

Program Overview

	Monday 23 Nov	Tuesday 24 Nov	Wednesday 25 Nov	Thursday 26 Nov	Friday 27 Nov
09:00					
09:30	Registration	Keynote 9:00-10:00	Keynote 9:00-10:00	Keynote 9:00-10:00	Keynote 9:00-10:00
10:00		Posters 10:00-11:00 Coffee is served	Posters 10:00-11:00 Coffee is served	Posters 10:00-11:00 Coffee is served	Posters 10:00-11:00 Coffee is served
10:30	Tutorial 10:00-12:00				
11:00					
11:30		Session 4,5,6,7 11:00-13:00	Session 4/8,9,10 11:00-13:00	Session 8,11,12,13 11:00-13:00	Session 14,15,16 11:00-13:00
12:00	Lunch				
12:30	12:00-13:00				
13:00	Opening	Live Forecast	Live Forecast	Live Forecast	Live Forecast
13:30	Keynote	Lunch	Lunch	Lunch	Lunch
14:00	13:00-14:30	Free Style	Free Style	Free Style	13:00-14:30
14:30	Session 1,2,3	13:00-15:00	13:00-15:00	13:00-15:00	
15:00	14:30-15:30				
15:30	Posters 15:30-16:30	Working Meetings	Working Meetings	Working Meetings	SWWT
16:00	Coffee is served	15:00-16:30	15:00-16:30	15:00-16:30	14:30-16:00
16:30		Coffee	Fair	Coffee	—
17:00	Session 1,2,3		Coffee is served	Working Meetings	
17:30	16:30-18:00	Working Meetings	16:30-18:00	17:00-18:30	
18:00	Medal ceremony				
18:30	18:00-19:00		Beer after work		
19:00	—	—	18:00-20:00	—	
19:30	Welcome Reception				
20:00	19:30-21:00		—	Casino Dinner	
20:30				19:30-00:00	
21:00					
21:30	—				
22:00					

Monday, 23 November 2015

09:00 Registration desk open

10:00 Start Tutorial
Room: Poster area

12:00 Lunch Break

13:00 Welcome & Opening
Room: Delvaux

Keynotes

Room: Delvaux

13:30 SSA SWE Segment status and prospects
Juha-Pekka Luntama

14:00 Solar energetic particles: data environments, forecasting & impact
Tom Berger

Session 1: Advances in instrumentation and future missions for space weather science or operation (part 1)

Chairs: A. BenMoussa, M. Barthelemy, A. Hilgers

Room: Delvaux

14:30 Space Weather Observations for Operational Services - **Invited**

T. Onsager, T. Berger, D. Biesecker, and H. J. Singer
NOAA Space Weather Prediction Center

14:45 Space Weather observations from hosted payload sensors at geosynchronous orbit

Dave Pitchford

SES

15:00 Impact of FORMOSAT-7 on Ionospheric Space Weather Monitoring

I-Te Lee¹, Jann-Yenq Tiger Liu², Tie-Yue Liu², Chung-Huei Vicky Chu², Guey-Shin Chang²

¹Meteorological R&D Center, Central Weather Bureau, Taipei, Taiwan; ²National Space Organization, Hsinchu, Taiwan

15:15 Flight Results from AeroCube-6

Bernard Blake

The Aerospace Corporation

15:30 Coffee break and Posters Session 1, 2 & 3

Session 1: Advances in instrumentation and future missions for space weather science or operation (part 2)

Chairs: A. BenMoussa, M. Barthelemy, A. Hilgers

Room: Delvaux

16:30 Carrington-L5: The Next Generation Space Weather Monitoring Mission

Markos Trichas

Airbus Defence and Space

16:45 Low resource magnetoresistive magnetometers with space weather applications

Jonathan Eastwood¹, Patrick Brown¹, Martin Archer^{1,2}, Barry Whiteside¹, Peter Fox¹, Chris Carr¹, Tim Horbury¹

¹Space and Atmospheric Physics, The Blackett Laboratory, Imperial College London, London, SW7 2AZ; ²now at School of Physics & Astronomy, Queen Mary University of London, London, E1 4NS

- 17:00 ATISE: a micro spectrometer based on the μ -SPOC system to study airglow and aurora
Barthelemy Mathieu¹, Le Coarer Etienne¹, Basaev Alexander², Kerstel Erik³, Vialatte Anne¹, Lilensten Jean¹, Thomas Diard⁴, Nicolas Guérineau⁴
¹IPAG; CSUG, UGA/CNRS, France; ²MIET, Zelenograd University, Russia; ³Liphy, CSUG, UGA/CNRS, France; ⁴ONERA, Palaiseau, France
- 17:15 A New Ground-Based Network for Synoptic Solar Observations: The Solar Physics Research Integrated Network Group (SPRING)
Markus Roth¹, Frank Hill², Michael Thompson³, Sanjay Gusain^{1,2}
¹Kiepenheuer-Institut für Sonnenphysik, Freiburg, Germany; ²National Solar Observatory, Tucson, USA; ³High-Altitude Observatory, Boulder, USA
- 17:30 AMBRE_NG: A compact dual ion-electron spectrometer for thermal plasma measurements
B. Lavraud¹, A. Cara¹, D. Payan², C. Aoustin¹, Y. Ballot³, A. Cadu¹, O. Chassela¹, P. Devoto¹, A. Fedorov¹, J. Rouzaud¹, J.-A. Sauvaud¹, H.-C. Seran¹, and C. Rouzies²
¹IRAP/CNRS/Université de Toulouse, France; ²Centre National d'Etudes Spatiales, Toulouse, France; ³EREMS, Flourens, France
- 17:45 Evaluation of space-based observation capabilities in OSCAR in support of gap analysis
Jerome Lafeuille
World Meteorological Organization

Session 2: Open session on Recent Advances in Space Weather Science (part 1)

Chairs: The ESWW12 PC

Room: Mercator

14:30 Enhanced Observational Data Cadence and Advances in Discriminant Analysis for Solar Flare Prediction

Manolis K. Georgoulis¹, D. Shaun Bloomfield², and the FLARE-CAST Team

¹Research Center for Astronomy and Applied Mathematics (RCAAM) of the Academy of Athens; ²School of Physics, Trinity College Dublin

14:45 ULF foreshock under radial IMF: THEMIS observations and global kinetic simulation Vlasiator results compared

Palmroth, M.¹, Vainio, R.², Archer, M.^{3,4}, Hietala, H.⁴, Kempf, Y.^{1,5}, Hoilijoki, S.^{1,5}, and von Alfthan, S.¹

¹Finnish Meteorological Institute, Helsinki, Finland; ²University of Turku, Turku, Finland; ³MSSL, London, UK; ⁴Imperial College, London, UK; ⁵University of Helsinki, Helsinki, Finland

15:00 Particle acceleration in interplanetary shocks: quasilinear and hybrid-Vlasov simulations

Rami Vainio¹, Alexandr Afanasiev¹, Markus Battarbee¹, Juuso Jaakola¹, Urs Ganse², Minna Palmroth³, Sebastian von Alfthan³, Otto Hannuksela^{2,3}, Sanni Hoilijoki^{2,3}, Yann Kempf^{2,3}, and Arto Sandroos³

¹Department of Physics and Astronomy, University of Turku, Finland; ²Department of Physics, University of Helsinki, Finland; ³Finnish Meteorological Institute, Helsinki, Finland

15:15 Advanced modeling of low energy electrons responsible for surface charging

Natalia Ganushkina^{1,2}, Stepan Dugyagin¹

¹Finnish Meteorological Institute, Helsinki, Finland; ²University of Michigan, Ann Arbor MI, USA

15:30 Coffee break and Posters Session 1, 2 & 3

Session 2: Open session on Recent Advances in Space Weather Science (part 2)

Chairs: The ESWW12 PC

Room: Mercator

- 16:30 Evolution of magnetized CMEs in the inner heliosphere
Stefaan Poedts, Jens Pomoell
Centre for mathematical Plasma-Astrophysics, KU Leuven, Celestijnenlaan 200B, 3001 Leuven, Belgium
- 16:45 Progress made during the first 18 months of the FP7 HELCATS Project
Richard Harrison¹, Jackie Davies¹ and the HELCATS team
¹RAL Space, UK
- 17:00 Plasma Flows in the magnetotail affecting the field aligned currents
Laurianne Palin, Hermann Opgenoorth
Swedish Institute of Space Physics, Uppsala
- 17:15 On the ionospheric response to CIR/HSS driven storms
Ioanna Tsagouri
National Observatory of Athens
- 17:30 Impact and modelling of the solar eclipse of 20 March 2015 on VLF measurements at different radio links
Daniela Wenzel, Jens. Berdermann, Norbert Jakowski
German Aerospace Center (DLR)
- 17:45 Analysis of the delayed time response of geomagnetic activity to the solar wind
Romain Maggiolo¹, Maria Hamrin², Herbert Gunell¹, Gael Cessateur¹, Lukas Maes¹, Timo Pitkänen²
¹Belgian Institute for Space Aeronomy, Belgium; ²Umeå University, Sweden

Session 3: SSA Space Weather Service Network (part 1)

Chairs: *E. De Donder, M. Kruglanski, A. Glover*

Room: *Permeke*

- 14:30 The SSA Space Weather Service Network in Period 2
A Glover¹, JP Luntama², R Keil³, M Kruglanski⁴, J Andries⁵, N Crosby⁴, C Borries⁶, C Perry⁷, D Martini⁸
¹ESA, SSA Preparatory Programme Office & RHEA System, Darmstadt; ²ESA SSA Programme Office, Darmstadt; ³ESA ESOC; ⁴Belgian Institute for Space Aeronomy, Brussels, Belgium; ⁵Royal Observatory of Belgium, Brussels, Belgium; ⁶German Aerospace Center (DLR), 17235 Neustrelitz, Germany; ⁷STFC Rutherford Appleton Lab; ⁸Norwegian Center for Space Weather, Tromsø Geophysical Observatory
- 14:40 SSA Space Radiation Expert Service Centre: Current and envisioned upcoming products and services - **Invited**
N. Crosby, M. Kruglanski, M. Dierckxsens, E. De Donder
Belgian Institute for Space Aeronomy, Brussels, Belgium
- 14:50 AVIDOS 2.0 – a software tool for Nowcasting Radiation Exposure at Flight Altitudes Caused by Cosmic Radiation during Solar Storms
M. Latocha¹, H. Thommesen^{1,2}, R. Bütikofer³, P. Beck¹
¹Seibersdorf Laboratories, Forschungszentrum Seibersdorf, 2444 Seibersdorf, Austria; ²Graz University of Technology, Institute for Material Physics, 8010 Graz, Austria; ³International Foundation High Altitude Research Stations Jungfrauoch and Gornergrat, Silderstraße 5, 3012 Bern, Switzerland
- 15:00 Space Weather for Aviation - **Invited**
Klaus Sievers
Vereinigung Cockpit (German Airline Pilots´ Association)
- 15:10 Satellite Operator’s Reaction to Space Weather Warnings: The Missing Link - **Invited**
Andrew Monham
EUMETSAT

15:20 Impact of space weather on PROBA satellites, lessons learned and future needs - **Invited**
Stijn Ilsen, Dennis Gerrits, Johan De Hert
QinetiQ Space NV

15:30 Coffee break and Posters Session 1, 2 & 3

Session 3: SSA Space Weather Service Network (part 2)

Chairs: E. De Donder, M. Kruglanski, A. Glover

Room: Permeke

16:30 The Solar Weather Expert Service Centre in the ESA-SSA-SWE network - **Invited**

Jesse Andries

Royal Observatory of Belgium

16:40 A Possible Osmosis between Existing and Future Products within the SSA/SWE Service Network

Manolis K. Georgoulis

Research Center for Astronomy and Applied Mathematics (RCAAM) of the Academy of Athens

16:50 The ESC for Geomagnetic Conditions; Current status and future plans - **Invited**

Daniel Martini, Magnar G. Johnsen, Chiara Argeese, Massimo Di Loreto

Norwegian Center for Space Weather, Tromsø Geophysical Observatory

17:00 ESA SSA - Service Supporting Resource Exploitation System Operators (RESOSS)

Magnar G. Johnsen and Knut Stanley Jacobsen

¹Tromsø Geophysical Observatory; ²Norwegian Mapping Authority

- 17:10 Power Grid operator requirements to space weather forecast
- Invited
Kaare Rudsar, Trond M Ohnstad
Statnett SF
- 17:20 Arctic Region Space Weather Customers and SSA Services
- Invited
Per Høeg¹, Kirsti Kauristi², Peter Wintoft³, Magnus Wik³, Claudia Borries⁴
¹Technical University of Denmark (DTU), 2800 Kgs. Lyngby, Denmark; ²Finnish Meteorological Institute (FMI), 00101 Helsinki, Finland; ³Swedish Institute of Space Physics (IRF), 22370 Lund, Sweden; ⁴German Aerospace Center (DLR), 17235 Neustrelitz, Germany
- 17:30 Development of the Expert Service Center Ionospheric Weather within the Space Situation Awareness Programme -
Invited
Claudia Borries¹, Reidun Kittelsrud², Carlo Scotto³, Beata Dziak-Jankowska⁴, Per Hoeg⁵, Kirsti Kauristie⁶, Jan Lastovicka⁷, Philippe Yaya⁸
¹German Aerospace Center; ²Norwegian Mapping Authority; ³Instituto Nazionale di Geofisica e Vulcanologia; ⁴Space Research Center Warsaw; ⁵DTU Space - National Space Institute; ⁶Finnish Meteorological Institute; ⁷Institute of Atmospheric Physics; ⁸CLS - Space Oceanography Division
- 17:40 A Heliospheric Weather Expert Service Centre for the ESA SSA programme - **Invited**
C. Perry¹, M. Gibbs², M. Temmer³, V. Bothmer⁴, V. Genot⁵, D. Heynderickx⁶, S. Poedts⁷, S. Vennerstrom⁸
¹STFC Rutherford Appleton Lab; ²UK Met Office; ³Institute of Physics, University of Graz; ⁴University of Goettingen; ⁵IRAP; ⁶DHConsultancy; ⁷KU Leuven; ⁸Technical University of Denmark
- 17:50 The future role of the SWE Coordination Centre: review and recommendations
Andy Devos, P2-SWE-VI consortium, ESA SSA SWE team

18:00-19:00 Medal Ceremony
Room Delvaux

19:15 Walk to Thermae Palace

19:30-21:00 Welcome Reception
@Thermae Palace

Tuesday, 24 November 2015

Keynotes

Room: Delvaux

09:00 What do we know of solar flares?

Hugh Hudson

09:30 Geomagnetically Induced Currents & Power Grids

Antti Pulkkinen

10:00 Coffee break and Posters Session 4, 5, 6 & 7

Session 4: Solar Storms: Flares, CMEs and Solar Energetic Particle (SEP) events (part 1)

Chairs: N. Vilmer, O. Malandraki, M. Georgoulis

Room: Delvaux

11:00 The onset of Coronal Mass Ejections: a parametric study

*Francesco P. Zuccarello, Guillaume Aulanier, Stuart A. Gilchrist
LESIA, Observatoire de Paris, CNRS, UPMC, Université Paris
Diderot, 92190 Meudon, France*

11:12 Solar Demon: detecting flares, dimmings, and EUV waves in near real-time on SDO/AIA images

*Emil Kraaikamp, Francis Verbeeck
Royal Observatory of Belgium*

11:24 Relationship between EUV waves and CMEs for space weather applications

*David Pérez-Suárez¹, Jason Byrne², David Long¹, Eoin Carley^{3,4}
¹University College London / Mullard Space Science Laboratory;
²RAL Space; ³Observatoire de Paris; ⁴Trinity College Dublin*

- 11:34 Predicting interplanetary shock arrival times from CME and flare data
Marlon Núñez¹, Teresa Nieves-Chinchilla² and Antti Pulkkinen²
¹Universidad de Malaga; ²NASA/GSFC
- 11:46 Toward predictions of flare ribbons dynamics using magneto-frictional simulations
Etienne Pariat¹, Antonia Savcheva², Edward E. Deluca²
¹LESIA, Observatoire de Paris, PSL Research University, CNRS, UPMC Univ. Paris 06, Univ. Paris Diderot, France; ²Harvard-Smithsonian Center for Astrophysics, USA
- 11:58 Statistical study on the properties of solar energetic particles and associated solar phenomena in solar cycles 23 and 24
R. Miteva^{1,2}, S. W. Samwel³, M.V. Costa-Duarte⁴ and HESPERIA-team
¹IAASARS, National Observatory of Athens, Greece; ²Space Research and Technology Institute, Bulgarian Academy of Sciences, Sofia, Bulgaria; ³National Research Institute of Astronomy and Geophysics, Helwan, Cairo, Egypt; ⁴University of Sao Paulo, Department of Astronomy, Sao Paulo, Brazil
- 12:10 PAMELA's Measurements of Solar Energetic Particles
Alessandro Bruno on behalf of the PAMELA collaboration
- 12:22 An illustration of shock acceleration of solar energetic electrons and ions: the solar minimum eruptive event on 26 April 2008
C. Salas Matamoros¹, A. Rouillard², K.-L. Klein¹
¹Observatoire de Paris, LESIA, 92190 Meudon, France; ²Université de Toulouse, UPS-OMP, IRAP, Toulouse, France
- 12:34 A study on Solar Energetic Particle Events from 1984-2013: Statistical Relations and their Implications for the Acceleration and Propagation of Particles
Athanasios Papaioannou¹, Anastasios Anastasiadis¹, Ingmar Sandberg¹, Manolis Georgoulis², Kostas Tziotziou¹, Georgia Tsiropoula¹, Piers Jiggins³, Alain Hilgers³
¹IAASARS, National Observatory of Athens, Greece; ²RCAAM, Academy of Athens, Greece; ³ESTEC, ESA, The Netherlands

12:46 Non-stability of classical models of solar flares and possible solution of existed contradictions in approach to flare as to dynamical equilibrium of multi-scale percolation of the magnetic tensions and currents.

Lev Pustilnik

Israel Cosmic Ray and Space Weather Center of Tel Aviv University and Israel Space Agency

Session 5: Geomagnetically Induced Current and Space Weather

Chairs: E. Clarke, P. Wintoft, A. Viljanen, A. Thomson

Room: Mercator

11:00 GIC in the Norwegian Power Grid - **Invited**

*Trond M. Ohnstad, Evald Saethre, Kaare Rudsar
Statnett SF*

11:20 GIC events and their impact on Finnish transmission network during geomagnetic storm on 17th and 18th of March 2015 - **Invited**

*Tuomas Rauhala¹, Jarmo Elovaara¹, Ari Viljanen²
¹Fingrid Oyj; ²Finnish meteorological institute*

11:40 Geomagnetic Conditions in Ireland during the St. Patrick's Day 2015 Storm

*Seán P. Blake¹, Peter T. Gallagher¹, Alan Jones², Colin Hogg²,
Joe McCauley¹, Ciaran Beggan³, Alan Thomson³, Gemma Kelly³,
David Bell⁴*

*¹Trinity College Dublin; ²Dublin Institute for Advanced Studies;
³British Geological Survey; ⁴Eirgrid Plc*

11:55 GIC at mid-latitudes under extreme Dst scenarios

*Gemma Kelly¹, Ari Viljanen², Ciaran Beggan¹ and Alan Thomson¹
¹British Geological Survey, UK; ²Finnish Meteorological Institute,
Finland*

12:10 Modelling of the natural electromagnetic interference for GIC applications

*Larisa Trichtchenko
NRCan*

12:25 Nowcasting Ground Magnetic Perturbations with the Space Weather Modeling Framework

D. T. Welling¹, G. Toth¹, T. I. Gombosi¹, H. Singer², G. Millward²

¹University of Michigan Center for Space Environment Modeling;

²NOAA Space Weather Prediction Center

12:40 Analysis of the importance of the Earth resistivity and the power network status in modelling geomagnetically induced currents in Spain

J. M. Torta¹, S. Marsal¹, A. Marcuello², P. Queralt², J. Ledo²

¹Observatori de l'Ebre, (OE) CSIC - Univ. Ramon Llull, Roquetes (Spain);

²Institut Geomodels. Dept. Geodinàmica i Geofísica. Universitat de Barcelona, Barcelona (Spain)

Session 6: The role of Interplanetary Coronal Mass Ejections in Space Weather

Chairs: Luciano Rodriguez, Sergio Dasso

Room: Permeke

11:00 Interplanetary shocks and space weather - **Invited**

Alisson Dal Lago¹, Aline de Lucas², Carlos Roberto Braga¹

¹National Institute for Space Research - INPE, Brazil; ²IFSP - Jacarei, Brazil

11:30 Solar radio observations as a tool to forecast the arrival of coronal mass ejections near Earth ?

C. Salas Matamoros, G. Trottet, K.-L. Klein

Observatoire de Paris, LESIA, 92190 Meudon, France

- 11:45 Propagation of the 7 January 2014 CME and Resulting Geomagnetic Non-Event
M. L. Mays^{1,2}, B. J. Thompson², L. K. Jian^{2,3}, R. C. Colaninno⁴, D. Odstrcil⁶, C. Möstl^{7,8}, M. Temmer⁸, N. P. Savani^{5,2}, A. Taktakishvili^{1,2}, P. J. MacNeice², Y. Zheng²
¹Catholic University of America; ²NASA Goddard Space Flight Center; ³University of Maryland, College Park; ⁴Naval Research Laboratory; ⁵Johns Hopkins Applied Physics Laboratory; ⁶George Mason University, Fairfax; ⁷Space Research Institute, Austrian Academy of Sciences; ⁸IGAM-Kanzelhöhe Observatory, Institute of Physics, University of Graz
- 12:00 Analysis of CMEs-ICMEs on the ascending phase of SC24
Marilena Mierla^{1,2}, Emilia Kilpua³, Luciano Rodriguez¹, Andrei Zhukov¹
¹Royal Observatory of Belgium; ²Institute of Geodynamics of the Romanian Academy; ³University of Helsinki
- 12:15 Analysis of CME arrival times at 1 AU with neural network
Davor Sudar¹, Mateja Dumbović¹, Bojan Vršnak¹, Darije Maričić²
¹Hvar Observatory, Faculty of Geodesy, Kačićeva 26, University of Zagreb, 10000 Zagreb, Croatia; ²Astronomical Observatory Zagreb, Opatička 22, 10000 Zagreb, Croatia
- 12:30 Lagrangian MHD Particle-in-Cell simulations of coronal interplanetary shocks driven by observations
Fabio Bacchini¹, Roberto Susino², Alessandro Bemporad², Giovanni Lapenta¹
¹KU Leuven; ²Turin Astronomical Observatory
- 12:45 Automatic detection of CMEs in STEREO-HI data
Luciano Rodriguez¹, Sarah Willems¹, Vaibhav Pant², Marilena Mierla¹ and the HELCATS team
¹Royal Observatory of Belgium ²Indian Institute of Astrophysics

Session 7: Best practice into the development of operational SW prediction systems & in transitioning space science tools to operations

Chairs: G. Lapenta, D. Berghmans, D. Jackson, S. Bingham

Room: Leopold

- 11:00 Pioneering the path from research to operations.
M. Kuznetsova, M. Maddox, J. Boblitt, A. Chulaki, P. Macneice, L. Mays, M. Mendoza, R. Mullinix, A. Pembroke, A. Pulkkinen, L. Rastaetter, J-S. Shim, A. Taktakishvili, C. Wiegand, Y. Zheng
Community Coordinated Modeling Center, NASA Goddard space Flight Center
- 11:15 RWC Belgium: learning from 15 years of operational Space Weather Services
Jesse Andries, Andy Devos, David Berghmans
Royal Observatory of Belgium
- 11:30 Mexican Space Weather Service (SCIESMEX)
J.A. Gonzalez Esparza, V. De la Luz, P. Corona-Romero, J. Mejia-Ambriz, L. X. Gonzalez
SCIESMEX, IGUM, UNAM, Mexico
- 11:45 Lessons learned in FP7: Soteria, Swift and eHeroes
Giovanni Lapenta; Soteria, Swift and eHeroes teams
www.swift.eu, www.soteria-space.eu, www.eheroes.eu
- 12:00 Sol-Terra: A Roadmap to Operational Sun-to-Earth Space Weather Forecasting
Mike Marsh¹, David Jackson¹, Alastair Pidgeon², Gareth Lawrence², Simon Reid², Mario Bis³, Mike Hapgood³
¹Met Office; ²RHEA TECH; ³STFC RAL Space
- 12:15 On forecasting solar eruptive events by the sunspot dynamics detected at photospheric level
Marianna Korsos
Un. of Sheffield, DHO-Hungary

12:30 Ionospheric Response to the Impact of strong Geomagnetic Storms

Johannes Hinrichs¹, Volker Bothmer¹, Malte Venzmer¹, Michael Schmidt², Denise Dettmering², Marco Limberger², Florian Seitz², Klaus Börger³, Sylvia Brandert³, Barbara Görres⁴, Wilhelm F. Kersten⁴

¹Institute for Astrophysics at the University of Goettingen, Goettingen, Germany; ²Deutsches Geodätisches Forschungsinstitut der Technischen Universität München (DGFI-TUM), Munich, Germany; ³German Space Situational Awareness Center (GSSAC), Uedem, Germany; ⁴Bundeswehr Geoinformation Center (BGIC), Euskirchen, Germany

12:45 Ionospheric Assimilation Model for Space Weather Monitoring and Forecasting

I. T. Lee¹, W. H. Chen², T. Matsuo^{3,4}, C. H. Chang², C. H. Lin², J. Y. Liu^{5,6}, W. Wang⁷, A. D. Richmond⁷

¹Meteorological R&D Center, Central Weather Bureau, Taipei, Taiwan; ²Department of Earth Science, National Cheng Kung University, Tainan, Taiwan; ³University of Colorado Boulder, Boulder, Colorado, USA; ⁴National Oceanic and Atmospheric Administration, Boulder, Colorado, USA; ⁵National Space Organization, Hsinchu, Taiwan; ⁶Institute of Space Science, National Central University, Zhongli City, Taiwan; ⁷High Altitude Observatory, National Center for Atmospheric Research, Boulder, Colorado, USA

12:58 Slurm: a Lagrangian Particle-in-Cell MHD Solver For Space Weather

*Vyacheslav Olshevsky, Fabio Bacchini, Giovanni Lapenta
KU Leuven*

13:00 Live Forecast
by SIDC/ROB

13:00-15:00 Lunch Break & Free Style

15:00-16:30 Working Meetings

Delvaux	Mercator	Permeke
Accomplishing Basic and Applied SW Research for the benefit of better SWx predictions and reliable warnings <i>Hermann Opgenoorth (IRFU), Terry Onsager (NOAA)</i>	Space weather communication and dialogue across Europe <i>L. Green, M. Hapgood, M. Bisi</i>	European Space Weather Business Group <i>D. Heynderickx, Susan McKenna-Lawlor</i>

16:30-17:00 Coffee Break

17:00-18:30 Working Meetings

Delvaux	Mercator	Permeke
The ESPAS e-infrastructure: presentation of the final system and lessons learned <i>Anna Belehaki (NOA), Mike Hapgoog (STFC)</i>	Implications and prospects for the new Sunspot Number <i>Frédéric Clette, Laure Lefèvre</i>	Solar heavy ions, geomagnetic and spacecraft shielding and derivation of radiation effects <i>Pete Truscott, Piers Jiggins, Daniel Heynderickx, Fan Lei, Athina Varotsou, Anne Samaras</i>

20:00-22:00 Music evening

Lounge Bar @ Kursaal

Wednesday, 25 November 2015

Keynotes

Room: Delvaux

09:00 Rosetta: flying through gas and dust
Andrea Accomazzo

09:30 Model Validation & Metrics Studies for Space Environment Predictions
Masha Kuznetsova

10:00 Coffee break and Posters Session 8, 9 & 10

Session 4: Solar Storms: Flares, CMEs and Solar Energetic Particle (SEP) events (part 2)

Chairs: N. Vilmer, O. Malandraki, M. Georgoulis

Room: Delvaux

11:00 Transient response of the ionosphere to the X-ray solar flares
Jaroslav Chum¹, J. Urbář¹, J.Y. Liu²

¹Institute of Atmospheric Physics, Prague, Czech Republic;

²Institute of Space Science, National Central University, Chung-Li 320, Taiwan

11:12 Ionosphere effects of Solar X-ray bursts
Donald Danskin
Natural Resources Canada

11:24 Flaring Rates Associated with Sunspot Group Evolution
Aoife McCloskey, D. Shaun Bloomfield, Peter T. Gallagher
School of Physics, Trinity College Dublin, Dublin 2, Ireland

11:36 On the confined X-class flares in October 2014 produced by NOAA 12192

Astrid M. Veronig, Julia K. Thalmann, Yang Su, Manuela Temmer, Wolfgang Polanec

Kanzelhöhe Observatory/Institute of Physics, University of Graz, Austria

11:48 Statistical analysis of CMEs' geoeffectiveness over one year of solar maximum during cycle 23

K. Bocchialini¹, M. Menvielle², B. Schmieder³, A. Chambodut⁴, N. Cornilleau-Wehrin³, D. Fontaine⁵, B. Grison⁶, C. Lathuillère⁷, A. Marchaudon⁸, M. Pick³, F. Pitout⁹, S. Régnier¹⁰, Y. Zouganelis¹¹

¹IAS; ²Uni. de Saint Quentin; ³Observatoire de Paris; ⁴Observatoire des Sciences de la Terre, Strasbourg; ⁵LPP; ⁶Institut in Prague; ⁷IPAG, Grenoble; ⁸Uni. d'Orleans; ⁹IRAP; ¹⁰Uni. de Lancaster, UK; ¹¹ESA

Session 8: Planetary space weather and its impacts in Solar System exploration (part 1)

Chairs: C. Plainaki, M. Andriopoulou, I. Dandouras, A. Radioti

Room: Delvaux

12:00 Planetary Space Weather Services for the Europlanet 2020 Research Infrastructure - **Invited**

N. André, M. Grande, on behalf of the PSWS Team

Centre National de la Recherche Scientifique (France), ABERYST-WYTH UNIVERSITY (UK), DEUTSCHES ZENTRUM FUER LUFT - UND RAUMFAHRT EV Cologne (Germany), Escuela Técnica Superior de Ingeniería (ETSI) of the University of the Basque Country (UPV/EHU), GFI Informatique (France), USTAV FYZIKY ATMOSFERY AV CR, v.v.i. IAP (Czech Republic), University College London (UCL) (UK), Observatoire de Paris (France), CENTRUM BADAN KOSMICZNYCH POLSKIEJ AKADEMII NAUK SRC/PAS (Poland), Magyar Tudományos Akademia Wigner Fizikai Kutatóközpont Wigner RCP (Hungary)

12:08 Mapping Ganymede's Time Variable Aurora in the Search for a Subsurface Ocean (invited) - **Invited**

J. Saur¹, S. Duling¹, L. Roth², X. Jia³, D.F. Strobel⁴, P.D. Feldman⁴, U. Christensen⁶, K.D. Retherford⁷, M.A. McGrath⁸, F. Musacchio¹, A. Wennmacher¹, F.M. Neubauer¹, S. Simon⁹, O. Hartkorn¹

¹University of Cologne; ²KTH Stockholm; ³Univ. Michigan; ⁴Johns Hopkins Univ.; ⁶MPS Goettingen; ⁷SWRI; ⁸NASA Marshall; ⁹Georgia Inst. Tech.

12:16 Space weather on Titan - **Invited**

A. Coustenis¹, J. Lilienster², I. Dandouras³

¹LESIA, Paris Observatory, Meudon, France; ²IPAG, Grenoble, France; ³IRAP, CNRS and Paul Sabatier Toulouse Univ., Toulouse, France

12:24 Ultraviolet auroral emissions on giant planets - **Invited**

Denis Grodent¹, Bertrand Bonfond¹, Aikaterini Radioti¹, Jacques Gustin¹, Jean-Claude Gérard¹, Maïté Dumont¹, Benjamin Palmaerts^{1,2}

¹Laboratoire de Physique Atmosphérique et Planétaire, Université de Liège, Belgium; ²Max-Planck-Institut für Sonnensystemforschung, Göttingen, Germany

12:41 Airglow emissions modelling for Europa and Ganymede

Gaël Cessateur¹, Mathieu Barthelemy²

¹Belgian Institute for Space Aeronomy, BIRA-IASB, Brussels, Belgium; ²Institut de Planétologie et d'Astrophysique de Grenoble, Université Joseph Fourier, Grenoble, France

Session 9: Progresses and challenges in coupling models for predicting space weather from the Sun to the Earth

Chairs: N. Ganushkina, S. Poedts, A. Hilgers, D. Pitchford, B. van der Holst, P. Wintoft

Room: Mercator

11:00 Towards Forecasting Capabilities from the Sun Down to Earth - **Invited**

*M. Kuznetsova, P. Macneice, M. Maddox, L. Mays, A. Pulkkinen, L. Rastaetter, J-S. Shim, A. Taktakishvili, C. Wiegand, Y. Zheng
Community Coordinated Modeling Center, NASA Goddard space Flight Center*

11:15 Towards precise global space weather forecasts: MHD and hybrid-Vlasov simulations compared - **Invited**

Palmroth, M.¹, von Alfthan, S.¹, Sandroos, A.¹, Kempf, Y.^{1,2}, Hoilijoki, S.^{1,2}, van de Kamp, M.¹, Honkonen, I.³, and Janhunen, P.¹

¹Finnish Meteorological Institute, Helsinki, Finland; ²University of Helsinki, Helsinki, Finland; ³NASA/Goddard Space Flight Center, USA

11:30 Estimating the Global Solar Photospheric Magnetic Field Distribution Using the ADAPT Model - **Invited**

Charles Arge¹, Carl J. Henney¹, Kyle Hickmann², Humberto C. Godinez², Kathleen Shurkin³

¹Air Force Research Laboratory; ²Los Alamos National Laboratory; ³Boston College

11:45 Forecasting Space Weather at the NOAA Space Weather Prediction Center - **Invited**

Terrance G. Onsager¹, Howard J. Singer¹, George Millward^{1,2}, Christopher Balch¹, Tom Berger¹, Gabor Toth³, Daniel Welling³, Tamas Gombosi³

¹NOAA Space Weather Prediction Center; ²University of Colorado, Cooperative Institute for Research in Environmental Sciences (CIRES); ³University of Michigan, Atmospheric, Oceanic and Space Sciences

- 12:00 Coupling Continuum and Particle space weather tools via the implicit moment method: the IMM approach
Giovanni Lapenta, Swiff team
EC project
- 12:15 PROGRESS - Prediction of Geospace Radiation Environment and Solar Wind Parameters
M. A. Balikhin¹, S. N. Walker¹, R. Erdelyi¹, N. Ganushkina², I. Sillanpaa², S. Dubyagin², B. van der Holst³, M. Liemohn³, V. Krasnoselskikh⁴, V. Shastun⁴, Y. Shprits⁵, T. Arber⁶, K. Bennett⁶, P. Wintoft⁷, M. Wik⁷, V. Yatsenko⁸
¹University of Sheffield, Sheffield, U.K.; ²Finnish Meteorological Institute, Helsinki, Finland; ³University of Michigan, Ann Arbor, USA; ⁴CNRS-LPC2E, Orleans, France; ⁵UCLA, and MIT, U.S.A.; ⁶University of Warwick, Coventry, U.K.; ⁷Swedish Institute for Space Physics, Lund, Sweden; ⁸Space Research Institute, Kiev, Ukraine
- 12:30 Data Assimilative Real Time Prediction of the Earth Radiation Belts
Yuri Shprits^{1,2}, Adam Kellerman¹, Alexnder Drozdov¹, Tatiana Podladchikova¹
¹ULCA; ²MIT
- 12:45 Turbulent energization of protons and minor ions by oblique wave spectra near the Earth
Yana Maneva¹, Stefaan Poedts¹, Adolfo Vinas² and Pablo Moya²
¹CmPA at KU Leuven, Leuven, Belgium; ²NASA Goddard Space Flight Center, Heliophysics Science Division, Geospace Physics Laboratory, Greenbelt, MD, USA

Session 10: Model Metrics, Verification and Validation

Chairs: M. Angling, A. Glover, P. Jiggins, S. Bingham, S. Elvidge
Room: Permeke

- 11:00 Verification of forecast probabilities at RWC Belgium
Andy Devos, Cis Verbeeck, Jesse Andries
Solar-Terrestrial Centre of Excellence - Royal Observatory of Belgium

11:20 Initial Results of the Advanced European Ne Assimilation System (AENEAS)

Sean Elvidge, Matthew Angling

University of Birmingham

11:40 Validation of F2 Layer Peak Height and Density by Real-Time IRI

I. A. Galkin^{1,2}, A. M. Vesnin³, B. W. Reinisch^{1,4}, X. Huang⁴, and P. Song¹

¹University of Massachusetts Lowell, Space Science Laboratory, Lowell, MA, USA; ²Borealis Global Designs EOOD, Varna, Bulgaria; ³Institute of Solar-Terrestrial Physics, Russian Academy of Sciences, Irkutsk, Russia; ⁴Lowell Digisonde International, LLC, Lowell, USA

12:00 Space weather verification at the Met Office.

Edward Pope, Michael Sharpe, David Jackson, Suzy Bingham

Met Office, UK.

12:20 Metrics of model performance for electron fluxes (>200 keV) at geostationary orbit

Natalia Ganushkina^{1,2}, Ilkka Sillanpaa¹

¹Finnish Meteorological Institute, Helsinki, Finland; ²University of Michigan, Ann Arbor MI, USA

12:40 Performance Verification of ESA's SSA/SWE A-EFFort Service

Manolis K. Georgoulis, Kostas Tziotziou

Research Center for Astronomy and Applied Mathematics (RCAAM) of the Academy of Athens

13:00 Live Forecast

by BGS

13:00-15:00 Lunch Break & Free Style

15:00-16:30 Working Meetings

Delvaux	Mercator	Permeke
Space Weather Metrics, Verification and Validation <i>A. Glover, M. Angling, P. Jiggins, S. Bingham, S. Elvidge, P Wintoft</i>	Space Weather and small scale satellites <i>Mathieu Barthelemy, Margit Haberreitter, Joran Moen</i>	Spacecraft Aircraft and Launcher Environments <i>S. McKenna-Lawor, G. Reitz, F. di Marco</i>

16:30

Fair

Coffee is served

Poster area

18:00-20:00

Beer after work

Poster area

Thursday, 26 November 2015

Keynotes

Room: Delvaux

09:00 Planetary Space Weather in the Outer Heliosphere
Chris Arridge

09:30 GAIA: First year flight operations in L2 environment
Federico Di Marco

10:00 Coffee break and Posters Session 11, 12 & 13

Session 8: Planetary space weather and its impacts in Solar System exploration (part 2)

Chairs: C. Plainaki, M. Andriopoulou, I. Dandouras, A. Radioti

Room: Delvaux

11:00 Ionosphere-neutral atmosphere coupling in the Solar System and its dependence on space weather conditions - **Invited**

Olivier Witasse¹, Pierre-Louis Blelly², Hermann Opgenoorth³, David Andrews³, Beatriz Sanchez-Cano⁴, Mark Lester⁴

¹European Space Agency, Noordwijk, The Netherlands; ²Institut de Recherche en Astrophysique et Planétologie, Toulouse, France; ³Swedish Institute of Space Physics, Uppsala, Sweden;

⁴University of Leicester, UK

- 11:17 ESA's Interplanetary and Planetary Radiation Model for Human Spaceflight (IPRAM) Study
Piers Jiggins¹, Daniel Heynderickx², Fan Lei³, Pete Truscott⁴, Rami Vainio⁵, Angels Aran⁶, Blai Sanahuja⁶, Anna Vuori⁵, Osku Raukunen⁵, Andrés Galvez¹
¹European Space Agency (ESA); ²DH Consultancy, Belgium; ³RadMod Research, U.K.; ⁴Kallisto Consultancy Ltd, U.K.; ⁵Department of Physics and Astronomy, University of Turku, Finland; ⁶Dep. d'Astronomia i Meteorologia, Universitat de Barcelona, Spain
- 11:28 Titan's plasma interaction and space weather effects - **Invited**
Andrew Coates
 UCL-MSSL
- 11:45 Space Weather Phenomena at Comets - **Invited**
Geraint H. Jones^{1,2}
¹Mullard Space Science Laboratory, University College London, Holmbury St. Mary, Dorking RH5 6NT, UK; ²The Centre for Planetary Sciences at UCL/Birkbeck, Gower Street, London WC1E 6BT, UK
- 12:02 Cosmic rays interaction with comets and its impact on cometary isotopic and chemical composition
Romain Maggiolo¹, Guillaume Gronoff², Cristopher Mertens², Vladimir Airapetian³, Johan De Keyser¹, Gael Cessateur¹, Frederik Dhooghe¹, Herbert Gunell¹
¹Belgian Institute for Space Aeronomy, Belgium; ²Nasa Langley Research Center, Virginia, USA; ³George Mason University, Virginia, USA
- 12:13 The MSL/RAD radiation measurement during the cruise to and on the surface of Mars
Jingnan Guo
 University of Kiel
- 12:24 Extreme Space Weather at Mercury - **Invited**
Imber, S. M.¹, Slavin, J. A.²
¹University of Leicester, Leicester, UK; ²University of Michigan, USA

12:41 Solar wind and SEP modeling throughout the Solar System based on the ENLIL global heliospheric model - **Invited**

M. L. Mays^{1,2}, J. G. Luhmann³, D. Odstrcil⁴, C. O. Lee³, H. M. Bain³, Y. Li³, N. A. Schwadron⁵, M. J. Gorbey⁵, D.N. Baker⁶, R. M. Dewey⁶, D. Larson³, J. Halekas⁷, J. Connerney², R. A. Mewaldt⁸, T. T. von Rosenvinge², A.B. Galvin⁵, D. G. McComas⁹, M. M. Kuznetsova²

¹Catholic University of America; ²NASA Goddard Space Flight Center; ³Space Sciences Laboratory, University of California, Berkeley; ⁴George Mason University, Fairfax; ⁵University of New Hampshire; ⁶University of Colorado Boulder; ⁷University of Iowa; ⁸Space Radiation Lab, California Institute of Technology; ⁹Southwest Research Institute

Session 11: Space Weather, Spacecraft Operations and Spacecraft Anomalies

Chairs: C. Armiens, R. Horne, T. Onsager, D. Pitchford

Room: Mercator

11:00 Extreme Relativistic Electron Fluxes at Geosynchronous Orbit: Analysis of GOES E \geq 2 MeV Electrons

Nigel Meredith¹, Richard Horne¹, John Isles¹, Juan Rodriguez^{2,3}

¹British Antarctic Survey; ²University of Colorado Boulder; ³National Geophysical Data Center

11:15 Space weather conditions during the Galaxy 15 spacecraft anomaly - **Invited**

Paul T. M. Loto'aniu¹, H. J. Singer¹, J. V. Rodriguez^{2,3}, J. Green⁴, W. Denig, D. Biesecker¹, V. Angelopoulos

¹NOAA Space Weather Prediction Center; ²University of Colorado Boulder; ³National Geophysical Data Center; ⁴Space Hazards Applications, Aerospace Corporation

11:30 Making Space Weather Forecasting Operational: MOSWOC and SKYNET 5 – Airbus DS - **Invited**

Ewan Haggarty¹, Catherine Burnett²

¹SKYNET 5 – Airbus DS; ²MOSWOC

- 11:45 Recent space weather measurements from medium Earth orbit and their engineering significance
Keith Ryden, Alex Hands
University of Surrey (Surrey Space Centre)
- 12:00 The Global Positioning System constellation as a space weather monitor
Morley, Steven; Sullivan, John; Henderson, Michael
Los Alamos National Laboratory
- 12:15 Inner Radiation Zone and Slot Region Electron Fluxes: ECT/MagEIS Data - **Invited**
JF Fennell, S Claudepierre, P O'Brien, JB Blake, JH Clemmons
The Aerospace Corp., Los Angeles, CA, USA
- 12:30 Energetic Particle Measurements from the ICO-F2 Satellite - **Invited**
J.B. Blake
The Aerospace Corporation
- 12:45 Extra time - **Invited**
C. Armiens, R. Horne, T. Onsager, D. Pitchford

Session 12: Space Climate

Chairs: Y. Gurfinkel, T. Breus, G. Lapenta

Room: Permeke

- 11:00 Superflares on Solar type Stars and Their Implications on the Possibility of Superflares on the Sun - **Invited**
Kazunari Shibata
Kwasan and Hida Observatories, Kyoto University

11:20 Long time radiation environment variation on ISS orbit and radiation risk estimations. - **Invited**

Victor Benghin¹, Mikchel Panasyuk², Igor Ushakov¹, Oleg Nechaev², Victor Mitrikas¹, Alexander Shafirkin¹, Veacheslav Shurshakov¹, Igor Nikolaev³

¹State scientific center of Russian Federation - Institute of bio-medical problems of the Russian academy of sciences; ²Skobeltsyn Institute of Nuclear Physics of Moscow State University; ³Korolev Rocket-space Corporation "Energiya"

11:40 Space weather, the atmosphere, and human health on Earth and in Space - **Invited**

Germaine Cornelissen¹, Elena V Syutkina², Anatoly Masalov³, Tamara Breus⁴, Yoshihiko Watanabe⁵, Kuniaki Otsuka⁵

¹Halberg Chronobiology Center, University of Minnesota, Minneapolis, MN, USA; ²Scientific Center of Children's Health, Russian Academy of Medical Sciences, Moscow, Russia; ³Lebedev Physical Institute, Russian Academy of Sciences, Moscow, Russia; ⁴Space Research Institute Russian Academy of Sciences, Moscow, Russia; ⁵Tokyo Women's Medical University, Tokyo, Japan

12:00 Renewing our view to past solar activity: the new sunspot number series

Frédéric Clette¹, Leif Svalgaard², Edward W. Cliver³, José M. Vaquero⁴, Laure Lefèvre¹

¹World Data Center SILSO, Observatoire Royal de Belgique, Brussels, Belgium; ²W.W. Hansen Experimental Physics Laboratory, Stanford University, Stanford, CA, USA; ³National Solar Observatory, Sunspot, NM, USA; ⁴Departamento de Física, Universidad de Extremadura, Mérida, Spain

12:11 Space climate impact on long-term changes and trends in the ionosphere-upper atmosphere system

Jan Lastovicka

Institute of Atmospheric Physics, Czech Academy of Sciences

12:22 Zero magnetic field could influence on cardiovascular system

Yury Gurfinkel, Oleg At'kov, Andrey Vasin, Maria Sasonko

Space Research Institut RAS, Research Clinical Center of JSC "Russian Railways", Moscow, Russia

- 12:35 Aspects of Clinical Cosmobiology
Eliyahu Stoupel
Division of Cardiology, Rabin Medical Center, Petah Tiqwa, Sackler Faculty of Medicine, Tel Aviv University, Israel
- 12:48 On Non-Universality of Solar-Terrestrial Connections
Lev Pustilnik, Gregory Yom Din
Tel Aviv University

Session 13: Monitoring, Modelling and Predicting Space Radio Weather

Chairs: M. Messerotti, V. Pierrard, S. Pohjolainen
Room: Leopold

- 11:00 Status and Prospects for Solar Radio Burst Monitoring - **Invited**
Peter T Gallagher
Trinity College Dublin, Dublin 2, Ireland
- 11:20 Plasmaspheric electron densities and plasmasphere models for space weather investigations
János Lichtenberger^{1,2}, Anders Jorgensen³, David Koroncay^{1,2}, Lilla Juhász¹, Csaba Ferencz¹, Dániel Hamar¹, Péter Steinbach⁴, Mark Clilverd⁵, Craig Rodger⁶, Dmitry Sannikov⁷ and Nina Cherneva⁷
¹Department of Geophysics and Space Sciences, Eötvös University, Budapest, Hungary; ²Geodetic and Geophysical Institute, RCAES, Sopron, Hungary; ³Research Group for Geology, Geophysics and Space Sciences, HAS, Budapest, Hungary; ⁴Electrical Engineering Department, New Mexico Institute of Mining and Technology, Socorro, USA; ⁵British Antarctic Survey, Cambridge, United Kingdom; ⁶Department of Physics, University of Otago, Dunedin, New Zealand; ⁷Institute of Cosmophysical Research and Radio Wave Propagation, Paratunka, Russia

- 11:30 BRAMS : a radio network using forward scatter to monitor meteoroid activity - **Invited**
Hervé Lamy¹, Sylvain Ranvier¹, Stijn Calders¹, Emmanuel Gamby¹, Michel Anciaux¹, Antonio Martinez Picar², Cédric Tétard¹, J. De Keyser¹
¹*Belgian Institute for Space Aeronomy;* ²*Royal Observatory of Belgium*
- 11:50 Correction's method of the electron density model in ionosphere by ray tracing techniques
Alessandro Settimi¹, Michael Pezzopane¹, Marco Pietrella¹, Carlo Scotto¹, Silvio Bianchi², James A. Baskaradas³
¹*Istituto Nazionale di Geofisica e Vulcanologia (INGV), Sezione di Geomagnetismo, Aeronomia e Geofisica Ambientale (ROMA 2), Via di Vigna Murata 605, I-00143 Rome, Italy;* ²*Università Sapienza, Dipartimento di Fisica, p.le Aldo Moro 2, I-00185 Rome, Italy;* ³*School of Electrical & Electronics Engineering, Shanmugha Arts, Science, Technology & Research Academy (SASTRA) University, Tirumalaisamudram, Thanjavur, 613 401 Tamilnadu, India*
- 12:00 Low Frequency Type II Radio Bursts as a Space Weather Tool - **Invited**
Nat Gopalswamy
NASA Goddard Space Flight Center
- 12:20 Radio triangulation of the radio signatures of a CME-CME interaction
Jasmina Magdalenic¹, Manuela Temmer², Vratislav Krupar³, Christophe Marque¹, Astrid Veronig², Bojan Vrsnak⁴
¹*Royal Observatory of Belgium, Brussels, Belgium;* ²*IGAM, Institute of Physics, Graz, Austria;* ³*Institute of Atmospheric Physics ASCR, Prague, Czech Republic;* ⁴*Faculty of Geodesy, Hvar Observatory, Zagreb, Croatia*
- 12:30 F10.7 and Space Weather - **Invited**
Kenneth Tapping
National Research Council

12:50 Narrow-band Bursts of Decameter Radio Emission From the Solar Corona

Yuriy Voitenko¹, Valentin Melnik², Viviane Pierrard¹, Anatoly Brazhenko³, Anatoly Frantsuzenko³

¹*Belgian Institute for Space Aeronomy, Brussels, Belgium;*

²*Institute of Radio Astronomy of NASU, Kharkiv, Ukraine;*

³*Gravimetical Observatory of NASU, Poltava, Ukraine*

13:00 Live Forecast

by SWPC

13:00-15:00 Lunch Break & Free Style

15:00-16:30 Working Meetings

Delvaux	Mercator	Ridderzaal
Ionospheric effects on Radio Systems working group meeting	Solar Cycle 24: specifics and challenges	15:30 Spacestorm - A Space Weather Assessment Tool for the Satellite Industry
<i>M. J. Angling, S. Elvidge</i>	<i>L. Trichtchenko, M. Messeroti</i>	<i>D. Pitchford, R. Horne</i>

16:30-17:00 Coffee Break

17:00-18:30 Working Meetings

Delvaux	Mercator	Permeke	Leopold
St. Patrick's Day geomagnetic storm: a big GIC event?	Harmonisation of SEP data calibrations	Pilot network for identification of travelling ionospheric disturbances	Space fore-caster forum
<i>Ari Viljanen (FMI)</i>	<i>D. Heynderickx, P. Jiggins, J.V. Rodriguez</i>	<i>Anna Belehaki (NOA)</i>	<i>S. Bloomfield, L. Trichtchenko</i>

19:30-20:00 Pre-Dinner Reception

20:00-22:30 Walking Dinner
Ridderzaal @ Kursaal

22:30-00:00 Initiation to Casino Games
Open bar
Ridderzaal @ Kursaal

Friday, 27 November 2015

Keynotes

Room: Delvaux

09:00 Neutron Monitors to study Space Weather in the Earth's Atmosphere & near-Earth

Erwin Flueckiger

09:30 Radiation Belt Modeling and Forecasts: Limitations, Challenges and Future Needs

Reiner Friedel

10:00 Coffee break and Posters Session 14, 15 & 16

Session 14: Solar Energetic Particles: Data, Environments, Forecasting and Impact

Chairs: P. Jiggins, D. Heynderickx, M. Marsh, M. Dierckxsens

Room: Delvaux

11:00 Solar Particle Events in Solar Cycle 24 - an Aviation Perspective

Alex Hands, Keith Ryden

University of Surrey

- 11:17 Korean Radiation Exposure Assessment Model for aviation route dose (KREAM)
Junga Hwang^{1,3}, Kyunghwan Dokgo², Eunjin Choi², Sung-Jun Noh^{1,5} and Kyung-Suk Cho^{1,3}
¹*Solar and Space Weather group, Korea Astronomy and Space science Institute (KASI), Daejeon 305-348, South Korea;*
²*Department of Physics, Korea Advanced Institute of Science and Technology (KAIST), Daejeon 305-701, South Korea;* ³*Department of Astronomy and Space Science, University of Science and Technology (UST), Daejeon, South Korea;* ⁴*Department of Astronomy and Space Science, Chungnam National University (CNU), Daejeon, South Korea;* ⁵*Chungbuk National University (CBNU), South Korea*
- 11:34 Solar proton fluence model based on ground level enhancement event observations
Osku Raukunen, Rami Vainio, Anna Vuori
University of Turku
- 11:51 New updates to SEP/SEPENCO2
Angels Aran¹, Piers Jiggins², Daniel Pacheco¹, Neus Agueda¹ and Blai Sanahuja¹
¹*Dep. d'Astronomia i Meteorologia, Institut de Ciències del Cosmos, Universitat de Barcelona, Spain;* ²*European Space Research and Technology Centre, ESA, The Netherlands*
- 12:08 'HESPERIA' HORIZON 2020 project: High Energy Solar Particle Events Forecasting and Analysis
Malandraki, O.E. for the HESPERIA Consortium¹
¹*Project Coordinator, IAASARS, National Observatory of Athens, GR-15236, Penteli, Greece*
- 12:25 The Forecasting Solar Particle Events and Flares (FOR-SPEF) Tool
Anastasios Anastasiadis¹, Ingmar Sandberg¹, Athanasios Papaioannou¹, Manolis Georgoulis², Kostas Tziotziou¹, Georgia Tsiropoula¹, Dimitrios Paronis¹, Piers Jiggins³, Alain Hilgers³
¹*IAASARS, National Observatory of Athens, Greece;* ²*RCAAM, Academy of Athens, Greece;* ³*ESTEC, ESA, The Netherlands*

12:42 Approaches to forecasting radiation risk from Solar Energetic Particles

Silvia Dalla¹, Mike S. Marsh² and T. Laitinen¹

¹University of Central Lancashire, UK; ²MetOffice, UK

Session 15: Neutron Monitor science as a fundamental tool for space weather

Chairs: C. Plainaki, C. Steigies

Room: Mercator

11:00 Contribution of simulation techniques to the space weather research - **Invited**

Pavlos Paschalis¹, Helen Mavromichalaki¹, Lev I. Dorman², Christina Plainaki³

¹Athens Cosmic Ray Group, Nuclear and Particle Physics Department, Faculty of Physics, National and Kapodistrian University of Athens, Greece; ²Israel Cosmic Ray & Space Weather Centre and Emilio Segrè Observatory, Tel Aviv University, Israel; ³INAF-IAPS, Via del Fosso del Cavaliere, 00133, Rome, Italy

11:15 Application of newly computed neutron monitor yield function for GLE analysis - **Invited**

Alexander Mishev¹, Ilya Usoskin¹, Gennady Kovaltsov², Leon Kocharov³

¹ReSolve Oulu University Finland, ²Ioffe Physical-Technical Institute of Russian Academy of Sciences, St. Petersburg, Russia, ³Sodankyla Geophysical Observatory (Oulu unit), University of Oulu

11:30 Global method of data processing: what do neutron monitors see? - **Invited**

Eroshenko E., Belov A., Yanke V., Oleneva V., Abunin A., Abunina M.

Pushkov Institute of Terrestrial Magnetism, Ionosphere and Radio Wave Propagation (IZMIRAN)

- 11:45 About influence of the coronal holes on the geomagnetic activity and cosmic ray variations
Maria Abunina¹, Artem Abunin¹, Anatoly Belov¹, Evgenia Eroshenko¹, Sergey Gaidash¹, Victoria Oleneva¹, Victor Yanke¹, Olga Kryakunova²
¹*Pushkov Institute of Terrestrial Magnetism, Ionosphere and Radio Wave Propagation (IZMIRAN), Russia;* ²*Institute of Ionosphere, Kazakhstan*
- 12:00 On the origin of relativistic solar particle events: neutron monitor observations, radio emission, and interplanetary transport modelling
K.-L. Klein¹, N. Agueda², R. Bütikofer³
¹*Observatoire de Paris, LESIA, 92190 Meudon, France;* ²*Departament d'Astronomia i Meteorologia, Institut de Ciències del Cosmos, Universitat de Barcelona, Spain;* ³*University of Bern, Space Research & Planetary Sciences, 3012 Bern, Switzerland*
- 12:15 Inversion of Source and Transport Parameters of Relativistic SEPs from Neutron Monitor Data
Neus Agueda¹, Rolf Bütikofer², Rami Vainio³, Bernd Heber⁴, Alexander Afanasiev³, Olga E. Malandraki⁵
¹*University of Barcelona, ICCUB (Spain);* ²*University of Bern (Switzerland);* ³*University of Turku (Finland);* ⁴*Christian-Albrechts-Universität zu Kiel (Germany);* ⁵*National Observatory of Athens (Greece)*
- 12:30 Can We Observe Remote Coronal Mass Ejections using Neutron Monitor Data?
Simon R Thomas¹, Mathew J Owens², Mike Lockwood², Chris Owen¹
¹*Mullard Space Science Laboratory, University College London, UK;* ²*University of Reading, UK.*
- 12:45 Mini neutron monitor measurements at the Neumayer III station and on the German research vessel Polarstern - **Invited**
B. Heber¹, D. Galsdorf¹, J. Gieseler¹, C. Herbst¹, J. Labrenz¹, C. Schwerdt², M. Walther², R. Fuchs³, H. Krueger³, and H. Moraal³
¹*Christian-Albrechts-Universität zu Kiel;* ²*Deutsches Elektronen-Synchrotron DESY, D-15738 Zeuthen;* ³*Center for Space Research, North-West University, Potchefstroom 2520, South Africa*

12:50 The ICME's magnetic field and the role on the galactic cosmic ray modulation for the solar cycle 23 - **Invited**

Evangelos Paouris, Helen Mavromichalaki

Faculty of Physics, National and Kapodistrian University of Athens, Athens, Greece

12:55 Variations of the vertical cutoff rigidities for the world wide neutron monitor network over the period of continues monitoring of cosmic rays - **Invited**

B. Gvozdevsky¹, L. Dorman^{2,3}, A. Abunin², M. Preobrazhensky², R. Gushchina², A. Belov², E. Eroshenko², U. Dai³, L. Pustil'nik³, V. Yanke²

¹Polar Geophysical Institute, 184209, Firsmana str., 14, Apatity, Russia; ²IZMIRAN, Kalushskoe ave., 4, Troitsk, Moscow, 142190, Russia; ³Israel Cosmic Ray and Space Weather Center with Emilio Segre' Observatory on Mt. Hermon, affiliated to Tel Aviv University, Golan Research Institute, and Israel Space Agency, Israel

Session 16: Open session on Space Weather Applications and Engineering Concerns

Chairs: A. Glover and the ESWW12 PC

Room: Permeke

11:00 Modeling the Radiation Belt Electron Environment: Fusion of Physics and System Science Approaches

S. N. Walker¹, M. A. Balikhin¹, I. Pakhotin¹, Y. Shprits²

¹ACSE, University of Sheffield, Sheffield, U.K.; ²UCLA, and MIT, U.S.A.

11:20 Introducing SPENVIS Next Generation

Michel Kruglanski¹, Neophytos Messios¹, Stijn Calders¹, Laszlo Hetey¹, Erwin De Donder¹, Ngoc-Diep Ho², Noelia Sánchez Ortiz³, Esther Parilla-Endrino³, Ignacio Grande³, Enrique del Pozo³, Daniel Heynderickx⁴, Pablo Beltrami⁵, Hugh Evans⁶, Eamonn Daly⁶, David Rogers⁶

¹BIRA-IASB; ²Space Application Services NV/SA; ³Deimos Space; ⁴DHConsultancy; ⁵etamax space GmbH; ⁶ESA/ESTEC

- 11:40 Space Weather Helioviewer
Bogdan Nicula¹, Freek Verstringe¹, Bram Bourgoignie¹, David Berghmans¹, Christophe Marqué¹, Piers Jiggins², Daniel Mueller²
¹Royal Observatory of Belgium; ²ESTEC
- 12:00 The Spanish Space Weather Service (SeNMEs)
C. Cid¹, J. Palacios¹, E. Saiz¹, A. Guerrero¹, M. Rodríguez-Bouza², Y. Cerrato¹, M. Herraiz², I. Rodríguez-Bilbao² and G. Rodríguez-Caderot²
¹Space Research Group – Space Weather, Departamento de Física y Matemáticas, Universidad de Alcalá, Alcalá de Henares, Spain; ²Departamento de Física de la Tierra, Astronomía y Astrofísica I (Geofísica y Meteorología), Facultad de Ciencias Físicas, Universidad Complutense de Madrid (UCM), Spain.
- 12:20 Space Monitoring Data Centre of MSU and Operational Control of Radiation Conditions at Low Earth's Orbits
Vladimir Kalegaev, Wera Barinova, Sergey Bobrovnikov, Sergey Dolenko, Nikolay Kuznetsov, Lucy Mukhametdinova, Irina Myagkova, Minh Duc Nguyen, Natalia Nikolaeva, Julia Shugay
Skobeltsyn Institute of Nuclear Physics, Moscow State University, Moscow, Russia
- 12:40 The Norwegian Center for Space Weather (NOSWE)
C. Arge, M. Di Loreto, D. Martini, M.G. Johnsen
Tromsø Geophysical Observatory

13:00 Live Forecast
by MOSWOC

13:00-14:30 Lunch Break

14:30-16:00 Working Meeting

Delvaux
Space Weather Working Team : general meeting
<i>S. Poedts</i>

POSTERS

Monday, 23 November 2015

Session 1: Advances in instrumentation and future missions for space weather science or operation

- 1.p01 GK-2A KSEM Data Simulation by using Pattern Analysis
Ami Yun¹, Eunmi Hwang¹, Jaewoo Park¹, Jaejin Lee²
¹WeSPACE; ²Korea Astronomy and Space Science Institute
- 1.p02 Kazakhstan ground-based experimental complex for Space Weather study
O.Kryakunova, N.Nikolayevskiy, B.Zhumabayev, A.Andreyev, A.Malimbayev, Yu. Levin, N.Salihov, O.Sokolova, I.Tsepakina, A. Yakovets
Institute of Ionosphere, Republic of Kazakhstan
- 1.p03 Observations of Space Environment Data Acquisition Monitor (SEDA) onboard Himawari-8
Nagatsuma Tsutomu, Kaori Sakaguchi, Mamoru Ishii, and Yuki Kubo
National Institute of Information and Communications Technology
- 1.e04 A solar UV radiometer for planetary space missions
Gaël Cessateur¹, Jean Liliensten², Thierry Dudok de Wit³, Mathieu Barthelemy², Matthieu Kretzschmar³
¹Belgian Institute for Space Aeronomy, BIRA-IASB, Brussels, Belgium; ²Institut de Planétologie et d'Astrophysique de Grenoble, Université Joseph Fourier, Grenoble, France; ³LPC2E/CNRS, Université d'Orleans, Orléans, France
- 1.p05 ESIO, a new instrument for operational space weather
Tanguy Thibert¹, Bogdan Nicula², Jean-Marie Gillis¹, Etienne Renotte¹, Piers Jiggins³, Alain Hilgers³
¹Liege Space Centre (CSL); ²Royal Observatory of Belgium (ROB); ³European Space Agency (ESA)

- 1.p06 Calibration of Radiation Monitors
G. Provatias^{1,2}, M. Axiotis², I. Sandberg^{1,3}, I. A. Daglis^{3,1}, V. Foteinou², S. Harissopulos² and P. Jiggins⁴
¹Institute of Accelerating Systems and Applications, Athens, Greece; ²Institute of Nuclear and Particle Physics, NCSR "Demokritos", Athens, Greece; ³Department of Physics, National and Kapodistrian University of Athens, Athens, Greece; ⁴European Research and Technology Centre, European Space Agency, Noordwijk, The Netherlands
- 1.p07 The Infrastructure of the Mexican Space Weather Service (SCiESMEX).
Victor De la Luz, Americo Gonzalez-Esparza, Pedro Corona-Romero, Julio Mejia, Xavier Gonzalez
SCiESMEX, Instituto de Geofisica, Unidad Michoacan, Universidad Nacional Autonoma de Mexico, Morelia, Michoacan, Mexico. CP 58190.
- 1.p08 Coronal and heliospheric imaging instrumentation development at RAL Space
Jackie Davies, Chris Eyles, Doug Griffin, Richard Harrison, Kevin Middleton, Tony Richards, Kevin Rogers, James Tappin, Ian Tosh, Nick Waltham
RAL Space, UK
- 1.e09 EISCAT_3D: Status of the next generation incoherent scatter radar system
Anders Tjulin, Ingrid Mann, Craig Heinselman, Carl-Fredrik Enell, Ingemar Häggström
EISCAT Scientific Association
- 1.e10 Nanosatellites for in-situ studies of the Earth's ionosphere and thermosphere – exploiting the QB50 mission opportunity for Space Weather science
Dhiren Kataria¹, Anasuya Aruliah², Alan Smith¹, Robert Wicks¹, Rahil Chaudery¹, Andrew Malpuss¹, Gethyn Lewis¹
¹Mullard Space Science Laboratory, University College London, United Kingdom; ²Atmospheric Physics Laboratory, University College London, London, United Kingdom

- 1.p11 LYRA experiences for future space weather instruments
*Ingolf Dammasch, Marie Dominique
Royal Observatory of Belgium*
- 1.p12 ILWS/COSPAR Space Weather Roadmap: Geospace Constellation Mission Concept Addressing the Causes of Intense GICs
Ian Mann¹, Hermann J. Opgenorth², Kirsti Kauristie³, Terrence Onsager⁴, Karel Schrijver⁵
¹Department of Physics, University of Alberta, Canada; ²Swedish Institute of Space Physics, 75121 Uppsala, Sweden; ³Finnish Meteorological Institute, FI-00560, Helsinki, Finland; ⁴NOAA Space Weather Prediction Center, Boulder CO 80305, USA; ⁵Lockheed Martin Solar and Astrophysics Laboratory, 3251 Hanover Street, Palo Alto, CA 94304, USA
- 1.p13 Space weather science with SLP on board PICASSO
*Sylvain Ranvier, Johan De Keyser, Pepijn Cardoen, Michel Anciaux, Emmanuel Gamby, Didier Pieroux, Didier Fussen, Marius Echim, Hervé Lamy, Herbert Gunell
Belgian Institute for Space Aeronomy, Belgium*
- 1.p14 Development of a new versatile magnetometer for solar monitoring onboard of the GEO-KOMPSAT-2A satellite
Stefan Kraft, Alain Hilgers, Juha-Pekka Luntama¹, Christian Strauch, Olaf Hillenmaier², Uli Auster³, Magda Delva, Aris Valavanoglou, Werner Magnes⁴, Patrick Brown⁵ Jongho Seon⁶
¹European Space Agency; ²MAGSON GmbH Berlin; ³IWF Graz; ⁴IGeP Braunschweig; ⁵Imperial College London; ⁶Kyung Hee University Korea
- 1.p15 SUITS/SWUSV: A Solar-Terrestrial Space Weather & Climate Investigation
Luc Damé¹, Alain Hauchecorne¹ and the SUITS Team
¹Laboratoire Atmosphères, Milieux, Observations Spatiales (LATMOS), IPSL/CNRS/UVSQ

- 1.p16 A capable high performance plasma analyser for space weather applications
Dhiren Kataria, Gethyn Lewis, Hubert Hu, Richard Cole, Mark Hailley
Mullard Space Science Laboratory, Department of Space and Climate Physics, University College London
- 1.p17 Instrument concepts to help determine the incoming CME field from solar observations to enable 24h forecasts of space weather
C.J. Schrijver¹ and J. Linker²
¹*Lockheed Martin Advanced Technology Center, Palo Alto, CA;*
²*Predictive Science Inc., San Diego, CA*
- 1.p18 Space Weather monitoring from Geostationary orbit : KMA launch GK2A space weather mission, KSEM
Hyesook Lee, Won-Hyeong Ri, Dohyeong Kim, Cheolun Heo, Jae-Gwang
Korea Meteorological Administration

Session 2: Open session on Recent Advances in Space Weather Science

- 2.p01 Local geomagnetic indices and their role in space weather
Antonio Guerrero, Consuelo Cid, Elena Saiz, Judith Palacios, Yolanda Cerrato
University of Alcala
- 2.p02 The modulated baseline and anomalies of geomagnetic field during geomagnetic storms
T. Alberti¹, F. Lepreti¹, M. Piersanti², A. Vecchio³, V. Carbone¹, and U. Villante⁴
¹*Dipartimento di Fisica, Università della Calabria, Ponte P. Bucci Cubo 31C, 87036 Rende (CS), Italy;* ²*University of L'Aquila, Department of Physical and Chemical Sciences, 67100 L'Aquila (AQ), Italy;* ³*INGV Istituto Nazionale di Geofisica e Vulcanologia, Sede di Cosenza, Rende (CS), Italy;* ⁴*University of L'Aquila, Dipartimento di Ingegneria, Matematica e Scienze dell'Informazione, 67100 L'Aquila (AQ), Italy*

- 2.p03 A new statistical model for plasmaspheric hiss and its effect on electron losses
Tobias Kersten, Richard B. Horne, Nigel P. Meredith, Sarah A. Glauert
British Antarctic Survey
- 2.p04 Monitoring of the high-latitude ionosphere: new ESA Swarm mission
Irina Zakharenkova, Elvira Astafyeva
Institut de Physique du Globe de Paris, Paris Sorbonne Cité, Univ. Paris Diderot, UMR CNRS 7154, 35-39 Rue Hélène Brion Paris 75013 France
- 2.p05 Understanding dawn-dusk asymmetry at the magnetopause
Johan De Keyser^{1,2}, Lukas Maes¹, Stein Haaland³ and Romain Maggiolo¹
¹Belgian Institute for Space Aeronomy, Brussels, Belgium; ²Center for Plasma Astrophysics, KULeuven, Leuven, Belgium; ³University of Bergen, Bergen, Norway
- 2.p06 Cluster contribution to the dynamics of plasma waves in the radiation belts: implications for radiation belts forecast
V. V. Krasnoselskikh¹, V. Shastun¹, O. A. Agapitov², S. N. Walker³, R. J. Boynton³, M. A. Balikhin³
¹CNRS-LPC2E, Orleans, France; ²SSL, University of California, Berkeley, U.S.A.; ³ACSE, University of Sheffield, Sheffield, U.K.
- 2.p07 The thermospheric auroral red line Angle of Linear Polarisation.
Jean Lilensten¹, Mathieu Barthélemy¹, Gérard Besson², Magnar Gullkstad Johnsen³, Joran Moen⁴
¹IPAG UJF/CNRS, Grenoble, F-38041, France; ²Institut Fourier, Université de Grenoble, France; ³Tromso Geophysical Observatory University of Tromso, Norway; ⁴Department of Physics, University of Oslo, Norway
- 2.p08 Multi-instrumental studies of ionospheric behavior during geomagnetic storms and solar flares : new aspects of the fundamental phenomena for Space Weather Applications
Elvira Astafyeva and Irina Zakharenkova
IPGP Paris France

- 2.p09 Differences in Midlatitude Ionospheric Response to Magnetic Disturbances at Northern and Southern Hemispheres
Dalia Buresova, Jan Lastovicka, Jaroslav Chum, Dagmar Novotna and Jaroslav Urbar
Institute of Atmospheric Physics, CAS
- 2.p10 Effect of Solar eclipse of March 20, 2015 on the ionosphere
Dario Sabbagh², Alessandro Ippolito¹, Vittorio Sgrigna³, Carlo Scotto¹
¹Istituto Nazionale di Geofisica e Vulcanologia; ²Istituto Nazionale di Geofisica e Vulcanologia -Università Roma Tre; ³Università Roma Tre
- 2.p11 An Assessment of Pc5-like Pulsations Observed During the Carrington Storm
Alan Thomson
British Geological Survey, West Mains Road, Edinburgh EH9 3LA, UK
- 2.p12 Data Assimilation Techniques for Ionospheric Reference Scenarios (DAIS)– project overview and achieved results
Tatjana Gerzen¹, Volker Wilken¹, Mainul Hoque¹, David Minkwitz¹ and Stefan Schlüter²
¹German Aerospace Center (DLR), Institute of Communications and Navigation; ²European Space Agency ESA - EGNOS Project Office
- 2.p13 Study of cosmic ray mean free paths inside the heliosphere using test particle simulations
J.J. Masias-Meza¹ and S. Dasso^{2,3}
¹Departamento de Física and IFIBA, Facultad de Ciencias Exactas y Naturales, Universidad de Buenos Aires, Buenos Aires, Argentina; ²Instituto de Astronomía y Física del Espacio, Universidad de Buenos Aires & CONICET, Buenos Aires, Argentina; ³Departamento de Ciencias de la Atmósfera y Departamento de Física, Facultad de Ciencias Exactas y Naturales, Universidad de Buenos Aires, Buenos Aires, Argentina

- 2.p14 Influence of latitude on the recovery time of intense geomagnetic disturbances
Yolanda Cerrato, Antonio Guerrero, Elena Saiz, Consuelo Cid, Judith Palacios
Departamento de Física y Matemáticas. Universidad de Alcalá. Spain
- 2.p15 An empirical approach for geomagnetic Kp/ap predictions using solar wind parameters
B. Luo, J. Gong, S. Liu
National Space Science Centre
- 2.p16 Overview of the 2015-03-17 geomagnetic storm and its impact on GNSS positioning in Norway
Knut Stanley Jacobsen, Yngvild Linnea Andalsvik
Norwegian Mapping Authority
- 2.p17 Data-constrained MHD Simulations of CME Initiation and Propagation
A.S. Savcheva, R. Evans, B. van der Holst, N. Lugaz
Harvard-Smithsonian Center for Astrophysics
- 2.e18 Geomagnetic response at mid-latitude locations to the interplanetary triggers of H-spikes
Elena Saiz, Consuelo Cid, Antonio Guerrero, Judith Palacios, Yolanda Cerrato
University of Alcalá, Space Research Group-Space Weather (SPAIN)
- 2.e19 Detection of the different field contributions during geomagnetic storming time periods
T. Alberti¹, F. Lepreti¹, M. Piersanti², A. Vecchio³, V. Carbone¹, and U. Villante⁴
¹Dipartimento di Fisica, Università della Calabria, Ponte P. Bucci Cubo 31C, 87036 Rende (CS), Italy; ²University of L'Aquila, Department of Physical and Chemical Sciences, 67100 L'Aquila (AQ), Italy; ³INGV Istituto Nazionale di Geofisica e Vulcanologia, Sede di Cosenza, Rende (CS), Italy; ⁴University of L'Aquila, Dipartimento di Ingegneria, Matematica e Scienze dell'Informazione, 67100 L'Aquila (AQ), Italy

- 2.e20 Energy estimation of the interplanetary plasma during strongest geomagnetic storms of the current solar cycle on 17-19 March 2015
Yordan Tassev¹, Lachezar Mateev¹, Peter Velinov¹, Alexander Mishev²
¹*Institute for Space Research and Technology, Bulgarian Academy of Sciences, Sofia;* ²*ReSolve CoE, University of Oulu, Finland*
- 2.e21 New advantages of the dense GPS networks to study the ionospheric irregularities
Iurii Cherniak¹, Irina Zakharenkova²
¹*Space Radio-Diagnostic Research Center University of Warmia and Mazury;* ²*Institut De Physique Du Globe De Paris*
- 2.e22 2D multi-fluid modeling of neutral-ion interactions in the solar chromosphere
Yana Georgieva Maneva¹, Alejandro Alvarez Laguna^{1,2}, Stefaan Poedts¹ and Andrea Lanzi^{1,2}
¹*KU Leuven, CmPA, Leuven, Belgium;* ²*von Karman Institute for Fluid Dynamics, CFD group, Aeronautics and Aerospace, Rhode Saint-Genèse, Belgium*
- 2.p23 Preliminary Results from the Recent NASA Radiation Dosimetry Experiment (RaD-X) High-Altitude Balloon Flight Mission
C. J. Mertens¹, G. P. Gronoff², R. B. Norman¹, B. Hayes¹, A. Hands³, K. Ryden³, E. Benton⁴, T. Straume⁵, T. Lusby⁵, B. Gersey⁶, R. Wilkins⁶, W. K. Tobiska⁷, and X. Xu²
¹*NASA Langley Research Center, Hampton, Virginia USA;* ²*Science Systems and Applications, Inc., Hampton, Virginia USA;* ³*University of Surrey, Guildford, England, UK;* ⁴*Oklahoma State University, Stillwater, Oklahoma USA;* ⁵*NASA Ames Research Center, Moffett Field, California;* ⁶*Prairie View A & M University, Prairie View, Texas;* ⁷*Space Environment Technologies, Pacific Palisades, California*

Session 3: SSA Space Weather Service Network

- 3.p01 PROBA2 a Space Weather Tool
Matthew J West
Royal Observatory Belgium
- 3.e02 Real-time flare detection and space weather activities at Kanzelhöhe Observatory
Werner Pötzi¹, Astrid Veronig^{1,2}, Manuela Temmer², Gernot Riegler³, Thomas Pock^{3,4}, Wolfgang Hirtenfellner-Polanec¹, Ute Möstl², Dietmar Baumgartner¹
¹Kanzelhöhe Observatory for Solar and Environmental Research, University of Graz; ²Institute of Physics, University of Graz; ³Institute for Computer Graphics and Vision, Graz University of Technology; ⁴Safety and Security Department, AIT Austrian Institute of Technology GmbH, Vienna
- 3.p03 The role of UoA as expert group of the ESA SSA P2_SWE-1 program
Helen Mavromichalaki, Maria Gerontidou, Pavlos Paschalis, Evangelos Paouris
National and Kapodistrian University of Athens
- 3.p04 New SWE Data Centre Tools Supporting the SSA SWE Service Network
Ralf Keil¹, Alexi Glover³, Gian Maria Pinna², Miruna Stoicescu⁴, JP Luntama²
¹ESA-ESOC; ²ESA SSA Programme Office, Darmstadt; ³ESA, SSA Preparatory Programme Office & RHEA System, Darmstadt; ⁴ESA SSA Programme Office & GMV, Darmstadt
- 3.e05 SWTK - The Space Weather Analysis and Visualisation Toolkit
Gareth Lawrence¹, Nicola Di Giorgio¹, Jurgen Watermann¹, Karim Zidoune¹, Simon Reid¹, Alexi Glover², Ralf Keil²
¹RHEA; ²ESA-ESOC

Tuesday, 24 November 2015

Session 4: Solar Storms: Flares, CMEs and Solar Energetic Particle (SEP) events

- 4.e01 Flare forecasting improvements at the Met Office
Sophie A. Murray¹, Chloe Pugh², Francois-Xavier Bocquet¹, David Jackson¹
¹Met Office; ²University of Warwick
- 4.e02 Flare Likelihood and Region Eruption Forecasting (FLARE-CAST) Project: an Overview
Manolis K. Georgoulis and the FLARECAST team
Research Center for Astronomy and Applied Mathematics (RCAAM) of the Academy of Athens
- 4.e03 Automated probabilistic solar flare forecast model based on Flarecast
Graham Steward, Matthew Francis, Michael Terkildsen, Vasily Lobzin, Iver Cairns
Australian Space Weather Services, Bureau of Meteorology and School of Physics, University of Sydney
- 4.e04 Sign Singularity and Flares in Solar Active Region NOAA 11158
Luca Sorriso-Valvo^{1,2}, Gaetano De Vita^{1,3}, Maria D. Kazachenko², Sam Krucker^{2,4}, Leonardo Primavera³, Sergio Servidio³, Antonio Vecchio⁵, Brian T. Welsch², George H. Fisher², Fabio Lepreti³, and Vincenzo Carbone³
¹Nanotec-CNR, U.O.S. LICRYL Cosenza, Italy; ²Space Sciences Laboratory, University of California, USA; ³Dipartimento di Fisica, University of Calabria, Italy; ⁴Institute of 4D Technologies, School of Engineering, University of Applied Sciences and Arts Northwestern Switzerland, Switzerland; ⁵INGV, Sede di Cosenza, Italy
- 4.p05 Understanding the coronal origins of solar energetic particles.
Eoin P. Carley, Nicole Vilmer¹, Peter T. Gallagher²
¹Paris Observatory, France; ²Trinity College Dublin, Ireland.

- 4.p06 Effect of solar storms on the geomagnetic field and the ionosphere. Case study: event of 18-24 february 2014
Marta Rodriguez-Bouza¹, Izarra Rodriguez-Bilbao¹, Consuelo Cid², Judith Palacios², Gracia Rodriguez-Caderot^{3,4}, Elena Saiz², Miguel Herraiz Sarachaga^{1,5}, Yolanda Cerrato², Antonio Guerrero²
¹Departamento de Física de la Tierra, Astronomía y Astrofísica I (Geofísica y Meteorología), Facultad de Ciencias Físicas, Universidad Complutense de Madrid (UCM), Spain; ²Space Research Group – Space Weather, Departamento de Física y Matemáticas, Universidad de Alcalá, Alcalá de Henares, Spain; ³Sec. Dptal. Astronomía y Geodesia, Facultad de Matemáticas, UCM, Spain; ⁴Instituto de Matemáticas Interdisciplinar UCM, Spain; ⁵Instituto de Geociencias, (UCM, CSIC), Spain
- 4.p07 Ensemble Forecasting of Major Solar Flares
Jordan Guerra^{1,2}, Antti Pulkkinen², Vadim Uritsky^{1,2}
¹The Catholic University of America; ²NASA Goddard Space Flight Center
- 4.p08 Characteristics of Four SPE Classes According to Onset Timing and Proton Acceleration Patterns
Roksoon Kim¹, Kyungsuk Cho¹, Jeongwoo Lee², Suchan Bong¹, and Youngdeuk Park¹
¹Korea Astronomy and Space Science Institute; ²Chungnam National University
- 4.p09 Observational evidence of the reconnection and related oscillatory dynamics in active region AR 11429 on March 6, 2012
E. Philishvili, B.M. Shergelashvili, T.V. Zaqarashvili, V. Kukhianidze, G. Ramishvili, M. Khodachenko, S. Poedts, P. De Causmaecker
Iliia State University and KU Leuven
- 4.p10 Two possible mechanisms of quasi-periodic pulsations during solar flare with unusual spatial dynamics
Kupriyanova E.^{1,2}, Kashapova L.³, Ratcliffe H.⁴, Myagkova I.⁵
¹Katholieke Universiteit Leuven, Department Wiskunde, Leuven, Belgium; ²Central Astronomical Observatory at Pulkovo of RAS, Saint-Petersburg, Russia; ³Institute of Solar-Terrestrial Physics SB RAS, Irkutsk, Russia; ⁴University of Reading, UK; ⁵Skobeltsyn Institute of Nuclear Physics, Lomonosov Moscow State University, Moscow, Russia

Session 5: Geomagnetically Induced Current and Space Weather

- 5.p01 Real-time estimation of geomagnetically induced currents
Ari Viljanen¹, Risto Pirjola^{1,2}
¹Finnish Meteorological Institute; ²Natural Resources Canada
- 5.p02 Solar Shield: first principles GIC forecasting using state-of-the-art space science simulations
Pulkkinen, A.¹, S. Mahmood², C. Ngwira^{3,1}, C. Balch⁴, S. Habib¹, F. Policelli¹, R. Lordan⁵, D. Fugate⁶, W. Jacobs⁶
¹NASA GSFC; ²DHS S&T; ³The Catholic University of America; ⁴NOAA SWPC; ⁵Electric Power Research Institute; ⁶Electric Research & Management, Inc.
- 5.e03 An Analytical Method for Evaluation of Solar Storm Impact on Power System Operation
Olga Sokolova, Prof. Nikolay Korovkin, Prof. Victor Popov
Peter the Great St.Petersburg Polytechnic University, Russia
- 5.e04 An analysis of mid-latitude magnetic perturbations during geomagnetic storms
Morley, Steven; Woodroffe, Jesse; Cowee, Misa; Henderson, Michael; Jordanova, Vania
Los Alamos National Laboratory
- 5.p05 Developing an Aurora Detection System and Educational Resources for Space Weather using a Raspberry Pi Magnetometer
Ben Grimsdell¹, Liam Crossling¹, Sam Jones¹, George Keyworth-Wright¹, Sophie Gossage¹, Sharon Strawbridge¹, Ciaran Beggan², Steve Marple³, Iain Grant⁴, Suzy Bingham⁵
¹University of Exeter, ²British Geological Survey, ³Lancaster University, ⁴Norman Lockyer Observatory, ⁵Met Office

Session 6: The role of Interplanetary Coronal Mass Ejections in Space Weather

- 6.e01 Study of energy input into the magnetosphere during SC23 intense geomagnetic storms

Diana Besliu-Ionescu¹, Marilena Mierla^{2,1}, Georgeta Maris Muntean¹

¹Institute of Geodynamics of the Romanian Academy; ²Royal Observatory of Belgium

- 6.e02 IMF disturbances and ICMEs over 5 solar cycles

Susanne Vennerstrom, Kristoffer Leer

DTU Space

- 6.p03 Geoeffective ICMEs Propagation Properties

V. Ontiveros^{1,2}, J.A. Gonzalez-Esparza², P. Corona-Romero², M. Rodríguez-Martínez¹

¹ENES Morelia, UNAM; ²SCIESMEX, Instituto de Geofísica, UNAM

- 6.p04 Typical properties of Magnetic Clouds and their sheaths near Earth

J.J. Masias-Meza¹, S. Dasso^{2,3}, L. Rodríguez⁴, P. Demoulin⁵, M. Janvier⁶, A.M. Gulisano^{2,7}

¹Departamento de Física and IFIBA, Facultad de Ciencias Exactas y Naturales, Universidad de Buenos Aires, Buenos Aires, Argentina; ²Instituto de Astronomía y Física del Espacio, Universidad de Buenos Aires & CONICET, Buenos Aires, Argentina; ³Departamento de Ciencias de la Atmósfera y Departamento de Física, Facultad de Ciencias Exactas y Naturales, Universidad de Buenos Aires, Buenos Aires, Argentina; ⁴Solar-Terrestrial Center of Excellence – SIDC, Royal Observatory of Belgium, Brussels, Belgium; ⁵Observatoire de Paris, LESIA, CNRS, Meudon, France; ⁶Department of Mathematics, University of Dundee, Dundee, Scotland, United Kingdom; ⁷Instituto Antártico Argentino (DNA), Cerrito 1248, CABA, Argentina

- 6.p05 Predicting in-situ transits of plasma sheaths and shock arrivals associated to fast halo CMEs

P. Corona-Romero, J.A. Gonzalez-Esparza, V. de-la-Luz, J.C. Mejia-Ambriz, L.X. Gonzaelz

Space Weather Service Mexico (SCiESMEX), Instituto de Geofísica Unidad Michoacan, Universidad Nacional Autónoma de México

6.p06 Global mean shape of interplanetary shocks and magnetic clouds axis configurations at 1 AU

S. Dasso^{1,2}, M. Janvier³, P. Demoulin⁴, J.J. Masias-Meza⁵, N. Lugaz⁶

¹Instituto de Astronomía y Física del Espacio, Universidad de Buenos Aires & CONICET, Buenos Aires, Argentina ²Departamento de Ciencias de la Atmósfera y Departamento de Física, Facultad de Ciencias Exactas y Naturales, Universidad de Buenos Aires, Buenos Aires, Argentina ³Department of Mathematics, University of Dundee, Dundee, Scotland, United Kingdom ⁴Observatoire de Paris, LESIA, CNRS, Meudon, France ⁵Departamento de Física and IFIBA, Facultad de Ciencias Exactas y Naturales, Universidad de Buenos Aires, Buenos Aires, Argentina ⁶Space Science Center and Department of Physics, University of New Hampshire, Durham, New Hampshire, USA

6.p07 Geoeffectiveness of Disk Centre Full Halo Coronal Mass Ejections During 1996-2014

Dheyaa Ameri, Eino Valtonen

Department of Physics and Astronomy, University of Turku, 20014 Turku, Finland

6.p08 Geo-efficiency of solar wind flows during 24th solar cycle

Yu. Shugay¹, F. Goryaev², D. Rodkin², V. Slemzin², I. Veselovsky¹

¹M.V.Lomonosov Moscow State University, Skobeltsyn Institute of Nuclear Physics (SINP MSU); ²P.N. Lebedev Physical Institute of the Russian Academy of Sciences

6.p09 False alarms of geomagnetic storms triggered by halo coronal mass ejections.

K. Leer¹, S. Vennerstrom¹, N. Crosby², M. Dumbović³, D. Sudar³ and B. Vršnak³

¹DTU Space, Technical University of Denmark, Elektrovej, 2800 Lyngby, Denmark; ²Belgian Institute for Space Aeronomy, Ringlaan-3-Avenue Circulaire, B-1180 Brussels, Belgium; ³Hvar Observatory, Faculty of Geodesy, University of Zagreb, Kaciceva 26, 10 000 Zagreb, Croatia

Session 7: Best practice into the development of operational SW prediction systems & in transitioning space science tools to operations

7.e01 Slurm: a Lagrangian Particle-in-Cell MHD Solver For Space Weather

*Vyacheslav Olshevsky, Fabio Bacchini, Giovanni Lapenta
KU Leuven*

7.p02 Using observations from L5 to improve space weather prediction

*Robert Bentley, Lucie Green
University College London*

Wednesday, 25 November 2015

Session 8: Planetary space weather and its impacts in Solar System exploration

8.p01 Planetary Space Weather Services for the Europlanet 2020 Research Infrastructure - **Invited**

N. André, M. Grande, on behalf of the PSWS Team

Centre National de la Recherche Scientifique (France), ABERYST-WYTH UNIVERSITY (UK), DEUTSCHES ZENTRUM FUER LUFT - UND RAUMFAHRT EV Cologne (Germany), Escuela Técnica Superior de Ingeniería (ETSI) of the University of the Basque Country (UPV/EHU), GFI Informatique (France), USTAV FYZIKY ATMOSFERY AV CR, v.v.i. IAP (Czech Republic), University College London (UCL) (UK), Observatoire de Paris (France), CENTRUM BADAN KOSMICZNYCH POLSKIEJ AKADEMII NAUK SRC/PAS (Poland), Magyar Tudományos Akademia Wigner Fizikai Kutatóközpont Wigner RCP (Hungary)

8.p02 Mapping Ganymede's Time Variable Aurora in the Search for a Subsurface Ocean (invited) - **Invited**

J. Saur¹, S. Duling¹, L. Roth², X. Jia³, D.F. Strobel⁴, P.D. Feldman⁴, U. Christensen⁶, K.D. Retherford⁷, M.A. McGrath⁸, F. Musacchio¹, A. Wennmacher¹, F.M. Neubauer¹, S. Simon⁹, O. Hartkorn¹

¹University of Cologne; ²KTH Stockholm; ³Univ. Michigan; ⁴Johns Hopkins Univ.; ⁶MPS Goettingen; ⁷SWRI; ⁸NASA Marshall; ⁹Georgia Inst. Tech.

8.e03 Space weather on Titan - **Invited**

A. Coustenis¹, J. Liliensten², I. Dandouras³

¹LESIA, Paris Observatory, Meudon, France; ²IPAG, Grenoble, France; ³IRAP, CNRS and Paul Sabatier Toulouse Univ., Toulouse, France

8.p04 Investigating the variations of the photoelectron emission of the surface of the Cluster spacecraft

Maria Andriopoulou, Rumi Nakamura, Klaus Torkar, Wolfgang Baumjohann

Space Research Institute, Austrian Academy of Sciences, Graz, Austria

- 8.p05 Auroral manifestations of the interaction of the solar wind with Saturn
A. Radioti, D. Grodent, J.-C. Gérard and B. Bonfond
LPAP, Institut d'Astrophysique et de Geophysique, Université de Liège, Belgium
- 8.p06 Studying the dynamics of Saturn's inner magnetosphere using injections and microsignature observations
Maria Andriopoulou¹, Michelle Thomsen², Elias Roussos³ and members of the ISSI Team "Modes of radial plasma motion in planetary systems"
¹Space Research Institute, Austrian Academy of Sciences, Graz, Austria; ²Planetary Science Institute, Tucson, Arizona USA; ³Max Planck Institute for Solar System Research, Göttingen, Germany
- 8.p07 Propagation Tool: comparing HELCATS CIR catalogues derived from white-light images and in-situ measurements
Iliya Plotnikov^{1,2}, Alexis Rouillard^{1,2}, Benoit Lavraud^{1,2}
¹Université de Toulouse; UPS-OMP; IRAP; Toulouse, France; ²CNRS; IRAP; 9 Av. colonel Roche, BP 44346, F-31028 Toulouse cedex 4, France
- 8.p08 Heliospheric space weather: Toward operational support of heliospheric missions
D. Odstročil^{1,2}, L. Mays², P. MacNeice², M. Maddox², M. Kuznetsova²
¹George Mason University; ²NASA/Goddard Space Flight Center
- 8.p09 Impact of extreme SEP events on the Venusian atmosphere
Tom Nordheim¹, Lewis Dartnell², Andrew Coates¹, Geraint Jones¹
¹Mullard Space Science Laboratory, University College London; ²Space Research Centre, University of Leicester
- 8.e10 Cosmic rays - Venusian atmosphere interactions during different periods of solar activity
Christina Plainaki¹, Pavlos Paschalis², Davide Grassi¹, Helen Mavromichalaki², Maria Andriopoulou³
¹INAF - IAPS, Via del Fosso del Cavaliere, 00133 Roma, Italy; ²Nuclear and Particle Physics Section, Physics Dpt. of the National and Kapodistrian University of Athens, 15784, Athens, Greece; ³Space Science Institute, Austrian Academy of Science, Graz, Austria

- 8.e11 Plasma-moon interactions at Ganymede: a key scientific target for JUICE
Christina Plainaki, Anna Milillo, Stefano Massetti, Alessandro Mura, Stefano Orsini
 INAF - IAPS Via del Fosso del Cavaliere, 00133 Roma, Italy
- 8.e12 Estimation of the efficiency of different space weather processes at Jupiter's moon Europa
Alice Lucchetti^{1,2}, Christina Plainaki³, Gabriele Cremonese², Anna Milillo³, Timothy Cassidy⁴, Xinazhe Jia⁵, Valery Shematovich⁶
¹CISAS, University of Padova, Via Venezia 15, 35131 Padova, Italy; ²INAF-Astronomical Observatory of Padova, Vicolo dell'Osservatorio 5, 35131 Padova, Italy; ³INAF-IAPS Roma, Istituto di Astrofisica e Planetologia Spaziali di Roma, Via del Fosso del Cavaliere, 00133 Roma, Italy; ⁴University of Colorado, Laboratory for Atmospheric and Space Physics, 1234 Discovery Drive Boulder, CO 80303, USA; ⁵Department of Atmospheric, Oceanic, and Space Sciences, University of Michigan, Ann Arbor, MI, USA; ⁶Institute of Astronomy RAS, Moscow, Russia.
- 8.e13 Definition of Environment Specifications for the Asteroid Impact Mission
Fabrice Cipriani¹, Andrés Galvez², Alain Hilgers¹, Ian Carnell², Eamonn Daly¹, Sebastien Hess³, Pierre Sarrailh³, Jean-Charles Matéo-Vélez³
¹ESTEC/TEC-EES; ²ESA HQ; ³ONERA/DESP
- 8.e14 Space weather effects on the induced magnetospheres of Venus, Mars and the comet CG
Andrea Opitz, Karoly Szego, Zoltan Nemeth, Melinda Dosa
 Wigner Research Centre for Physics, Department of Space Physics and Technology, Budapest, Hungary

- 8.e15 Updating reaction rates in the context of planetary space weather

Gaël Cessateur¹, Jerome Loreau², Johan de Keyser¹, Nathalie Vaeck², Romain Maggiolo¹, Frederik Dhooghe¹, Andrew Gibbons¹, Xavier Urbain³, Pascal Quinet⁴, Patrick Palmer⁴

¹Belgian Institute for Space Aeronomy, BIRA-IASB, Brussels, Belgium; ²Quantum Chemistry and Photophysics Laboratory, Université Libre de Bruxelles, Brussels, Belgium; ³IMCN/NAPS, Université Catholique de Louvain, Belgium; ⁴Astrophysique et Spectroscopie, Université de Mons, Belgium

- 8.p16 Study of magnetic coupling between Europa's induced field and surrounding plasma currents field.

J. Agudelo

Universidad de los Andes

Session 9: Progresses and challenges in coupling models for predicting space weather from the Sun to the Earth

- 9.p01 Models for predicting of magnetospheric VLF response to atmospheric perturbations impact

Peter A. Bespalov¹ and Olga N. Savina²

¹Institute of Applied Physics, Nizhny Novgorod, Russia; ²National Research University Higher School of Economics, Nizhny Novgorod, Russia

- 9.p02 Space radiation environment in low earth orbit measured during solar-activity minimum period from 2006 through 2011

Hideki Koshiishi

Japan Aerospace Exploration Agency

- 9.p03 Modeling evolution of the ion charge state composition of solar wind in the low corona

Farid Goryaev¹, Vladimir Slemzin², Yulia Shugay³, Denis Rodkin⁴, Igor Veselovsky⁵

¹P.N. Lebedev Physical Institute of the RAS; ²P.N. Lebedev Physical Institute of the RAS; ³Skobeltsyn Research Institute of Nuclear Physics, Moscow State University; ⁴ P.N. Lebedev Physical Institute of the RAS; ⁵Skobeltsyn Research Institute of Nuclear Physics, Moscow State University

- 9.p04 First global 3D two-way coupled MHD-EPIC simulation of a magnetosphere: Ganymede
S. Markidis¹, G. Toth², L.K.S. Daldorff², X. Jia², Y. Chen², T. Gombos², A. Glocer³
¹KTH Royal Institute of Technology; ²University of Michigan; ³NASA Goddard
- 9.p05 Estimating the inner heliosphere solar wind flow structure from the Heliospheric Imager observations.
Luke Barnard, Chris Scott, Mat Owens, Mike Lockwood
University of Reading
- 9.p06 Predicting the solar wind speed from the surface of the Sun up to the heliosphere
Rui Pinto, Alexis Rouillard
IRAP - Research Institute in Astrophysics and Planetology, Toulouse
- 9.p07 The LANL SHIELDS Project
V.K. Jordanova¹, G.L. Delzanno², M.G. Henderson¹, H.C. Godinez², C.A. Jeffery¹, E.C. Lawrence³, J.D. Moulton², L.J. Vernon³, J.R. Woodroffe¹, Y. Yu², L. Zhao², G. Tóth⁴, D.T. Welling⁴, M.F. Thomsen¹, J. Birn¹, J.E. Borovsky^{1,4}, C. Lemon⁵, J.M. Albert⁶, S.L. Young⁶, R.B. Horne⁷, S. Markidis⁸
¹Intelligence and Space Research, Los Alamos National Laboratory, Los Alamos, New Mexico, USA; ²Theoretical Division, Los Alamos National Laboratory, Los Alamos, New Mexico, USA; ³Computer, Computational, and Statistical Sciences, Los Alamos National Laboratory, Los Alamos, NM, USA; ⁴Atmospheric, Oceanic and Space Sciences, University of Michigan, Ann Arbor, Michigan, USA; ⁵The Aerospace Corporation, El Segundo, California, USA; ⁶Air Force Research Laboratory, Kirtland AFB, New Mexico, USA; ⁷British Antarctic Survey, NERC, Cambridge, England; ⁸PDC Centre, KTH Royal Institute of Technology, Stockholm, Sweden
- 9.e08 Multi-fluid modeling of magnetic reconnection in the Sun atmosphere
Alejandro Alvarez Laguna^{1,2}, Andrea Lani¹, Stefaan Poedts², Herman Deconinck¹
¹von Karman Institute for Fluid Dynamics; ²KU Leuven

- 9.p09 On the long-period oscillations of the active region patterns:
Method of least-square mapping on second order curves
*G. Dumbadze, B.M. Shergelashvili, V. Kukhianidze, G. Ramishvili,
T.V. Zaqarashvili, M. Khodachenko, E. Gurgenashvili, S. Poedts and
P. De Causmaecker*
Ilia State University and KU Leuven

Session 10: Model Metrics, Verification and Validation

- 10.e01 Real time forecasting methods validation with the Flare
Scoreboard
*Sophie Murray¹, Leila Mays², Masha Kuznetsova², Suzy
Bingham¹, Edward Pope¹, et al*
¹Met Office; ²Community Coordinated Modeling Center
- 10.p02 Quasi longitudinal approximation for application to iono-
spheric ray tracing and absorption
Alessandro Settini, Carlo Scotto
*Istituto Nazionale di Geofisica e Vulcanologia (INGV), Sezione di
Geomagnetismo, Aeronomia e Geofisica Ambientale (ROMA 2),
Via di Vigna Murata 605, I-00143 Rome, Italy*
- 10.p03 LYRA flare probabilities service and its performance measure
Ingolf Dammasch, Marie Dominique
Royal Observatory of Belgium

Thursday, 26 November 2015

Session 11: Space Weather, Spacecraft Operations and Spacecraft Anomalies

- 11.p01 Results of dose sensors measurements in a middle-Earth orbit
Vasily S. Anashin¹, Grigory A. Protopopov¹, Olga S. Kozyukova¹, Sergey V. Balashov², Ninel N. Sitnikova², Sergey V. Tasenko³, Pavel V. Shatov³
¹Branch of JSC URSC-ISDE; ²JSC ISS; ³FSBI IAG
- 11.p02 CPIC: A Curvilinear Particle-In-Cell Code for Studying Spacecraft-Plasma Interactions
C.S. Meierbachtol, G.L. Delzanno, J.D. Moulton, L.J. Vernon, V.K. Jordanova
Los Alamos National Laboratory, Los Alamos, NM, USA
- 11.p03 Connecting space weather environment to space weather impacts: Efforts done at CCMC/SWRC
Yihua Zheng, Marlo Maddox, Michael Xapsos, Masha Kuznetsova, Antti Pulkkinen, and CCMC/SWRC team
NASA Goddard Space Flight Center, Greenbelt, MD 20771
- 11.p04 CCMC and SWRC space weather forecasting services for NASA robotic mission operators
A. Pulkkinen, the CCMC/SWRC team
NASA Goddard Space Flight Center
- 11.p05 Recreating the high-energy electron environment throughout the Earth's radiation belts
Sarah A. Glauert, Richard B. Horne, Nigel P. Meredith
British Antarctic Survey, Cambridge, UK
- 11.p06 Testing Assumptions Underlying Radiation Belt Models
J. Green, T.P. O'Brien, T. Mulligan-Skov, J.Roeder, S. Claudpierre, B. Kwan
Space Hazards Applications, Aerospace Corporation

- 11.p07 Extension of the SEP-EM System to Treat Solar Heavy Ions and Shielded Environments
Pete Truscott¹, Daniel Heynderickx², Fan Lei³, Athina Varotsou⁴, Anne Samaras⁴, Piers Jiggins⁵, Hugh Evans⁵
¹Kallisto Consultancy; ²DH Consultancy; ³RadMod Research; ⁴TRAD; ⁵ESA/ESTEC
- 11.p08 LYRA detections of Aurora events
A. C. Katsiyannis^{1,2}, M. Dominique¹, J. De Keyser³, M. Kruglanski³, E. DeDonder³, A. Ben Moussa¹, D. Berghmans¹
¹Royal Observatory of Belgium, Solar-Terrestrial Centre of Excellence; ²National Observatory of Athens; ³Belgian Institute for Space Aeronomy
- 11.p09 The development of algorithms for space weather data measured by GK-2A
Jaejin Lee¹, Kyung-Chan Kim¹, Seonghwan Choi¹, Roksoon Kim¹, Bon-Jun Ku³, Cheol-Oh Jeong³, Hyesook Lee⁴
¹Korea Astronomy and Space Science Institute; ²University of Science and Technology; ³Electronics and Telecommunications Research Institute; ⁴Korea Meteorological Administration
- 11.e10 Observation of ducted VLF signal propagation and validation of electron density measurements based on signal inversion
Lilla Juhász¹, Dávid Koronczay^{2,1}, János Lichtenberger^{1,2}, Csaba Ferencz¹
¹Department of Geophysics and Space Sciences, Eötvös University, Budapest, Hungary; ²Geodetic and Geophysical Institute, RCAES, Sopron, Hungary

Session 12: Space Climate

- 12.p01 Geoinformation System for Monitoring and Analysis Parameters of Space Climate - **Invited**
Andrei Vorobev, Gulnara Shakirova
Ufa State Aviation Technical University
- 12.p02 Synchronization of human heart rate variations and geomagnetic field vector in millihertz range in different phases of magnetic storms
T.Zenchenko¹, T.K. Breus¹, A.A. Medvedeva², N.I.Khorseva¹
¹Space Research Institute of RAS, Moscow, Russia, ²Institute of Theoretical and Experimental Biophysics of RAS, Pushchino, Moscow region, Russia
- 12.p03 CIR-XL recurring for several years
Melinda Dósa, Géza Erdős
Wigner Research Centre for Physics, Institute for Particle and Nuclear Physics
- 12.p04 Effects of space weather conditions on emergency ambulance calls for elevated arterial blood pressure
Agnė Brazienė, Jonė Vencloviėnė
Vytautas Magnus University
- 12.p05 Elaboration of a universal test on magneto-sensitivity
Ketevan Janashia¹, Alexander Tsibadze¹, Levan Tvildiani¹, Nikoloz Invia², Vasili Kukhianidze³, George Ramishvili³
¹Heliomagnetocardiological scientific and practical center (HMC-SPC); ²Georgian Technical University (GTU); ³Abastumani Astrophysical Observatory, Iliia State University
- 12.p06 Short-term space weather effects on emergency ambulance calls for paroxysmal atrial fibrillation
Jone Vencloviene¹, Ruta M. Babarskiene², Paulius Dobožinskas³
¹Department of Environmental Sciences, Vytautas Magnus University, Kaunas, Lithuania; ² Department of Cardiology, Lithuanian University of Health Sciences, Kaunas, Lithuania; ³ Department of Disaster Medicine, Lithuanian University of Health Sciences, Kaunas, Lithuania;

- 12.p07 Study of Polar Cap Potential and Merging Electric Field during High Intensity Long Duration Continuous Auroral Activity
Binod Adhikari¹, Narayan P. Chapagain²
¹Department of Physics, Amrit Science Campos, Tribhuvan University, Kathmandu, Nepal; ²Department of Physics, Patan M. Campus, Tribhuvan University, Patan Gate, Lalitpur, Nepal
- 12.e08 The experimental facility for exposure of magnetic field variations in human experiments
Maria Sasonko¹, Ruslan Sarimov^{1,2}, Yury Gurfinkel^{1,3}, Andrey Vasin^{1,2,4}, Tatiana Matveyeva^{1,2}, Roman Pishchalnikov^{1,2}
¹Research Clinical Center JSC "Russian Railways"; ²Prokhorov General Physics Institute of the Russian Academy of Sciences (GPI RAS); ³Space Research Institute of the Russian Academy of Sciences (IKI); ⁴Institute for Bio-Medical Problems of RAS
- 12.p08 Leukemia and Solar-Geomagnetic Activity
T. Mdzinarishvili¹, B.M.Shergelashvili^{1,2,3}, B.Chargeishvili¹, D.Japaridze¹ and O.Avsajanishvili¹
¹Astrophysical Observatory, Ilia State University, 3-5 Cholokashvili Ave., Tbilisi, 0194, Georgia; ²Space Research Institute, Graz, Austria; ³CODeS, K.U. Leuven, Belgium

Session 13: Monitoring, Modelling and Predicting Space Radio Weather

- 13.e01 The Saint Patrick geomagnetic storm monitored by the ER-ICA project
Gabriella Povero¹, Prayitno Abadi², Lucilla Alfonsi³, Domenico Di Mauro³, Fabio Dovis⁴, Vin La The⁵, Minh Le Huy⁶, Marco Pini¹, Rodrigo Romero⁴, Luca Spogli³, Nicolas Floury⁷
¹Istituto Superiore Mario Boella (Italy); ²LAPAN (Indonesia); ³Istituto Nazionale di Geofisica e Vulcanologia (Italy); ⁴Politecnico di Torino (Italy); ⁵HUST (Vietnam); ⁶IGP-VAST (Vietnam); ⁷ESA
- 13.e02 Short-term Coronal Mass Ejections' Prediction Technique Using Solar Radio Emission
Olga Sheyner, Vladimir Fridman
Radiophysical Research Institute

- 13.p03 Solar microwave bursts as disturbances of GNSS communications
Meriem Imache, Karl-Ludwig Klein
Observatoire de Paris
- 13.p04 Remote monitoring of solar wind perturbations using MEXART at 140 MHz
J. C. Mejia-Ambriz¹, J. Gonzalez-Esparza¹, O. Chang-Martinez², V. De la Luz V¹, P. Corona-Romero¹, L. X. Gonzalez¹, E. Aguilar-Rodriguez³
¹*SCiESMEX, Instituto de Geofísica, Unidad Michoacan, Universidad Nacional Autonoma de Mexico, Morelia, Mexico;* ²*Posgrado en Ciencias de la Tierra, Universidad Nacional Autonoma de Mexico;* ³*Instituto de Geofísica, Unidad Michoacán, Universidad Nacional Autonoma de Mexico*
- 13.p05 The geomagnetic control of the ionospheric long-term trends has stopped in the 21 century?
A. Mikhailov¹ and L. Perrone²
¹*Pushkov Institute of Terrestrial Magnetism, Ionosphere and Radio Wave Propagation (IZMIRAN), Troitsk, Moscow 142190, Russia ;* ²*Istituto Nazionale di Geofisica e Vulcanologia (INGV), Via di Vigna Murata 605, Roma 00143, Italia*
- 13.p06 Investigation of the Earth's inner magnetosphere with an electric field sounder onboard the Cluster satellites and a VLF antenna installed in Belgium
Fabien Darrouzet¹, Viviane Pierrard¹, Johan De Keyser¹, Sylvain Ranvier¹, Pierrette Décréau², Janos Lichtenberger³
¹*Belgian Institute for Space Aeronomy (IASB-BIRA) 3 Avenue Circulaire 1180 Brussels BELGIUM;* ²*Laboratoire de Physique et Chimie de l'Environnement et de l'Espace (LPC2E) Orléans FRANCE;* ³*Department of Geophysics and Space Sciences Eötvös University Budapest HUNGARY*

- 13.p07 Long Term Trend of the ionospheric parameters at Rome station: Checking the geomagnetic control concept
L. Perrone¹, L. Alfonsi¹, C. Cesaroni¹, A. De Santis¹, M. Pezzopane¹, C. Scotto¹, and A. Mikhailov²
¹*Istituto Nazionale di Geofisica e Vulcanologia (INGV), Via di Vigna Murata 605, Roma 00143, Italia;* ²*Pushkov Institute of Terrestrial Magnetism, Ionosphere and Radio Wave Propagation (IZMIRAN), Troitsk, Moscow 142190, Russia*
- 13.p08 Ionospheric critical frequency prediction service based on digisonde measurements at Dourbes
D. Sapundjiev, S. Stankov
Royal Meteorological Institute (RMI), Ringlaan 3, B-1180 Brussels, Belgium
- 13.p09 Space weather observations to study the dynamics of the plasmopause and of the inner magnetosphere
Pierrard V., Darrouzet F.
Belgian Institute for Space Aeronomy
- 13.p10 Towards a physics-based model for meteor interaction with Earth atmosphere
Bruno Dias¹, Alessandro Turchi¹, Thierry Magin¹, Johan De Keyser², Hervé Lamy²
¹*von Karman Institute for Fluid Dynamics, Belgium;* ²*Belgian Institute for Space Aeronomy, Belgium*
- 13.p11 Modelling of Atmosphere Ionization by Energetic Electron Precipitation Based on Canada VLF Receivers Network Response
Alexei Kouznetsov, Christopher Cully, Laura Mazzino, Eric Davis
University of Calgary, Alberta, Canada

Friday, 27 November 2015

Session 14: Solar Energetic Particles: Data, Environments, Forecasting and Impact

- 14.e01 Construction of a long term interplanetary He dataset in the framework of the ESA ESHIEM project
Daniel Heynderickx¹, Ingmar Sandberg², Pete Truscott³, Piers Jiggins⁴, Alain Hilgers⁴
¹DH Consultancy BVBA, Leuven, Belgium; ²NKUA, Athens, Greece; ³Kallisto Consultancy, Farnborough, UK; ⁴ESA/ESTEC, Noordwijk, The Netherlands
- 14.p02 Operational Space Weather Prediction System providing forecasts and alerts on solar flares and SEP events (SEPs-FLAREs)
A. García-Rigo¹, M. Núñez², R. Qahwaji³, O. Ashamari³, P. Jiggins⁴, G. Pérez¹, M. Hernández-Pajares¹, A. Hilgers⁴
¹Ionospheric determination & Navigation based on Satellite & Terrestrial systems research group, Technical University of Catalonia (UPC-IonSAT); ²Space Weather Group, University of Malaga (UMA); ³Space Weather Research Group, Bradford University (UoB); ⁴ESA Space Environments & Effects section (TEC-EES), ESA-ESTEC
- 14.p03 Measuring Solar particle events at Mars
Jan Köhler
University of Kiel
- 14.p04 A model upgrade for short-term warnings of solar energetic proton events
Monica Laurenza¹, Giuseppe Pallocchia¹, Tommaso Alberti², Giuseppe Consolini¹, Maria Federica Marcucci¹, Fabio Lepreti²
¹IAPS/INAF, via del Fosso del Cavaliere 100, 00133 Roma, Italy; ²Dipartimento di Fisica, Università della Calabria, Ponte P. Bucci 31C, 87036 Rende (CS), Italy

- 14.p05 1.0-1.6 AU heliocentric distance analysis of peak intensities and fluences in modelled SEP events
Angels Aran¹, Blai Sanahuja¹, Daniel Heynderickx², Piers Jiggins³, Fan Lei⁴, Pete Truscott⁵ and Rami Vainio⁶
¹*Dep. d'Astronomia i Meteorologia, Institut de Ciències del Cosmos, Universitat de Barcelona, Spain.* ²*DH Consultancy, Belgium.* ³*European Space Research and Technology Centre, The Netherlands.* ⁴*RadModResearch, U.K.* ⁵*KallistoConsultancyLtd, U.K.* ⁶*Space Research Laboratory, Dept. of Physics and Astronomy, University of Turku, Finland*
- 14.p06 Pre-processing methods for energetic particle measurements
Christos Katsavrias^{1,2}, Constantinos Papadimitriou^{1,2}, Ingmar Sandberg^{1,2} Ioannis A. Daglis^{2,1} Piers Jiggins³
¹*Institute of Accelerating Systems and Applications, Athens, Greece;* ²*Department of Physics, National and Kapodistrian University of Athens, Athens, Greece;* ³*European Research and Technology Centre, European Space Agency, Noordwijk, The Netherlands*
- 14.p07 Data Unfolding using Neural Networks
Constantinos Papadimitriou^{1,2}, Sigiava Aministragia Giamini^{1,2}, Ingmar Sandberg^{1,2} Ioannis A. Daglis^{2,1} Piers Jiggins³
¹*Institute of Accelerating Systems and Applications, Athens, Greece;* ²*Department of Physics, National and Kapodistrian University of Athens, Athens, Greece;* ³*European Research and Technology Centre, European Space Agency, Noordwijk, The Netherlands*
- 14.p08 Development of a Nowcasting Model for Radiation Exposure at Flight Altitudes Caused by Cosmic Radiation during Solar Storms
Harald Thommesen¹, Marcin Latocha¹, Rolf Bütikofer², Peter Beck¹
¹*Seibersdorf Laboratories, Forschungszentrum Seibersdorf, 2444 Seibersdorf, Austria;* ²*International Foundation High Altitude Research Stations Jungfrauoch and Gornergrat, Sidlerstraße 5, 3012 Bern, Switzerland*

- 14.p09 Validation of Korean Radiation Exposure Assessment Model for aviation route dose (KREAM)
Sung-Jun Noh^{1,2}, Junga Hwang^{2,3}, Kyunghwan Dokgo^{1,4} and Kyung-Suk Cho^{2,3}
¹Chungbuk National University (CBNU), South Korea; ²Solar and Space Weather group, Korea Astronomy and Space science Institute (KASI), Daejeon 305-348, South Korea; ³Department of Astronomy and Space Science, University of Science and Technology (UST), Daejeon, South Korea; ⁴Department of Astronomy and Space Science, Chungnam National University (CNU), Daejeon, South Korea; ⁴Department of Physics, Korea Advanced Institute of Science and Technology (KAIST), Daejeon 305-701, South Korea
- 14.p10 Analysis of the fluence of large solar energetic particle events in the period 2010-2013
Daniel Pacheco¹, Neus Agueda¹, Angels Aran¹, Blai Sanahuja¹, Piers Jiggins²
¹Dep. d'Astronomia i Meteorologia, Institut de Ciències del Cosmos, Universitat de Barcelona, Spain, ²European Space Research and Technology Centre, ESA, The Netherlands

Session 15: Neutron Monitor science as a fundamental tool for space weather

- 15.p01 Mini neutron monitor measurements at the Neumayer III station and on the German research vessel Polarstern - **Invited**
B. Heber¹, D. Galsdorf¹, J. Gieseler¹, C. Herbst¹, J. Labrenz¹, C. Schwerdt², M. Walther², R. Fuchs³, H. Krueger³, and H. Moraal³
¹Christian-Albrechts-Universität zu Kiel; ²Deutsches Elektronen-Synchrotron DESY, D-15738 Zeuthen; ³Center for Space Research, North-West University, Potchefstroom 2520, South Africa
- 15.p02 The ICME's magnetic field and the role on the galactic cosmic ray modulation for the solar cycle 23 - **Invited**
Evangelos Paouris, Helen Mavromichalaki
Faculty of Physics, National and Kapodistrian University of Athens, Athens, Greece

- 15.p03 Variations of the vertical cutoff rigidities for the world wide neutron monitor network over the period of continues monitoring of cosmic rays - **Invited**

B. Gvozdevsky¹, L. Dorman^{2,3}, A. Abunin², M. Preobrazhensky², R. Gushchina², A. Belov², E. Eroshenko², U. Dai³, L. Pustil'nik³, V. Yanke²

¹Polar Geophysical Institute, 184209, Firsmana str., 14, Apatity, Russia; ²IZMIRAN, Kalushskoe ave., 4, Troitsk, Moscow, 142190, Russia; ³Israel Cosmic Ray and Space Weather Center with Emilio Segre' Observatory on Mt. Hermon, affiliated to Tel Aviv University, Golan Research Institute, and Israel Space Agency, Israel

- 15.e04 Computation of Ion Production Rate and Ionization Effect During Bastille Day GLE 59 and GLE 70 Events

Alexander Mishev¹, Peter Velinov²

¹ReSolve University of Oulu; ²Institute for Space Research and Technology, Bulgarian Academy of Sciences

- 15.e05 Understanding SEP properties through Neutron Monitor data modeling

C. Plainaki^{1,2}, H. Mavromichalaki², M. Laurenza¹, M. Andriopoulou³, M. Gerontidou², A. Belov⁴, E. Eroshenko⁴, V. Yanke⁴

¹INAF-IAPS, Via del Fosso del Cavaliere, 00133, Rome, Italy; ²Nuclear and Particle Physics Section, Physics Dpt., National and Kapodistrian University of Athens, Greece; ³Space Research Institute, Austrian Academy of Sciences, Graz, Austria; ⁴Institute of Terrestrial Magnetism, Ionosphere and Radio Wave Propagation by Pushkov (IZMIRAN), Moscow, Russia

- 15.e06 Spectra and anisotropy of GLEs on the basis of NM data

Alexander Mishev, Ilya Usoskin

ReSolve Oulu University Finland

- 15.e07 Forbush decreases associated to Stealth Coronal Mass Ejections

B.Heber¹, D. Galsdorf¹, C. Herbst¹, P. Kuehl¹, M. Dumbovic², B. Vršnak², A. Veronig³, M. Temmer³, C. Moesti³

¹Christian-Albrechts-Universität zu Kiel; ²Hvar Observatory, Faculty of Geodesy, University of Zagreb; ³Institute of Physics/Kanzelhöhe Observatory, University of Graz, Austria

- 15.e08 Rapid determination of cutoff rigidities and asymptotic directions for near real-time space weather applications based on neutron monitor measurements
Rolf Bütikofer¹, Erwin Flückiger¹, Dennis Galsdorf², Bernd Heber², Konstantin Herbst², Christian Steigies²
¹Physikalisches Institut, University of Bern / HFSJG, Bern, Switzerland; ²Institut für Experimentelle und Angewandte Physik / Extraterrestrial Physics, Christian-Albrechts-Universität, Kiel, Germany
- 15.e09 Upgrading the Dourbes cosmic ray observatory for research and development of improved space weather monitoring services
D. Sapundjiev¹, C. Steigies², T. Verhulst¹, J. C. Jodogne¹, S. Stankov¹
¹Royal Meteorological Institute (RMI), Ringlaan 3, B-1180 Brussels, Belgium; ²Christian-Albrechts-Universität, Olshausenstrasse 40, D-24098 Kiel, Germany
- 15.e10 Meteorological effects of muon component at the mountain muon detectors
L. Dorman², A. Asipenka¹, A. Abunin¹, V. Yanke¹, U. Da², L. Pustil'nik², M. Zazayan³, M. Ganeva⁴, Zhang Ji Long⁵, Jean-Luc Autran⁶, I. Angelov⁷, A. Sternlieb²
¹IZMIRAN, Kalushskoe ave., 4, Troitsk, Moscow, Russia, 142190; ²Israel Cosmic Ray and Space Weather Center with Emilio Segre['] Observatory on Mt. Hermon, affiliated to Tel Aviv University, Golan Research Institute, and Israel Space Agency; ³Yerevan Physics Institute, Alikhanian Brothers Str. 2, 0036, Yerevan, Armenia; ⁴Jülich Centre for Neutron Science (JCNS), Outstation at MLZ, Lichtenbergstr. 1, 85747 Garching, Germany; ⁵Institute of High Energy Physics, Beijing, China; ⁶Aix-Marseille University, BP 146, F-13384 Marseille Cedex 13, France; ⁷South West University "N. Rilski" Institute For Nuclear Research and Nuclear Energy, BAS
- 15.p11 Improvements on the Neutron Monitor Data Acquisition System
Oscar Garcia-Poblacion^{1,2}, Ignacio Garcia-Tejedor^{1,2}, Juan Jose Blanco^{1,2}, Raul Gomez-Herrero^{1,2}, Jose Medina^{1,2}
¹Space Research Group, University of Alcalá. Spain; ²The CaLMA Neutron Monitor, Science and Technology Park of Guadalajara, Spain

- 15.p12 Account of dynamic effect of the atmospheric wind in the neutron monitor data at the Antarctic station Mirny.
Kobelev P., Yanke V., Belov A., Eroshenko E., Gushchina R., Smirnov D.
Pushkov Institute of Terrestrial Magnetism, Ionosphere and Radio Wave Propagation, IZMIRAN
- 15.p13 Method of global survey (GSM) and corresponding tools for data preparation.
E. Eroshenko, A. Abunin, M. Abunina, A. Belov, V. Oleneva, V. Yanke
Pushkov Institute of Terrestrial Magnetism, Ionosphere and Radio Wave Propagation (IZMIRAN)
- 15.p14 A study of the polar and middle latitude neutron monitors during the extended geomagnetic storm of March 17, 2015
H. Mavromichalaki¹, M. Gerontidou¹, E. Paouris¹, A. Belov¹, E. Eroshenko², V. Yanke², D. Lingri¹, A. Laoutaris¹, A. Kanellakopoulos¹, A. Abunin², M. Abunina²
¹Nuclear and Particle Physics Department, Faculty of Physics, National and Kapodistrian University of Athens; ²Institute of Terrestrial Magnetism, Ionosphere and Radio Wave Propagation by Pushkov (IZMIRAN), Moscow, Russia
- 15.p15 Pressure correction of the Neutron Monitor data during the last solar cycle
M. Gerontidou, I. Platanos, P. Paschalis, H. Mavromichalaki
Nuclear and Particle Physics Department, Faculty of Physics, National and Kapodistrian University of Athens, 15784 Athens Greece
- 15.p16 Proton enhancements of solar cosmic rays in January and March 2012
A. Belov¹, E. Eroshenko¹, O. Kryakunova², N. Nikolayevskiy², A. Malimbayev², I. Thepakina², V. Yanke¹
¹Pushkov Institute of Terrestrial Magnetism, Ionosphere and Radiowave Propagation (IZMIRAN), Moscow, Russia; ²Institute of Ionosphere, Almaty, Kazakhstan
- 15.p17 Effective and ambient dose calculation at flight altitudes with the newly computed yield functions
Alexander Mishev, Ilya Usoskin
ReSolve CoE University of Oulu Finland

- 15.p18 A Comparative study of the Longitudinal and Latitudinal Cosmic Ray Diurnal Anisotropy for the time period 2001-2014
A. Tezari¹, S. Kolovi¹, A. Kanellakopoulos¹, H. Mavromichalaki¹, C. Plainaki², M. Andriopoulou³
¹*Nuclear and Particle Physics Department, Faculty of Physics, National and Kapodistrian University of Athens, Zografos, 15784 Athens, Greece;* ²*INAF-IAPS, Via del Fosso del Cavaliere, 00133, Rome, Italy;* ³*Space Research Institute, Austrian Academy of Sciences, Graz, Austria*
- 15.p19 The Behaviour of Galactic Cosmic Rays near the Heliospheric Current Sheet
Simon R Thomas¹, Mathew J Owens², Mike Lockwood², Chris Scott², Chris Owen¹
¹*Mullard Space Science Laboratory, University College London, UK;* ²*University of Reading, UK.*
- 15.p20 Multi-instrument radiation monitoring at the Testa Grigia high altitude Observatory
Monica Laurenza¹, Marisa Storini¹, Fabrizio Signoretti¹, Alba Zanin², Piero Diego^{1,3}, Stefano Massetti¹, Juan Carlos Terrazas⁴, Alessandro Liberatore², Adolfo Esposito⁵
¹*IAPS/INAF, via del Fosso del Cavaliere 100, 00133 Roma, Italy;* ²*INFN Sez. Torino, Via Pietro Giuria 1, 10125 Torino, Italy;* ³*Dipartimento di Fisica Università di Trento, Via Sommarive 14, 38123 Povo (TN), Italy;* ⁴*INAF-OATo Strada Osservatorio 20, 10025 Pino Torinese (TO), Italy;* ⁵*LNF-INFN Via E. Fermi 40, 00044 Frascati, (RM), Italy*
- 15.p21 CaLMA, toward an integrated neutron/muon system
Juan José Blanco^{1,2}, José Medina^{1,2}, Óscar G. Población^{1,2}, Raúl Gómez-Herrero^{1,2}, Ignadio G. Tejedor^{1,2}, Sindulfo Ayuso^{1,2}
¹*Space Research Group, University of Alcalá. Spain;* ²*the CaLMA Neutron Monitor, Science and Technology Park of Castilla-La Mancha, Spain*
- 15.p22 Estimated Response of the Calgary Neutron Monitor to the Absolute Cosmic Ray Proton and Helium Spectra by a Simulation of Cascade Showers and Subsequent Thermal Neutron Transport
Alexei Kouznetsov¹, David Knudsen²
¹*University of Calgary,* ²*University of Calgary*

- 15.p23 Mexico City Neutron Monitor for Space Weather Studies.
X. González^{1,2}, J.F. Valdes-Galicia¹, A. Gonzalez², J. Mejia-Ambriz², V. M. De la Luz², P. Corona², A. Hurtado¹, O. Musalem¹.
¹*Instituto de Geofisica, UNAM, D.F. Mexico;* ²*SCiESMEX, Instituto de Geofisica, Unidad Michoacan, UNAM, Morelia, Mexico.*
- 15.p24 Barometric effect of the neutron component of cosmic rays with consideration for wind effect at the Antarctic station Mirny and station Mt. Hermon in Israel
P. Kobelev¹, L. Dorman^{1,2}, A. Belov¹, E. Eroshenko¹, R. Gushchina¹, U. Dai², L. Pustil'nik², V. Yanke¹, I. Zukerman²
¹*IZMIRAN, Kalushskoe ave., 4, Troitsk, Moscow, Russia, 142190;* ²*Israel Cosmic Ray and Space Weather Center with Emilio Segre' Observatory on Mt. Hermon, affiliated to Tel Aviv University, Golan Research Institute, and Israel Space Agency*
- 15.p25 Using one-minute CR data for forecasting on-line great fluxes of energetic particles from the Sun, dangerous for satellites operation and airplanes at regular about 10 km altitude air-lines
L. Dorman^{1,2}, U. Dai¹, V. Kazanzev¹, L. Kozliner¹, L. Pustil'nik¹, A. Sternlieb¹, I. Zukerman¹
¹*Israel Cosmic Ray and Space Weather Center with Emilio Segre' Observatory on Mt. Hermon, affiliated to Tel Aviv University, Golan Research Institute, and Israel Space Agency, Israel;* ²*IZMIRAN, Kalushskoe ave., 4, Troitsk, Moscow, 142190, Russia.*
- 15.p26 Radiation dosimetry at Argentine Antarctic Marambio base and its correlation with cosmic ray variability
Alba Zanini¹, Adolfo Esposito², Monica Laurenza³, Marisa Storini³, Fabrizio Signoretti³, Juan Carlos Terrazas⁴, Marco Caresana⁵, Vicente Ciancio⁶, Gustavo Di Giovan⁶, Adriana Gulisano⁷, Paolo Morfino⁸, Marta DeBiaggi⁸
¹*INFN Sez. Torino, Via Pietro Giuria 1, 10125 Torino, Italy;* ²*LNF-INFN, Via E. Fermi 40, 00044 Frascati, Italy;* ³*IAPS/INAF, via del Fosso del Cavaliere 100, 00133 Roma, Italy;* ⁴*INAF-OATo, Strada Osservatorio 20, 10025 Pino Torinese, Italy;* ⁵*Politecnico di Milano, Piazza Leonardo da Vinci, 32, 20133 Milano, Italy;* ⁶*Universidad Nacional de La Plata, Avenida 7 776, 1900 La Plata, Buenos Aires, Argentina;* ⁷*Istituto Antartico Argentino, Cerrito 1248 C1010AAZ, Buenos Aires, Argentina;* ⁸*Efesto S.a.r.l, 55 Avenue Marceau – 75116 Paris 16*

- 15.p27 Variations of the galactic cosmic ray spectrum on the Forbush decreases of March 2012
D. Lingri¹, M. Livada¹, H. Mavromichalaki¹, A. Belov², E. Eroshenko²
¹University of Athens, Greece; ²IZMIRAN Russia
- 15.p28 Relation of the vector cosmic ray anisotropy to the parameters of solar wind
Maria Abunina¹, Artem Abunin¹, Anatoly Belov¹, Evgenia Eroshenko¹, Victoria Oleneva¹, Victor Yanke¹, Olga Kryakunova²
¹Pushkov Institute of Terrestrial Magnetism, Ionosphere and Radio Wave Propagation (IZMIRAN), Russia; ²Institute of Ionosphere, Kazakhstan

Session 16: Open session on Space Weather Applications and Engineering Concerns

- 16.e01 Revisiting the Influence of the Mid-Latitude Electron Density Trough as the ionospheric projection of the Plasmapause at about 550 Km altitude on High Frequency communication
Yurdanur Tulunay¹, Ibrahim Unal², Erdiñç Timucin², Ersin Tulunay¹
¹ODTÜ/METU, 06800 Ankara Türkiye; ²Inönü Üniversitesi, Malatya, Turkey
- 16.e02 New tool forecasting sporadic E layer appearance on the basis on magnetic eta index
Beata Dziak-Jankowska¹, Tomasz Ernst², Iwona Stanislawska¹, Łukasz Tomasiak¹, Michal Szwabowski¹
¹Space Research Centre PAS, Warsaw, Poland; ²Institute of Geophysics PAS, Warsaw, Poland
- 16.p03 SAFE ESA-funded Project: space weather fundamental for pre-earthquake signals confutation
SAFE TEAM: Angelo De Santis¹, Lucilla Alfonsi¹, Claudio Cesaroni¹, Gianfranco Cianchini¹, Giorgiana De Franceschi¹, Rita Di Giovambattista¹, F. Javier Pavon Carrasco¹, Loredana Perrone¹, Luca Spogli¹, Cristoforo Abbattista², Leonardo Amoroso², Marianna Carbone², Daniela Drimaco²
¹Istituto Nazionale di Geofisica e Vulcanologia, Roma, Italy; ²Planetek Italia, Bari, Italy

16.p04 Systems based forecasts of electron fluxes in the radiation belts

*R. J. Boynton, S. A. Billings, S. N. Walker, M. A. Balikhin
ACSE, University of Sheffield, Sheffield, U.K.*