S. Bourdarie
51. Combined model of plasmaspheric hiss and whistler-mode chorus wave distribution in the inner magnetosphere
Aryan H., K. Yearby, M. Balikhin, O. Agapitov and V. Krasnoselskikh
52. Geant4 modelling of RAPID/IES detector on Cluster
Rashev M.V., E.A. Kronberg and P.W. Daly
53. Particle-in-cell simulations of whistler-particle interactions: an assessment of the quasi-linear paradigm
Camporeale E.
54. PIC simulation of dipolarization fronts based on magnetic island coalescence
Haruki T., I.I. Vogiatzis, A. Isavnin, E.T. Sarris and Q.G. Zong
55. VNC long-term modelling of the outer radiation belt
Pakhotin I.P., M.A. Balikhin, Y.Y. Shprits, A.Y. Drozdov and R.J. Boynton

56. Online NARMAX model for electron fluxes at GEO
Boynton R.J., M.A. Balikhin and S.A. Billings
57. Cluster data access through Cluster science archive
Martinez B., C.P. Escoubet, D. Herment, H. Laakso, A. Masson, S. McCaffrey and P. Osuna
58. Cluster Ion Spectrometry (CIS) data quality indexes at the Cluster Science Archive (CSA)
Dandouras I., A. Barthe, S. Brunato, H. Reme and H. Laakso
59. The Cluster Science archive and its value added products
Masson A., C.P. Escoubet, H. Laakso, C. Perry, D. Herment, B. Martinez, S. McCaffrey and T. Klos
60. Data visualization in the Cluster science archive
Herment D., B. Martinez and H. Laakso
61. WHISPER products at the Cluster science archive
Vallieres X., J.L. Rauch, P.M.E. Decreau and the WHISPER team
62. Long-term trends in the fluxgate magnetometer (FGM) calibration parameters on the four Cluster spacecraft
Alconcel N.S., P. Fox, P. Brown, T. Oddy, E.L. Lucek and C.M. Carr
63. Cleaning double star magnetic field data
Klos T. and H. Laakso
64. DC electric fields measured by CIS and PEACE
Laakso H.
65. Initial results from the CRRES/MICS empirical model of ion plasma in the inner magnetosphere
Claudepierre S.G., J.L. Roeder, M.W. Chen, C.L. Lemon and T.B. Guild
66. Reconnection and energy conversion at the magnetopause as influenced by Earth's dipole tilt angle and interplanetary magnetic field
Hoilijoki S., V.M. Souza, B.M. Walsh, P. Janhunen and M. Palmroth
67. Simulation of the inner magnetosphere electrodynamic in the presence of magnetospheric substorms
Tsironis C., A. Anastasiadis, I.A. Daglis and Ch. Katsavrias
68. Multi-point observations of large scale perturbations on the open-closed field line boundary during a geomagnetic storm, as observed by the Van Allen Probes and geostationary satellites
Grande M., P. Dixon, E. MacDonald, A. Gloer, H. Spence and G. Reeves

Late submissions

69. Size and shape of the distant magnetotail
Sibeck D.G

THURSDAY, 18 SEPTEMBER 2014

**Transient Processes in the Magnetotail
and in the Plasma Sheet**

Chair: Harlan E. Spence

09:00-09:25

Transient processes in the magnetotail as revealed by recent multi-point observations (invited)

Angelopoulos V.

09:25-09:40

How plasma sheet temperature varies with upstream solar wind conditions and affects substorm intensity.

Forsyth C., C.E.J. Watt, I.J. Rae, A.N. Fazakerley, P. Boakes and R. Nakamura

09:40-10:05

Energetic Electron Acceleration by Unsteady Magnetic Reconnection (invited)

Fu H.S., Yu.V. Khotyaintsev, A. Vaivads, A. Retino, M. Andre and J.B. Cao

10:05-10:30

What happens to flow bursts as they propagate towards the Earth? (invited)

Hamrin M., T. Pitkänen, T. Karlsson, H. Nilsson and P. Norqvist

10:30-10:45

Solar wind magnetosphere coupling during a long sequence of BBFs preceding substorm onset

Palin L., C. Jacquey, M. Connors, H. Opgenoorth, J.-A. Sauvaud and R. Nakamura

10:45-11:00

Azimuthal velocity shear within an earthward fast flow – further evidence for magnetotail untwisting?

Pitkänen T., M. Hamrin, P. Norqvist, T. Karlsson, H. Nilsson, A. Kullen, S.M. Imber and S.E. Milan

11:00-11:30

Coffee break

Chair: Jacob Bortnik

11:30-11:45

Multipoint observations of energetic particle injections from the plasma sheet into the inner magnetosphere

Turner D.L., M. Gkioulidou, A. Ukhorskiy, A. Runov, C. Gabrielse and V. Angelopoulos

11:45-12:00

Field-Aligned current and electric field observed near the dipolarization front

Fu S.Y., W.J. Sun and G.K. Parks

12:00-12:15

A tailward-moving current-sheet-normal magnetic-field front followed by an earthward-moving dipolarization front

Hwang K.J., M.L. Goldstein, T.E. Moore, B.M. Walsh, D.G. Baishev, B.M. Shevtsov, K. Yumoto and A.V. Moiseyev

12:15-12:30

Acceleration and Transport to the Ring Current During a Small Storm

Kistler L.M., C.G. Mouikis, A. Menz, H.E. Spence, D.J. Mitchell, M. Gkioulidou, R.M. Skoug, H.O. Funsten, B.A. Larsen, J.F. Fennell, J.B. Blake and J.L. Roeder

12:30-12:55

Flow bursts intrusion into the inner magnetosphere and some its consequences (invited)

Sergeev V.A., V. Angelopoulos, J. Birn and R. Nakamura

13:00-14:00

Lunch break

Chair: Suiyan Fu

14:00-14:15

On the fine structure of dipolarization fronts

Balikhin M.A., A. Runov, S.N. Walker, I. Dandouras and A. Fazakerley

14:15-14:30

Cluster multi-point studies of the auroral acceleration region

Marklund G.T.

14:30-14:45

The transition from asymmetric to symmetric collisionless magnetic reconnection

Hesse M., N. Aunai and M. Kuznetsova

14:45-16:00 Poster Session (continued)

16:00-19:30 Guided medieval city walking tour

20:00 Conference Dinner

FRIDAY, 19 SEPTEMBER 2014

The Role of Cold Plasma in Geospace Dynamics

Chair: Jolene Pickett

09:00-09:25

Outflow of low-energy ions and the solar cycle (invited)

Andre M., K. Li, A.I.E. Eriksson, H. Nilsson and S. Haaland

09:25-09:40

The role of low-energy ions in the microphysics of magnetic reconnection

Toledo-Redondo S., A. Vaivads, M. Andre and Y.V. Khotyaintsev

09:40-10:05

The role of O^+ in the near-earth magnetotail dynamics (invited)

Mouikis C.G., L.M. Kistler, Y. Liu, S. Wang and J. Liao

10:05-10:30

Hot and cold ion outflow, from the ionosphere to the plasma sheet and back (invited)

Nilsson H.

10:30-10:55

Links between the plasmopause and the radiation belts boundaries as observed by the instruments CIS, RAPID and WHISPER onboard Cluster (invited)

Darrouzet F., V. Pierrard, S. Benck, G. Lointier, J. Cabrera, K. Borremans, N. Ganushkina and J. De Keyser

10:55-11:20

Coffee break

Chair: Vladimir Kalegaev

11:20-11:35

Recent progress in understanding the origin of plasmaspheric hiss

Bortnik J., W. Li, L. Chen, R.M. Thorne, V. Angelopoulos, C. Kletzing, W.S. Kurth and G.B. Hospodarsky

11:35-11:50

A study of the spacecraft potential of Cluster while in active control

Andriopoulou M., R. Nakamura and K. Torkar

Highlights from Cluster, MAARBLE and Van Allen Probes Special Session

11:50-12:15

Highlights from Cluster, first 3D mission (invited)

Escoubet C.P., A. Masson, H. Laakso, M.G.G.T. Taylor, J. Volpp, D. Sieg,
M. Hapgood and M.L. Goldstein

12:15-12:35

Major results of the MAARBLE FP7-Space project

Daglis I.A., I.R. Mann, S. Bourdarie, Y. Khotyaintsev, O. Santolik, R.B.
Horne and D.L. Turner

12:35-13:00

Findings from the Van Allen Probes mission and the path forward to
future understanding regarding Earth's radiation belts and inner
magnetosphere (invited)

Mauk B.H., N.J. Fox, R.L. Kessel, D.G. Sibeck and S.G. Kanekal

13:00-14:00

Lunch break

15:00-20:00

Excursion to Lindos

SATURDAY, 20 SEPTEMBER 2014

**Combining Modelling Efforts and in-situ Observations
to Better Understand Geospace Dynamics**

Chair: Richard B. Horne

09:00-09:25

Magnetospheric mass and energy transfer: Vlasiator and GUMICS-4 simulation results (invited)

Palmroth M., C.R. Anekallu, H. Hietala, T.V. Laitinen, Y. Kempf, S. Hoilijoki, S. von Alfthan, U. Ganse and R. Vainio

09:25-09:40

Birth and evolution of magnetosheath mirror modes as seen by the global hybrid-Vlasov simulation Vlasiator

Hoilijoki S., B. Walsh, Y. Kempf, S. von Alfthan, O. Hannuksela and M. Palmroth

09:40-09:55

Vlasov simulation of the trapping and loss of auroral electrons

Gunell H., L. Andersson, J. De Keyser and I. Mann

09:55-10:10

Understanding geospace dynamics and the effect of magnetosphere-ionosphere (MI) coupling

Zesta E., G. Khazanov, A. Glocer, L. MacDonald, M.C. Fok, N. Buzulukova and P. Dixon

10:10-10:25

Modelling Cluster observations of cold ionospheric plasma outflow in polar cap arcs

De Keyser J., R. Maggiolo, L. Maes and I. Dandouras

10:25-10:50

Substorm dynamical role in radiation belt particle enhancements (invited)

Baker D.N.

10:50-11:15

Modeling ultra-relativistic radiation belt electron dynamics during two magnetic storms observed by the Van Allen Probes (invited)

Thorne R.M., W. Li, B. Ni, Q. Ma, J. Bortnik and the EMFISIS and RBSP-ECT Science Teams on the Van Allen Probes

11:15-11:35

Coffee break

Chair: Georgios Balasis

11:35-12:00

Ultra-relativistic electrons in the Van Allen radiation belts (invited)

Shprits Y.Y., A. Drozdov, D. Subbotin, A. Kellerman, K.G. Orlova, D.N. Baker and M. Usanova

12:00-12:25

EnKF-Salammbro data assimilation tool: Progress in the framework of the MAARBLE EU-project

Bourdarie S., V. Maget, D. Lazaro and I. Sandberg

12:25-12:40

Global model of low frequency chorus ($f_{LHR} < f < 0.1f_{ce}$) from multiple satellite observations

Meredith N.P., R.B. Horne, W. Li, R.M. Thorne and A. Sicard-Piet

12:40-13:05

Simulating the Earth's radiation belts with continuous losses to the magnetopause (invited)

Glauert S.A., R.B. Horne and N.P. Meredith

13:05-13:20

Numerical modelling of ULF waves in a magnetospheric waveguide

Elsden T. and A.N. Wright

13:20-13:35

First results of simulations of "multi-band structures" in spacecraft observations of inner magnetosphere plasma electrons and ions

Mohan K., A.N. Fazakerley and C.J. Owen

13:35-13:50

Plasma wave modes observed by Cluster and their possible role in radiation belt dynamics

Pokhotelov D. and I.J. Rae

SPLINTER SESSIONS

MONDAY, 15 SEPTEMBER 2014

M4 Mission Proposal Splinter Session

14:00-18:00, Nafsika Hall

Chair: Andris Vaivads

TUESDAY, 16 SEPTEMBER 2014

SPeCIMEN Splinter Session

Nafsika Hall

Chair: Jacob Bortnik

09:00-09:15

Welcome, introduction, and overview of SPeCIMEN

J. Bortnik

09:15-09:45

Solar wind driving of radiation belt dynamics (invited)

G.D. Reeves

09:45-10:15

Effects of EMIC waves and the magnetopause on the radiation belts
(invited)

R.B. Horne

10:15-10:45

ERG-science center including data analysis software TDAS and CDF database (invited)

Y. Miyoshi

10:45-11:15

NARMAX method and other statistical predictive methods (invited)

M. Balikhin

11:15-11:30

Ground network observations for the ERG project

K. Shiokawa, R. Fujii, K. Hashimoto, K. Hosokawa, M. Ishii, A. Kadokura, H. Kawano, T. Kikuchi, K. Kitamura, Y. Miyoshi, T. Nagatsuma, N. Nishitani, Y. Obana, Y. Ogawa, H. Ohya, M. Okada, Y. Otsuka, M. Ozaki, N. Sato, M. Shinohara, H. Tadokoro, M. Taguchi, Y. Tanaka, T. Tanimori, F. Tsuchiya, H. Yamagishi, A. Yoshikawa, A.S. Yukimatu and K. Yumoto K.

11:30-11:45

Ideas for integrating statistical predictive techniques and physical modeling

J. Bortnik

11:45-12:00

Specifying the dynamics of the radiation belts using networks of ground-based magnetometers

I.R. Mann

12:00-12:15

System Science approach to the magnetospheric physics

Balikhin M.A., R.J. Boynton and S.A. Billings

12:15-13:00 General discussion

WEDNESDAY, 17 SEPTEMBER 2014

Radiation Belt Specification Splinter Session

Nafsika Hall

Chair: Eamonn J. Daly

09:00-09:20

Relativistic 3D test particle simulations of radiation belt electrons and protons during geomagnetic storms

Borremans K., J. Lemaire and V. Pierrard

09:20-09:40

Flux Variations in the Van Allen Belts observed by the Energetic Particle Telescope

Pierrard V., K. Borremans, G. Lopez Rosson and S. Benck

09:40-10:00

Cross calibration of NOAA GOES/EPS detectors using NASA IMP8/GME corrected proton flux measurements

Sandberg I., P. Jiggins, D. Heyndericx and I.A. Daglis

10:00-10:20

The AE9/AP9 next generation radiation specification models: challenges

Huston S.L., T.P. O'Brien and W.R. Johnston

10:20-10:40

Confronting the AP9/AE9 radiation belt models with spacecraft data and other models

Heyndericx D., P.R. Truscott, H. Evans and E.J. Daly

10:40-11:00

Reanalysis based on the VERB diffusion code

Shprits Y.Y., A. Kellerman and A. Drozdov

11:00-11:30

Coffee Break

11:30-11:50

Radiation belt specification models and the way forward for engineering standards

Evans H. and E.J. Daly

11:50-12:10

Long-term response of energetic electrons in the inner magnetosphere

J.F. Fennell

12:10-13:00 Round-table discussion

WEDNESDAY, 17 SEPTEMBER 2014

Cluster SWT Meeting

14:15-16:00, Delphi Amphitheatre

Chair: C. Philippe Escoubet

THURSDAY, 18 SEPTEMBER 2014

Cluster WBD Plasma Wave Investigation Splinter Session

09:00-13:00, Nafsika Hall

Chair: Jolene Pickett

SATURDAY, 20 SEPTEMBER 2014

NITRO Mission Proposal Splinter Session

11:35-16:00, Nafsika Hall

Chair: Masatoshi Yamauchi