Programme Overview

	Monday 18 Nov	Tuesday 19 Nov	Wednesday 20 Nov	Thursday 21 Nov	Friday 22 Nov
09:00	Registration Open	Service Domain GIC Plenary 7 9:00 - 10:30	Service Domain Aviation Plenary 10 9:00 - 10:30	Service Domain Spacecraft Operations Plenary 11 9:00 - 10:30	Service Domain GNSS Plenary 15 9:00 - 10:30
09:30	Coffee				
10:00	Tutorial 10:00 - 11:45	Coffee & Live Forecast 10:30 - 11:15	Coffee & Live Forecast 10:30 - 11:15	Coffee & Live Forecast 10:30 - 11:15	Coffee & Live Forecast 10:30 - 11:15
10:30					
11:00		Science & Research 1,5,8 11:15 - 12:30	Topical Discussion Meetings 11:15 - 12:30	Science & Research 8,12 Open Session13 11:15 - 12:30	Science & Research 12,14,16 11:15 - 12:30
11:30	Lunch 11:45 - 12:45				
12:00		Lunch 12:30 - 14:00	Lunch 12:30 - 14:00	Lunch 12:30 - 14:00	Lunch 12:30 - 14:00
12:30	Opening				
13:00	Science & Research 1 Open Sessions 2,3 13:00 - 14:00				
13:30					
14:00	Science & Research 5 Open Sessions 3,4 14:00 - 15:15	Topical Discussion Meetings 14:00 - 15:15	SWWT 14:00 - 16:00	Topical Discussion Meetings 14:00 - 15:15	Science & Research 14,16 Open Session 17 14:00 - 15:15
14:30					
15:00	Coffee & Live Forecast 15:15 - 16:00	Poster Sessions Coffee 15:15 - 17:15		Poster Sessions Coffee 15:15 - 17:15	Topical Discussion Meetings 15:15 - 16:30
15:30					
16:00	Science & Research 5 Open Sessions 3,6 16:00 - 17:15		Topical Discussion Meetings 16:00 - 17:15		
16:30					
17:00	Topical Discussion Meetings 17:15 - 18:30	Science & Research 1,8 Medal Session 17:15 - 18:30	Fair Beer Tasting 17:15 - 19:30	Science & Research 12,14 Open Session 13 17:15 - 18:30	--
17:30					
18:00	--			Keynote Lecture by Frank De Winne 18:30 - 19:30	
18:30	Medal Ceremony 18:45 - 19:45	Visit CSL facilities 18:30 - 21:30			
19:00					
19:30	--		--	Conference Dinner 19:30 -	
20:00	Welcome Reception 20:15 - 21:30	Music Cafe 20:00 -			
20:30					
21:00					

Monday, 18 November 2019

09:00 Registration desk open

09:30 Welcome Coffee

10:00 Start Tutorial
Room: Rogier

11:45 Lunch Break

12:45 Opening
Room: Elisabeth

Session 1: Geomagnetic Storms: a Geomagnetically Induced Current perspective (part 1)

Chairs: Mirko Piersanti (INFN); Roberta Tozzi
Room: Rogier

13:00 Science challenges in modelling of geomagnetically induced currents - **Invited**
Ari Viljanen

13:30 Comparing 1D and 3D ground conductivity models for global geomagnetically induced current forecasts
Ilja Honkonen , Ari Viljanen

13:45 Validating the Space Weather Modeling Framework (SWMF) for applications in northern Europe: Ground magnetic perturbation validation
Norah Kwagala, Michael Hesse, Paul Tenfjord, Cecilia Norgren, Therese Jorgensen, Gabor Toth, Tamas Gombosi

Session 2: Citizen Science and Public Engagement (part 1)

Chairs: *Stijn Calders (BIRA-IASB), Carine Briand (Observatoire de Paris)*

Room: *Mosane 789*

13:00 Citizen science approach for Galactic Cosmic radiation and SEP monitoring at commercial flight altitude

François Trompier, Ghislain Darley, Noémie Berthelot, Jean-François Bottollier-Depois, Carine Briand, Cécilia Damon, Nicolas Fuller, Ludwig Klein, Véronique Lejeune, Jean Marc Peres, Asma Steinhausser

13:15 Building a Raspberry Pi School Magnetometer Network in the UK

Ciaran Beggan

13:30 Insight from an aurora guide and citizen scientist, chasing the lights and inspiring those who want to learn more

Hannahbella Nel

13:45 Vigie-Ciel, a collaborative project to study fireballs, to organise meteorite recoveries and to search for impact crater

F. Colas, B. Zanda, S. Bouley, A. Steinhausser, S. Jeanne, E. Lewin, J. Vaubaillon, P. Vernazza, J.L. Rault,and the FRIPON and Vigie-Ciel teams

Session 3: Satellite and ground-based observations for space weather and space climate monitoring and modelling (part 1)

Chairs: *Guram Kervalishvili (GFZ), Eelco Doornbos (KNMI)*

Room: *Elisabeth*

13:00 Modeling ground magnetic field disturbances using satellite magnetometers - **Invited**

K. M. Laundal, J. P. Reistad, A. Ohma, S. M. Hatch, T. Moretto

13:25 First results from the Daedalus Mission Phase-0 Study - **Invited**

Theodoros Sarris, Anita Aikio; Stephan Buchert, Mark Clilverd, Iannis Dandouras, Eelco Doornbos, Roderick Heelis, Nickolay Ivchenko, Therese Moretto Jørgensene, Guram Kervalishvili, David Knudsen, David Malaspina, Aurélie Marchaudon, Octav Marghitu, Tomoko Matsuo, Wojciech Miloch Nils Olsen, Minna Palmroth, Robert Pfaff, Claudia Stolle, Elsayed Talaat, Pekka Verronen, Pieter Visser

13:50 How increasing the number of ground magnetometer stations affects geomagnetic indices: comparing AE, Dst and their SuperMAG counterparts

Aisling Bergin, Sandra Chapman, Jesper Gjerloev

14:05 On the nightglow polarisation : a new window for space weather observations?

Léo Bosse, Jean Lilensten, Nicolas Gillet, Sylvain Rochat, Alain Delboulbé, Stephane Curaba, Alain Roux, Yves Magnard, Magnar G. Johnsen, Pierre-Olivier Amblard, Nicolas le Bihan, Maxime Nabon

14:20 DTM2019 in the framework of the H2020 project SWAMI - **Invited**

Sean Bruinsma

14:45 Potential of TIMED/GUVI limb observations for medium-scale traveling ionospheric disturbances study at mid-latitudes

Gilles Wautelet, Benoît Hubert, Jean-Claude Gérard

15:00 The SMILE mission: A novel way to study solar-terrestrial interactions

I. J. Rae, G. Branduardi-Raymont, C. Wang, C. P. Escoubet, S. Sembay, E. Donovan, L. Dai, L. Li, J. Li, D. Agnolon, A. Read, E. L. Spanswick, D. Sibeck, H. Connor, T. Sun, J. Carter, A. Samsonov, H. Laakso

Session 4: National And Global Preparedness For Space Weather Events: Research, Forecasting, And Mitigation (part 1)

Chairs: *Thomas Colvin (Science & Technology Policy Institute), Christopher Cannizzaro (U.S. Department of State), Lucie Green (UCL)*

Room: *Mosane 789*

14:00 Space Weather Activities in Latin America - **Invited**

Americo Gonzalez-Esparza, Joaquim E. R. Costa, Clezio M. Denardini, Sergio Dasso, Juan A. Valdivia

14:15 Operational Space Weather Practices in the South African region - **Invited**

Lee-Anne McKinnell, Mpho Tshisaphungo and River Wyoming Yaffe

14:30 U.S. National Space Weather Strategy and Action Plan - **Invited**

Jaclyn Keshian

14:45 The Ionosphere Prediction Service: Its way forward at the JRC - **Invited**

Angela Aragon-Angel, Manuel Hernandez-Pajares, Martin Zurn, Roberto Sabbi, Joaquim Fortuny Guasch, and Eric Guyader

15:00 NOSWE - The Norwegian Centre for Space Weather

Raisa E. Leussu, Daniel Martini

Session 5: Solar Corona and Heliosphere (part 1)

Chairs: *Luciano Rodriguez (ROB); Sergio Dasso (IAFE)*

Room: *Rogier*

14:00 STAT Simulations of Solar Particle Events - **Invited**

Jon Linker, Ronald Caplan, Nathan Schwadron, Matthew Gorby, Cooper Downs, Tibor Torok, Roberto Lionello

14:30 Linking 12 X-class flares and CMEs to SEP events and geomagnetic disturbances in 2002

B. Schmieder, R.-S. Kim, B. Grison, K. Bocchialini, R.-Y. Kwon

14:45 Neutron monitor observations of relativistic solar particles and their relationship with acceleration processes in the corona

Karl-Ludwig Klein

15:00 An EUV window on the September 17 2017 flaring storm: analysis of desaturated SDO/AIA images

Sabrina Gaustavino, Michele Piana, Anna Maria Massone, Richard Schwartz, Federico Benvenuto

15:15 Coffee break & Live SW Forecast

Session 3: Satellite and ground-based observations for space weather and space climate monitoring and modelling (part 2)

Chairs: Guram Kervalishvili (GFZ), Eelco Doornbos (KNMI)
Room: Elisabeth

16:00 Ionospheric plasma irregularities at high latitudes studied with the Swarm satellites

Wojciech Miloch, Yaqi Jin, Chao Xiong, Daria Kotova, Andres Spicher,Guram Kervalishvili, Lasse Clausen, Claudia Stolle

16:15 Comparison of ionospheric plasma irregularities measured by Swarm with the ground-based GPS scintillation data

Daria Kotova, Yaqi Jin, Wojciech Miloch

16:30 Detector of Solar flare effects on geomagnetism and ionosphere based on GNSS and ionosonde data.

Curto, J.J. , Juan, J.M. , Altadill, D. , Timoté, C. , Blanch, E. , Segarra, A.

16:45 Localized enhancements of electron concentration during the maximum of the 24th solar cycle

Ilya K. Edemskiy

17:00 Comparisons of electron density profiles given by Autoscala and corresponding measurements obtained from incoherent scatter radar

Carlo Scotto and Dario Sabbagh

Session 5: Solar Corona and Heliosphere (part 2)

Chairs: Luciano Rodriguez (ROB); Sergio Dasso (IAFE)
Room: Rogier

16:00 Solar wind modeling by EUHFORIA - **Invited**
Jasmina Magdalenic

16:30 Developing fast solar wind modeling with EUHFORIA
Evangelia Samara , Jasmina Magdalenic , Luciano Rodriguez , Stephan G. Heinemann, Stefaan Poedts

16:45 Statistical Analysis of SDO-era Coronal Holes using CATCH
Stephan G. Heinemann, Manuela Temmer, Niko Heinemann, Karin Dissauer, Evangelia Smara, Veronika Jercic, Stefan J. Hofmeister, Astrid Veronig,

17:00 From Observations Toward Prediction of the Downstream Properties of CME-Driven Shocks
Christina Kay

Session 6: Radio observations for Space Weather applications (part 1)

Chairs: Hanna Rothkaehl (PAS), Barbara Matyjasiak (PAS), Nicole Vilmer (LESIA)
Room: Mosane 789

16:00 Radio Observations for Space Weather Applications - **Invited**
Gottfried Mann

16:15 Comparing solar flares from SMOS and GOES missions
Cid Consuelo, Sharma Rahul, Flores Manuel, Saiz Elena, Guerrero Antonio

16:30 The UCSD Iterative Interplanetary Scintillation (IPS) Analysis Operation Using an ENLIL 3-D MHD Model Kernel
Bernard Jackson, Dusan Odstrcil, Paul Hick, Andrew Buffington, Munetoshi Tokumaru, Mario Bisi

16:45 Assessment of Space Weather effects on navigation applications using radio observations

Jens Berdermann, Mainul Mohammed Hoque, Martin Kriegel, Daniela Banys, Volker Wilken, Norbert Jakowski

17:00 Towards developing a nowcasting solar flare capability using subionospheric VLF radio: Addressing the ICAO call for global aviation

Craig J. Rodger, Harriet George, Mark A. Clilverd, Kathy Cresswell-Moorcock, James B. Brundell, Neil R. Thomson

17:15-18:30 Topical Discussion Meetings

Mosane 789	**Mosane 5**	**Mosane 6**
3D structure and extraction of coronal holes, and the consequences for space weather	International collaboration for researching "Radio-Weather"	Benchmarking Extreme Space Weather Events for Improved Global Resilience
Stephan G. Heinemann; Stefan J. Hofmeister; Manuela Temmer; Tadhg Garton; Jon Linker	*Mamoru Ishii; Iwona Stanislawska; Anna Belehaki*	*Thomas Colvin; Mike Hapgood; Geoffrey Reeves*

18:45-19:45 Medal Ceremony

Room: Elisabeth

20:15-21:30 Welcome Reception

Aquarium-Muséum Universitaire de Liège
Quai Edouard Van Beneden 22 - 4020 Liège

Tuesday, 19 November 2019

Session 7: GICs: Ground system hazards from geomagnetically induced currents – research, developments, services, and operations.

Chairs: *Mark Clilverd (British Antarctic Survey, UK), Craig Rodger (Univ. of Otago, NZ)*
Room: *Elisabeth*

09:00 Geomagnetically Induced Currents (GICs): The Role of Space Weather Services - **Invited**

H.J. Singer, C. Balch, M. Cash, R. Steenburgh, W. Murtagh, G. Millward, E. Camporeale, G. Toth, and Z. Huang

09:30 Modelling GICs in Sweden – verification and extreme event analysis - **Invited**

Lisa Rosenqvist, Tim Fristedt, Andrew P. Dimmock, Daniel Welling, Maxim Smirnov, Emiliya Yordanova

10:00 Transpower measurements of GIC in New Zealand - **Invited**

Michael Dalzell, Craig J. Rodger

10:30 Coffee break & Live SW Forecast

Session 1: Geomagnetic Storms: a Geomagnetically Induced Current perspective (part 2)

Chairs: *Mirko Piersanti (INFN); Roberta Tozzi*
Room: *Rogier*

11:15 On the regional variability of dB/dt and its significance to GIC

Andrew P. Dimmock, Lisa Rosenqvist, Daniel Welling, Ari Viljanen, Ilja Honkonen, Emiliya Yordanova

11:30 Mid-latitude magnetic field perturbations and geomagnetically induced currents during the 07-08 September 2017 geomagnetic storm

Mark A. Clilverd, Craig J. Rodger, James B. Brundell, Michael Dalzell, Ian Martin, Daniel H. Mac Manus, Neil R. Thomson, Tanja Petersen, Yuki Obana, Ellen Clarke, Alan Thomson, Gemma Richardson, Rachel-Louise.Bailey, Yaroslav Sakharov, Vasilii Selivanov, Finlay MacLeod, Ian Frame and Mervyn Freeman

11:45 The magnetospheric and ionospheric contribution to Geomagnetically Induced Currents during the September 6, 2017 Geomagnetic Storm.

Giulia D'Angelo, Simone Di Matteo, Brett. A. Carter, Julie Currie, Mirko Piersanti

12:00 GIC modelling and mitigation of New Zealand's electrical transmission network during extreme geomagnetic storms.

Daniel H. Mac Manus, Craig J. Rodger, Michael Dalzell, Tim Divett, and Tanja Peterson

12:15 Validating GIC models with line current measurements using the Differential Magnetometer Method

Ciaran Beggan, Juliane Huebert, Gemma Richardson, Alan Thomson

Session 5: Solar Corona and Heliosphere (part 3)

Chairs: Luciano Rodriguez (ROB); Sergio Dasso (IAFE)
Room: Elisabeth

11:15 Understanding and forecasting of coronal mass ejections - **Invited**

Mateja Dumbovic, Jingnan Guo, Manuela Temmer, M. Leila Mays, Astrid Veronig, Stephan Heinemann, Karin Dissauer, Stefan Hofmeister, Jasper Halekas, Christian Mostl, Tanja Amerstorfer, Jurgen Hinterreiter, Sasa Banjac, Konstantin Herbst, Yuming Wang, Lukas Holzknecht, Martin Leitner, and Robert F. Wimmer–Schweingruber

11:45 Tracing the Origins of Flux Ropes Observed at 1 AU in CMEs Without Obvious Low Coronal Signatures

Nariaki Nitta, Tamtha Mulligan

12:00 Characterising the radial evolution of the solar wind and Coronal Mass Ejections using EUHFORIA

Camilla Scolini, Sergio Dasso, Luciano Rodriguez, Andrei N. Zhukov, Stefaan Poedts

12:15 Multi-Spacecraft Measurements of a Geo-Effective Coronal Mass Ejection: CME Radial Expansion

Noé Lugaz, Réka M. Winslow, Tarik M. Salman, Charles J. Farrugia

Session 8: Radiation Environments (part 1)

Chairs: Rami Vainio (Univ. of Turku); Yuri Shprits (GFZ/UCLA)
Room: Mosane 789

11:15 Spectra and angular distribution of relativistic SEP particles derived using neutron monitor data

A. Mishev, I. Usoskin

11:30 Propagation of relativistic protons from solar eruptive events

S. Dalla, G. de Nolfo, J. Giacalone, A. Bruno, M. Battarbee, T. Laitinen and S. Thomas

11:45 What will the intensity-time profiles of SEP events look like? An answer from the ESA's SAWS-ASPECS project

Angels Aran, Rami Vainio , Miikka Paassilta, Osku Raukunen , Athanasios Papaioannou, Anastasios Anastasiadis, Sigiava Aminalragia-Giamini, Piers Jiggens

12:00 SEP Scoreboard

M. Leila Mays, Masha Kuznetsova, Joycelyn Jones, Eddie Semones, Kerry Lee, Janet Barzilla , Steve Johnson, Kathryn Whitman, Phillip Quinn , Christopher Mertens , Ian Richardson , Mark Dierckxsens , Mike Marsh

12:15 ISEP: A Joint SRAG/CCMC Collaboration to Improve Space Weather Prediction for Crew Protection during Near-Term Lunar Surface and Cis-Lunar Missions

Janet Barzilla, Kerry Lee, Eddie Semones, Steve Johnson, Katie Whitman, Phillip Quinn, M. Leila Mays, Masha Kuznetsova, Joycelyn Jones, Christopher Mertens

12:30-14:00 Lunch Break

14:00-15:15 Topical Discussion Meetings

Mosane 789	**Mosane 5**	**Mosane 6**
What critical issues must we address to improve Space Weather forecasts for satellites?	How can we improve modelling of processes driving GIC and electric field impacts on ground-based systems?	Scoreboard for the Near-Earth Spacecraft Charging Environment: Initial Discussion and Planning
Richard Horne; Jonny Rae; Clare Watt and Dave Pitchford	*Alan Thomson; Mervyn Freeman; Kathy Whaler; Jim Wild; Ciaran Beggan; Ellen Clarke*	*Yihua Zheng; T. Paul O'Brien; Yuri Shprits; Richard Horne; Natasha Yu. Ganushkina*

15:15-17:15 Posters Session & Coffee Break

Session 1: Geomagnetic Storms: a Geomagnetically Induced Current perspective (part 3)

Chairs: Mirko Piersanti (INFN); Roberta Tozzi
Room: Rogier

17:15 On the dynamical properties of geomagnetic indices for Space Weather purposes - **Invited**
Tommaso Alberti

17:45 The Contribution of Sudden Commencements to the Rate of Change of the Surface Magnetic Field in the UK
A. W. Smith, I. J. Rae, C. Forsyth, M. P. Freeman

18:00 Using PC indices to predict violent GIC events threatening power grids
Peter Stauning

18:15 Effects of GIC on pipelines: geomagnetic storms and high speed streams

Larisa trichtchenko

Session 8: Radiation Environments (part 2)

Chairs: Rami Vainio (Univ. of Turku); Yuri Shprits (GFZ/UCLA)
Room: Mosane 789

17:15 Comparison Of On-board Measurements With AP8 and AE8 Models Of Charged Particles Fluxes

Vasily S. Anashin, Grigory A. Protopopov, Evgeny A. Bondarev, Natalya V. Balykina, Andrey Y. Repin, Valentina I. Denisova, Alexey V. Tsurgaev

17:30 AE9/AP9-IRENE Radiation Environment Model: Future Development Plans and Needs

T. P. O'Brien, W. R. Johnston, S. L. Huston, T. B. Guild, Y.-J. Su, C. J. Roth, R. A. Quinn, and J. Charron

17:45 Identifying and Classifying Radiation Belt Enhancement Events

Geoffrey Reeves, Elizabeth Vandegriff, Jon Niehof, Steve Morley, Greg Cunningham, Mike Henderson, and Brian Larsen

18:00 Long-term simulation of radiation belt protons above 10MeV

Antoine Brunet, Angélica Sicard, Denis Standarovski

18:15 Coupled Dynamics of the Ring Current and Outer Radiation Belt Relativistic Electron Fluxes

Vladimir Kalegaev, Ilya Nazarkov, Natalia Vlasova

Session 9: Medal Session

Room: Elisabeth
Hours: 17:15 - 18:30

This session will allow the winners of the three international space weather and space climate medals to present their work during a 20 min invited talk each. Over the years, these medals have become the most prestigious recognition in space weather worldwide.

Three medals are attributed during the ESWW:
- The Kristian Birkeland Medal for Space Weather and Space Climate, for combining basic and applied research to develop useful space weather or space climate products that are being used outside the research community, and/or across scientific research disciplines.
- The Baron Marcel Nicolet Medal for Space Weather and Space Climate recognizes a unique ability to bind the space weather and space climate community in a spirit of peace and friendship, to educate within the space weather and space climate community, to go also beyond the space weather and space climate research community and address larger audiences, and/or to serve the space weather and the space climate.
- The Alexander Chizhevsky Medal for Space Weather and Space Climate rewards a young researcher for outstanding achievements in space weather or space climate with an innovative approach.

18:30 Visit of the Centre Spatial de Liège

LIEGE Science Park - Av. du Pré-Aily - 4031 Angleur

Departure at the entrance of the conference site 18:30, estimated return time 21:30.

We offer the participants of ESWW2019 the opportunity to visit CSL, Centre Spatial de Liège (http://www.csl.uliege.be). The program will include a visit of the test facilities, like the Focal vacuum chambers one of which specifically developed for JUICE high radiations environments and presentations about Sun - Planet interactions & Aurora Observing Instrument development.

20:00- Music Cafe

On site in Bar des Congressistes

Wednesday, 20 November 2019

Session 10: Aviation

Chairs: Marcin Latocha (Seibersdorf Lab.), Erwin de Donder (BISA)
Room: Elisabeth

09:00 Nowcasting application of the global NM network data for assessment of the radiation exposure at flight altitudes
A. Mishev, I. Usoskin

09:20 SEE the greatest threat to Aviation from Space Weather
Alex Hands

09:40 NOAA Space Weather Prediction Center Radiation Advisory Framework for the International Civil Aviation Organization
Hazel M Bain, Terry Onsager, Kyle Copeland, Chris Smith, Robert Steenburgh, Steven Hill

10:00 Radiation aspects of space weather in the airline business
Ralph Zander, Christian Dratwa

10:30 Coffee break & Live SW Forecast

11:15-12:30 Topical Discussion Meetings

Mosane 789	**Mosane 5**	**Mosane 6**	**Rogier**
Debate on acceleration mechanisms involved in the generation of SEP events	Spacecraft, Aircraft, Launcher, Lunar, Planetary and Asteroid Environments	Atmospheric Effects Topical Group - supporting the ISWAT initiative	Verification and validation – from initial concept to operational service
Olga Malandraki, Norma B. Crosby, Nicole Vilmer	*Susan McKenna-Lawlor, Guenther Reitz, Piers Jiggens*	*Sean Bruinsma*	*Suzy Bingham; Alexi Glover; Mark Dierckxsens; Sean Elvidge; Federico Da Dalt; Gareth Dorrian*

12:30-14:00 Lunch Break

14:00-16:00 SWWT plenary meeting
Room: Elisabeth

16:00-17:15 Topical Discussion Meetings

Mosane 789	**Mosane 5**	**Mosane 6**	**Rogier**
Generation of SpaceWx Scenarios for Exercise Use - Examination of a Toolkit Approach	Solar and planetary magnetic activity as a space weather driver	ESA's Distributed Space Weather Sensor System (D3S)	ESA SSA Space Weather Services for users in the Mediterranean region
Ewan Haggarty; Dave Pitchford	*Elena Popova, Robert Erdelyi*	*Melanie Heil, Stefan Kraft, Juha-Pekka Luntama, Alexi Glover*	*Ioannis Daglis; Anastasios Anastasiadis; Georgios Balasis; Anna Belehaki; Stelios Bollanos; Christos Katsavrias; Athanasios Papaioannou*

17:15-19:30 Fair & Beer tasting
Poster Area

Thursday, 21 November 2019

Session 11: Spacecraft Operations

Chairs: *Alexi Glover (ESA Space Safety), Sophie Chabanski (SSCC, BIRA-IASB), Dave Pitchford (SES), Bruno Sousa (ESA Missions Operations)*

Room: *Elisabeth*

09:00 Integral Mission Operations and Space Weather - **Invited**
Jutta Huebner

09:15 The Satellite Risk and Radiation Forecast System (SaRIF)
Richard Horne, Sarah Glauert, Peter Kirsch, Daniel Heynderickx, Suzy Bingham and Peter Thorn

09:30 Evolving the Spacecraft Environmental Anomalies Expert System (SEAES) beyond geostationary orbit
T. Paul O'Brien, Tim Guild, Joe Mazur, Alexa Halford

09:45 Energetic particles in the heliosphere, current understanding and challenges for space weather services - **Invited**
Rami Vainio

10:00 Discussion Panel
Dave Pitchford

10:30 Coffee break & Live SW Forecast

Session 8: Radiation Environments (part 3)

Chairs: *Rami Vainio (Univ. of Turku); Yuri Shprits (GFZ/UCLA)*

Room: *Mosane 789*

11:15 The pivot energy of Solar Energetic Particles contributing to the Martian surface radiation environment
Jingnan Guo, Robert Wimmer-Schweingruber, Manuel Grande, Daniel Matthiae and Yuming Wang

11:30 Radiation Environment and risks during human exploration of habitable sites on Mars during Solar maximum, minimum and under the October 2003 events

F. Da Pieve, G. Gronoff, E. Botek, V. Pierrard, J. Kohanoff, F. Cleri, B. Gu and A.C. Vandaele

11:45 Applications and Models for Satellite Anomaly Analysis

Janet Green, Rick Quinn, Yuri Shprits, Justin Likar, Paul O'Brien, Seth Claudpierre, Alex Boyd, Paul Whelan, Nils Reker

12:00 User-Oriented Model Validation Efforts for Radiation Belt Electrons: Internal Charging Applications

Y. Zheng , A. Kellerman , M.-C. Fok , L. Rastaetter , T. P. O'Brien , Y. Shprits , M. M. Kuznetsova , and other modelers

12:15 Future key areas for the trapped and solar radiation - summary discussion

Yuri Shprits, Rami Vainio

Session 12: Space Weather Instrumentation (part 1)

Chairs: *Jackie Davies (RAL UKRI STFC); Keith Ryden (Univ. of Surrey)*

Room: *Elisabeth*

11:15 LAGRANGE - ESA's Space Weather Mission to L5 - **Invited**

Stefan Kraft, on behalf of the LAGRANGE Mission team

11:35 The EUV Imager on Lagrange

Matthew J West, Christian Kintziger, Manfred Gyo, Margit Haberreiter, David Berghmans, Daniel Pfiffner, Silvio Koller, Samuel Gissot

11:50 In-situ particle instruments for enhanced space-weather monitoring

Dhiren Kataria

12:05 Design, development and testing of the RADEM and NGRM instruments - **Invited**

Wojtek Hajdas

Session 13: Machine Leaning and statistical inference techniques applied to space weather (part 1)

Chairs: Giovanni Lapenta (KULeuven), Enrico Camporeale
Room: Rogier

11:15 A Deep Learning Approach to Forecast Tomorrow's Solar Wind Parameters
Carl Shneider, Mandar Chandorkar, Enrico Camporeale.

11:30 A machine learning approach for automated ULF wave recognition
Georgios Balasis, Sigiava Aminalragia-Giamini, Constantinos Papadimitriou, Ioannis A. Daglis, Anastasios Anastasiadis, Roger Haagmans

11:45 What is the intrinsic dimensionality of the OMNI data? A dimensionality reduction study
Jannis Teunissen, Romain Dupuis, Carl Shneider, Enrico Camporeale

12:00 Forecasting solar wind properties using dimensionality reduction and Self-Organizing Maps
Jorge Amaya, Romain Dupuis, Jannis Teunissen, Giovanni Lapenta

12:15 Assessing the predictability of the geomagnetic activity with information theoretical tools
Guillerme Bernoux, Antoine Brunet, Miho Janvier, Eric Buchlin

12:30-14:00 Lunch Break

14:00-15:15 Topical Discussion Meetings

Mosane 789	Mosane 5	Mosane 6
The SAWS-ASPECS tool: A Web-based Tool for Forecasting Solar Particle Events and Flares	ESA SSA SWE Network Service Dashboards and How to Combine Products to Provide Added Value to the User	Big-data processing and modelling of solar activities and space weather forecasting
Anastasios Anastasiadis; Athanasios Papaioannou; Rami Vainio; Angels Aran; Miikaa Paassilta; Ingmar Sandberg; Antonis Tsigkanos; Sigiava Aminalragia-Giamini; Evagelos Paouris; George Vasalos; Mark Dierckxsens; Piers Jiggens	*Sophie Chabanski; Jennifer O'Hara, Robbe Vansintjan, Corentin Liber, ESA SSA SWE Service Network; Alexi Glover*	*Jiajia Liu; Xin Huang; Marianna Korsos; Long Xu; Robert Erdelyi*

15:15-17:15 Posters Session & Coffee Break

Session 12: Space Weather Instrumentation (part 2)

Chairs: *Jackie Davies (RAL UKRI STFC); Keith Ryden (Univ. of Surrey)*

Room: *Elisabeth*

17:15 Radiation monitoring hosted payloads: ICARE_NG

S. Bourdarie, L. N'Guyen, J. Carron, D. Falguere, P. Bourdoux, R. Ecoffet, J.P. Luntama, M. Heil

17:30 Combined particle radiation and magnetic field measuring instrument package development for ESA's Distributed Space Weather Sensor System (D3S)

Balazs Zabori, Attila Hirn, Andras Gerecs, Istvan Apathy, Marco Vuolo, Sergio Terzo, Stefan Kraft

17:45 Observational capabilities and results of the HEPD detector on board CSES-01 for Space Weather studies

Martucci, M on behalf of the CSES-Limadou Collaboration

18:00 Sub-L1 Monitors: What Science Discoveries Do We Need Before Operational Settings

Noé Lugaz, Christina Lee, Antoinette B. Galvin, Réka Winslow, David Curtis, Lan Jian, Errol J. Summerlin, Christian Moestl, Charles Smith, Davin Larson, Phyllis Whittlesey, Daniel Cosgrove, Charles J. Farrugia, Nada Al-Haddad et al.

18:15 New space weather instruments for actionable space weather forecasts

Neal Hurlburt, Joe Mobilia, Steve Petrinec

Session 13: Machine Leaning and statistical inference techniques applied to space weather (part 2)

Chairs: Giovanni Lapenta (KULeuven), Enrico Camporeale
Room: Rogier

17:15 A Bayesian Deep Learning Approach to Geomagnetic Storm Prediction

Adrian Tasistro-Hart, Alexander Grayver, Alexey Kuvshinov

17:30 Multivariate Timeseries Analysis for Solar Flare and Eruption Forecasting: the Unexploited Potential and its Blending with Machine Learning

M. K. Georgoulis, R. A. Angryk, P. C. Martens, B. Aydin, A. Ahmadzadeh, R. Ma

17:45 Geomagnetic Kp index forecast using historical values and real-time observations

Yuri Shprits, Ruggero Vasile, Irina Zhelavskaya

18:00 Supervised machine learning for flare prediction: the impact of features and of the training set generation process on the forecasting performances

Cristina Campi, Federico Benvenuto, Anna Maria Massone, Manolis Georgoulis, D Shaun Bloomfield, Michele Piana

18:15 Progress and issues predicting the Dst index using Long Short-Term Memory neural networks.
Brecht Laperre, Jorge Amaya, Giovanni Lapenta

Session 14: Achievements in Magnetosphere - Ionosphere - Thermosphere coupling during geomagnetic storms and magnetospheric substorms (part 1)

Chairs: *Tommaso Alberti (INAF), Paola De Michelis (INGV), Anna Belehaki (NOA)*
Room: *Mosane 789*

17:15 Plasma wave properties and storm-substorm relationship as reflections of the coupled solar wind-magnetosphere-ionosphere dynamic system - **Invited**
Ioannis A. Daglis, Georgios Balasis

17:45 Comparison of the Plasma Disturbances in the Ionosphere Registered by DEMETER and Swarm Satellites during Geomagnetic and Thunderstorms
Jan Błęcki, Jan Słomiński , Roman Wronowski, Ewa Słomińska, Rafał Iwański, Roger Haagmans and Michel Parrot

18:00 Magnetopause position and solar wind pressure: Going beyond a statistical relation
Johan De Keyser, Mario Bandic, Giuli Verbanac

18:15 Physics-based validation of global MHD models
Therese Moretto, Michael Hesse, Masha Kutzentsove, Lutz Rastaetter, Susanne Vennerstrom, Paul Tenfjord

18:30-19:30 Keynote Lecture by Frank De Winne

(Organized by CSL)

Room: Elisabeth

Future European Exploration Programme, Low Earth Orbit, Moon and Mars

Frank burggraaf De Winne is a Belgian ESA-astronaut. In 2002 and 2009, he left for space to the ISS. He is currently in charge of ISS operations and ESA astronauts and also is involved in the development of future ESA exploration programmes. Frank De Winne: 'We are studying with international partners if we can together go forward to the moon. It won't be a race to plant a flag, but explore the lunar surface in a sustainable manner. In first instance, we will stay for short periods on the moon, but we want to check the possibilities for long stays. The moon can be a stepping stone to Mars.'

19:30- Conference Dinner & Casino Games

On site in Salle des Pas Perdus

Friday, 22 November 2019

Session 15: GNSS: How can the space weather community meet user requirements for navigation/communication at high latitudes?

Chairs: *Behlke Rico (SST); Geoff Crowley (ASTRA)*
Room: *Elisabeth*

09:00 Highly Elliptical Orbits for services in Polar Regions: Increasing the mission lifetime by orbit optimization
L. Trichtchenko, A. Trishchenko and L. Garand

09:15 An index for estimating the degree of ionospheric disturbance
Volker Wilken, Martin Kriegel, Norbert Jakowski, Jens Berdermann

09:30 Method for estimating foF2 from GPS/TEC
Z. Bouya, V. Kumar, M. Terkildsen, P. Maher

09:45 ESA Space Weather portal – GNSS Performance Indicator Tool
Knut Stanley Jacobsen

10:00 Appropriate ionosphere perturbation indices for use cases in high latitudes
Claudia Borries, Volker Wilken, Knut Stanley Jacobsen, Alberto Garcia-Rigo, Beata Dziak-Jankowska, Guram Kervalishvili, Norbert Jakowski, Ioanna Tsagouri, Manuel Hernández-Pajares

10:15 The ionospheric irregularities climatology over Svalbard from solar cycle 23
Luca Spogli, Giorgiana De Franceschi, Lucilla Alfonsi, Vincenzo Romano, Claudio Cesaroni, Ingrid Hunstad

10:30 Coffee break & Live SW Forecast

Session 12: Space Weather Instrumentation (part 3)

Chairs: *Jackie Davies (RAL UKRI STFC); Keith Ryden (Univ. of Surrey)*

Room: *Elisabeth*

11:15 Tor Vergata Synoptic Solar Telescope: Optical Design and Preliminary Spectral Characterization

Daniele Calchetti, Giorgio Viavattene, Francesco Berrilli, Dario Del Moro, Luca Giovannelli, Stuart Jefferies, Neil Murphy, Maurizio Oliviero

11:30 Ionospheric radio occultation using Spire's cubesat constellation

Vu Nguyen, T. Duly, V. Irisov, O. Nogues-Correig, L. Tan, T. Yuasa, G. Savastano, D. Masters, M. J. Angling, F-X Bocquet, G. Olivares-Pulido, K. Nordstrom

11:45 Coordinated Ionospheric Reconstruction CubeSat Experiment (CIRCE) Mission Overview

G. D. R. Attrill, A. C. Nicholas, G. Routledge, J. A. Miah, K. F. Dymond, S. A. Budzien, A. W. Stephan, and B. Fritz

12:00 Future of the worldwide network of neutron monitors?

Christian T. Steigies, Rolf Bütikofer, Danislav Sapundjiev, Karl-Ludwig Klein, Olga Kryakunova, the NMDB consortium

12:15 A new Antarctic Space Weather Laboratory containing a LAGO Cosmic Rays Detector

S. Dasso, N. Santos, A.M. Gulisano, O. Areso, M. Pereira, M. Ramelli, U. Hereñú, V.E. López, V. Lanabere, H. Asorey, H. Ochoa, A. Niemela, for the LAGO collaboration .

Session 14: Achievements in Magnetosphere - Ionosphere - Thermosphere coupling during geomagnetic storms and magnetospheric substorms (part 2)

Chairs: *Tommaso Alberti (INAF), Paola De Michelis (INGV), Anna Belehaki (NOA)*
Room: *Mosane 789*

11:15 SuperDARN in a Space Weather Perspective - **Invited**
Maria Federica Marcucci

11:45 SuperDARN observations during geomagnetic storms, geomagnetically active times and enhanced solar wind driving
Maria-Theresia Walach, Adrian Grocott

12:00 Trapped Population Response During Geomagnetic Auroral Super Storms
Jessy Matar, Benoit Hubert, and Zhonghua Yao

12:15 Magnetic local time asymmetries in electron and proton precipitation with and without substorm activity
Olesya Yakovchuk, Jan Maik Wissing

Session 16: Novel approaches for space weather forecasting (part 1)

Chairs: *Juan Sebastian Cervantes Villa (GFZ); Ludger Scherliess (Utah State Univ.)*
Room: *Rogier*

11:15 Enhancing space weather predictions using coronal dimmings
Astrid M. Veronig, Karin Dissauer, Tatiana Podladchikova, Manuela Temmer

11:30 On the Drag parameter of CME propagation models
Dario Del Moro, Francesco Berrilli, Raffaello Foldes, Alice Cristaldi, Roberta Forte, Luca Giovannelli, Gianluca Napoletano, Ermanno Pietropalo

11:45 Solar flare forecasting algorithms: R and D values for SDO/HMI and MOTH LoS magnetograms

Francesco Berrilli, Domenico Cicogna, Stuart Jefferies, Neil Murphy, Dario Del Moro, Luca Giovannelli, Daniele Calchetti

12:00 Early detection of solar flares using GOES/SUVI data

Larisza D. Krista, Daniel Seaton, Paul Lotoaniu

12:15 The Probabilistic Solar Particle Event foRecasting (PROSPER) Model

Athanasios Papaioannou, Rami Vainio, Osku Raukunen, Anastasios Anastasiadis, Angels Aran, Miikka Paassilta, Sotirios A.Mallios, Piers Jiggens

12:30-14:00 Lunch Break

Session 14: Achievements in Magnetosphere - Ionosphere - Thermosphere coupling during geomagnetic storms and magnetospheric substorms (part 3)

Chairs: Tommaso Alberti (INAF), Paola De Michelis (INGV), Anna Belehaki (NOA)

Room: Mosane 789

14:00 Statistical quantification of extreme space weather events across multiple solar cycles: the Carrington event in context

S. C. Chapman, R. B. Horne, N. W. Watkins

14:15 Investigating dynamical complexity at Swarm altitudes using information-theoretic measures

Georgios Balasis, Constantinos Papadimitriou, Adamantia-Zoe Boutsi, Omiros Giannakis, Anastasios Anastasiadis, Ioannis A. Daglis, Paola De Michelis, Giuseppe Consolini

14:30 What is happening with the Sun – and ionospheric response

Jan Lastovicka

14:45 Solar and geomagnetic activity impact on thermospheric density during ESA's mission GOCE

Francesco Berrilli, Alberto Bigazzi, Carlo Cauli, Dario Del Moro, Luca Giovannelli

15:00 Asymmetries of ground magnetic disturbances at mid-latitudes during extreme geomagnetic storms and their relevance depending on their intensity

Elena Saiz, Consuelo Cid, Antonio Guerrero

Session 16: Novel approaches for space weather forecasting (part 2)

Chairs: *Juan Sebastian Cervantes Villa (GFZ); Ludger Scherliess (Utah State Univ.)*

Room: *Rogier*

14:00 The HESPERIA real-time Solar Energetic Particle prediction tools

Olga Malandraki, Bernd Heber, Patrick Kuehl, Marlon Núñez, Arik Posner, Michalis Karavolos, Nikos Milas

14:15 Stochastic parameterizations in Space Weather models: Application to Earth's Radiation Belts

Clare Watt, Rhys Thompson, Sarah Bentley, Paul Williams, I. Jonathan Rae, Hayley Allison, Kyle R. Murphy, Nigel Meredith, Sarah Glauert, Richard Horne, Chandra Anekallu, Colin Forsyth

14:30 Forecasting GOES >2 MeV fluxes using geomagnetic indices and solar wind data

Colin Forsyth, Clare Watt, Michaela Mooney , Jonathan Rae, Samuel Walton , Richard Horne

14:45 The system identification development of local time dependent electron flux models for geostationary orbit

Richard Boynton, Michael Balikhin

15:00 Forecasting ionospheric Total Electron Content at global level one day in advance

Claudio Cesaroni, Luca Spogli L., Angela Aragon-Angel, Michele Fiocca, Varuliator Dear, Giorgiana De Franceschi, Vincenzo Romano

Session 17: Data Assimilation for Space Weather Applications (part 1)

Chairs: Matthew Lang (LSCE), Sacha Brun (CEA-Saclay)
Room: Elisabeth

14:00 Data driving and data assimilation in EUHFORIA - **Invited**
Stefaan Poedts

14:15 Development of adaptive Kalman filter for short-term forecasts of the F30 and F10.7 cm radio flux
Tatiana Podladchikova, Olena Podladchikova, Astrid M. Veronig

14:30 Nowcasting the Ionosphere-Thermosphere System during Disturbed Conditions
Eric Sutton, Jeffrey Thayer, Thomas Berger, Marcin Pilinski

14:45 The Spire TEC Environment Assimilation Model (STEAM)
M. J. Angling, F-X Bocquet, G. Olivares-Pulido(1), K. Nordstrom, Vu Nguyen, T. Duly, V. Irisov, O. Nogues-Correig, L. Tan, T. Yuasa, D. Masters

15:00 Data Assimilation techniques for space weather: how to deal with a very sparse and limited coverage of the solar system
D. Millas, B. Laperre, M.E. Innocenti, J. Raeder, G. Lapenta

15:15-16:30 Topical Discussion Meetings

Mosane 789	Mosane 5	Mosane 6
Journal of Space Weather and Space Climate: a community driven journal for disseminating scientific advances	Polar Cap (PC) indices for Space Weather monitoring	Operational Space Weather User Survey Outcome: What's Working and What's Not!
Jean Lilensten;Anna Belehaki	*Peter Stauning*	*Andrew Monham, Elsayed Talaat, Tsutomu Nagatsuma, Juha-Pekka Luntama*

POSTERS

Session 1: Geomagnetic Storms: a Geomagnetically Induced Current perspective

1.p01 Preliminary investigation of the possibility of GIC development in Greece

Adamantia Zoe Boutsi, Georgios Balasis, Ioannis A. Daglis

1.p02 Assessing the importance of variability in Electric field and conductance for the generation of GIC

Andrew J Kavanagh, Yasunobu Ogawa

1.p03 1-D model of geomagnetically induced currents in the mexican power grid

Ramon Caraballo, Americo Gonzalez-Esparza, Maria Sergeeva, Carlos Pacheco

1.p04 Very low likelihood of a power grid black-out in Belgium during an extremely severe geomagnetic storm

Jan Janssens

1.p05 Implementation of the system for monitoring, processing, analyzing and forecasting the geomagnetic activity within the Surlari Observatory

Asimopolos Laurentiu , Bogdan Balea-Roman , Asimopolos Natalia-Silvia , Asimopolos Adrian-Aristide

1.p06 Correlation analysis of field-aligned currents measured by Swarm

J.-Y. Yang, M. W. Dunlop, M. Freeman, N. Rogers, J. A. Wild, J. Rae, J.-B. Cao, H. Lühr, C. Xiong

1.p07 Comparative and wavelet analysis of geomagnetic data from observatories in INTERMAGNET network, recorded during geomagnetic storms

Asimopolos Natalia-Silvia , Asimopolos Laurentiu , Bogdan Balea-Roman , Asimopolos Adrian-Aristide

1.p08 Geomagnetic induced currents in Southwest Portugal

Fernando J. G. Pinheiro, Joana Alves Ribeiro Fernando A. Monteiro Santos, Maria Alexandra Pais, Anna Morozova, Paulo Ribeiro, Yvelice Castillo, Cristiana Francisco, João Fernandes

1.p09 Geomagnetically induced currents and electrical grid failures in Poland during solar cycle 24

A. Gil, R. Modzelewska, Sz. Moskwa, A. Siluszyk, M. Siluszyk, and A. Wawrzynczak

1.p10 The influence of substorms on extreme rates of change of the surface horizontal magnetic field in the U.K. and at other latitudes

Mervyn P. Freeman, Colin Forsyth, I. Jonathan Rae, Andrew W. Smith

1.p11 Standalone Geomagnetically Induced Current Data Logger in Substation Transformers with Open-Loop Hall-Effect Based Sensors

João Cardoso, Miguel Silva, Maria Alexandra Pais

1.p12 Geomagnetically Induction effects related to impulsive Space Weather events at low latitudes

Nguessan Kouassi, Vafi Doumbia, Kouadio Boka,

1.p13 The substorm influence on geomagnetically induced currents registered at electric power lines

Belkhovsky V.B., Pilipenko V.A., Sakharov Ya.A.,Kozyreva O.V.,Selivanov V.N.

1.p14 Statistical analysis of geomagnetic storms by CIR in solar cycle 24

Sejin Cho, R.S Kim, Y Yi

1.p15 ESA's Geomagnetic Expert Service Centre is Alive Again

Michael Hesse, Therese Jorgensen, Jon-Thøger Hagen, Norah Kwagala, Nils Olsen, Poul Erik Holmdahl, Susanne Vennerstrøm, Anna Naemi Willer, Magnus Wik, Peter Wintoft, Claudia Stolle, Guram Kervalishvili, Kirsti Kauristi, Ari Viljanen, Consuelo Cid, Alan Thomson, Ellen Clarke, Jesse Andries, Raisa Elina Leussu, Chris Hall, Hermann Opgenoorth, Per Høeg

1.p16 Modelling directionality, seasonality, and local time dependences in extreme geomagnetic field fluctuations

Neil C. Rogers, James A. Wild, Emma F. Eastoe

1.p17 The space weather environment before the Tenerife blackout

Consuelo Cid, Elena Saiz, A. Guerrero

Session 2: Citizen Science and Public Engagement

2.p01 Humans' Sensitive Reactions during Different Geomagnetic Activity: an Experimental study in Natural and Simulated Conditions.

Ketevan Janashia, Tamar Tsibadze, Levan Tvildiani, Nikoloz Invia, Elgudja Kubaneishvili, Vasili Kukhianidze, George Ramishvili.

2.p02 A citizen science based data package for STEVE phenomenon related subauroral aurora or aurora-like luminous ionospheric structures

Michael Hunnekuhl, Elizabeth A. MacDonald

2.p03 Developing a citizen science project to provide real-time CME monitoring and analysis

Anna Chulaki, M. Crawford , Kevin Nhan, Yaireska Collado-Vega

2.p04 Learning space weather through the Astro Pi Project: the experience at a Secondary School

A. X. Bermejo-Mendoza, D. A. Díaz-Herrera, N. D. Gorrín-Armas, L. A. Ramírez-Sánchez, B. L. Rodríguez-Pérez, L. A. Gamez-López, B. Manuel-Rama, M. C. López, M. Delgado, and C. Cid

Session 3: Satellite and ground-based observations for space weather and space climate monitoring and modelling

3.p01 An adaptive high-latitude co-ordinate system for ionospheric empirical models and climatologies

Gareth Chisham

3.p02 Upper neutral atmosphere and ionosphere monitoring from spectrometric and radio sounding measurements over Eastern Siberia

Irina Medvedeva and Konstantin Ratovsky

3.p03 MUF(3000) nowcasting as operation space weather product

Dario Sabbagh, Carlo Scotto, Paolo Bagiacchi

3.p04 Ionospheric characterization over Rome during low solar activity years by means of ground and satellite measurements

Dario Sabbagh, Angelo De Santis, Alessandro Ippolito, Dedalo Marchetti, Loredana Perrone, Saioa Arqueo Campuzano, Alessandro Piscini, Claudio Cesaroni, Luca Spogli, Gianfranco Cianchini*

3.p05 Source regions and transmission rates of whistlers

Dávid Koronczay, János Lichtenberger, Mark Clilverd, Craig Rodger, Stefan I. Lotz, Dmitry Sannikov, Nina Cherneva, Tero Raita, Fabien Darrouzet, Sylvain Ranvier, Robert C. Moore

3.p06 PAMELA space experiment data for the Earth Radiation Models and Space Weather studies.

Malakhov V.V., Mayorov A.G. on behalf of PAMELA collaboration

3.p07 Langmuir probes in the CSES electric field instruments

Diego Piero, Piersanti Mirko, Bertello Igor, Candidi Maurizio, Ubertini Pietro

3.p08 Satellite observing systems for Space Weather: the early contribution of CSES mission

A.Parmentier, on behalf of the CSES-Limadou Collaboration

3.p09 Small-scale motions in solar filaments as the precursors of eruptions

Daikichi SEKI, Kenichi OTSUJI, Hiroaki ISOBE, Takako T. ISHII, Kiyoshi ICHIMOTO, and Kazunari SHIBATA

3.p10 Post-storm thermospheric NO cooling - ?

Andrey V. Mikhailov and Loredana Perrone

3.p11 PRO-L* - A probabilistic L* mapping tool for ground and space observations in the radiation belts

Rhys Thompson, Steven Morley, Clare Watt, Sarah Bentley, Paul Williams

3.p12 Ionosphere electron density modelling using B-splines and convex optimization approaches

Ganesh Lalgudi Gopalakrishnan

3.p13 Effects of VLF transmitter waves on the inner belt and slot region

Johnathan Ross, Nigel Meredith, Sarah Glauert, Richard Horne and Mark Clilverd

3.p14 Polar Cap (PC) index calculation methods

Peter Stauning

3.p15 Reliable real-time on-line PC indices based on multiple data sources.

Peter Stauning

3.p16 Ionospheric now-casting for GNSS Space Weather products for Africa

Tshimangadzo M. Matamba, Pierre J. Cilliers, Donald W. Danskin

3.p17 Estimation of foF2 from GPS TEC measurements over South Africa during geomagnetic storms

Mpho Tshisaphungo, John Bosco Habarulema, Lee-Anne McKinnell

3.p18 The signature of external drivers from Swarm satellite data

Diana Saturnino, Fernando Pinheiro, Maria Alexandra Pais, João Domingos

3.p19 The occurrence of plasma bubble and its relation to the vertical drift

Yanhong Chen, Wengeng Huang, Ercha Aa, Siqing Liu, Jiancun Gong

3.p20 Cosmic ray spectral index by two coupling functions using data from the neutron monitor network

Loukas Xaplanteris, Maria Livada, Helen Mavromichalaki

3.p21 MAG-SWE-DAN: Enhancing Magnetometer Observations in Sweden, Denmark, the Faroe Islands, and Greenland

Thom R. Edwards, Anna Naemi Willer, Lars William Pedersen, Tobias Bjerg

3.p22 EISCAT_3D data portal: The EOSC-CC support project

Ingemar Häggström, Carl-Fredrik Enell, Andrei Tsaregorodtsev, Andrii Lytovchenko, Ari Lukkarinen

3.p23 Influence of the substorm precipitations and polar cap patches on the GPS signals at high latitudes

V.B. Belakhovsky, Y. Jin, W.J. Miloch, A.V. Koustov, and A. Reimer

3.p24 The University of Colorado's Space Weather Technology, Research, and Education Center Space Weather Portal - a Tool for Lowering the Barrier to Data Access

Thomas Baltzer, Jennifer Knuth, Doug Lindholm, Christopher Pankratz, Thomas E. Berger

3.p25 CATALOGS OF SOLAR PROTON EVENTS AND THEIR SIGNIFICANCE FOR SPACE WEATHER FORECAST

N.A. Vlasova, V.V. Kalegaev, G.A. Bazilevskaya, E.I. Daibog, E.A. Ginzburg, V.N. Ishkov, L.L. Lazutin, Yu.I. Logachev, M.D. Nguyen, G.M. Surova, O.S. Yakovchouk

3.p26 Analysis of temperature and ozone disturbances in the low and middle stratosphere, during Space Weather events in the Antarctic Peninsula

Viviana Elisa López, Adriana M. Gulisano, Vanina Lanabere, Sergio Dasso

3.p27 The first investigation of the Hp index, a Kp-like, high-cadence index available with 90, 60 and 30 minutes time resolution

Y. Yamazaki, G.N. Kervalishvili, J. Matzka, C. Stolle, and J. Rauberg

3.p28 Evolution of periodicities with solar cycle for long-term solar time series.

Wauters Laurence , Dominique Marie, Dammasch I.E Ingolf, Meftah Mustapha

3.p29 The forecast of the 25. Solar cycle with the ARMA model

Krcelic Patrik, Verbanac Giuliana

3.p30 Romanian Ionospheric Monitoring

E. M. Popescu, E. I. Nastase, G. Chiritoi, A.Caramete, F. I. Constantin, A. I. Constantinescu, A. Muntean

3.p31 A method of estimating equatorial plasma vertical drift velocity and its evaluation using C/NOFS observations

Habtamu Marew, Melessew Nigussie, Debrup Hui, Baylie Damtie

Session 4: National And Global Preparedness For Space Weather Events: Research, Forecasting, And Mitigation

4.p01 Physical Damage Simulation on Drone and Wireless Communication Devices by Space Weather Hazard

Ami Yun, Sangwoong Min, Taeyoung Kim, Jaewoo Park, Sejin Park, Jaehyeong Lee

4.p02 KSWC's R&D activities to mitigate space weather risk

Jang Suk Choi, Joon Chul Moon, Jong Yeon Yoon, Chang Hyu Ko,

4.p03 Development of Next Step Space Weather Benchmarks

Geoffrey Reeves, and the Next Step Benchmark Committee

4.p04 Development of a national space weather warning service for The Netherlands

Eelco Doornbos, Bert van den Oord, Fenneke Overes, John van de Vegte

4.p05 United States Air Force Space Weather Operations

Janelle Jenniges

4.p06 International Community Coordination in Space Weather

Masha Kuznetsova, Hermann Opgenoorth, Anna Belehaki, Mario Bisi, Sean Bruinsma, Alexi Glover, Daniel Heynderickx, Jon Linker, Ian Mann, Sophie Murray , Dibyendu Nandi , Manuela Temmer

4.p07 Statistical Analysis on the Satellite Anomalies and its Implication in the case of a Disastrous Solar Flare

Daikichi SEKI, Hiroaki ISOBE, and Kaoru TAKARA

4.p08 First steps for the i-SWAT initiative

Manuela Temmer, Masha Kuznetsova, Mario Bisi

4.p09 Single Event Effects in Ground Level Infrastructure

Alexander C.R. Dyer, Alex D.P. Hands, Keith A. Ryden and Clive Dyer

4.p10 Space Weather service activities and initiatives at LAMP (Argentinean Space Weather Laboratory group)

V. Lanabere, S. Dasso, A.M. Gulisano, V.E. López, A.E Niemelä-Celeda

4.p11 Identifying the Customer Requirements of the Mediterranean Space Weather Users

Consuelo Cid, Antonio Guerrero, Helen Mavromichalaki, Mauro Messerotti, Alexis P. Rouillard, Teresa Barata, Cristina Ariza, João Fernandes, Ignacio Grande, Manuel Hernandez, Sandra Negrin, Evangelos Paouris, Rui Pinto, Elena Saiz, Anastasia Tezari

4.p12 NICT space weather research & operation activities in Asia-Oceania

Kornyanat Hozumi, Takuya Tsugawa, Mamoru Ishii, Pornchai Supnithi, Susumu Saito, Punyawi Jamjareegulgarn, Yuichi Otsuka, Hiroyuki Nakata, Sittiporn Channumsin, and Suwat Sreesawat

4.p13 An example of application of the AULs framework: developing local geomagnetic indices LDi and LCi

A. Guerrero, C. Cid, E. Saiz, A. J. Halford, A. C. Kellerman

4.p14 Showcasing the ISWAT website

Michelle Mendoza, Masha Kuznetsova, Daniel Heynderickx, Mario Bisi, Anna Belehaki, Sean Bruinsma, Jon Linker, Ian Mann, Sophie Murray , Dibyendu Nandi , Manuela Temmer

Session 5: Solar Corona and Heliosphere

5.p01 Theory of the formation of Forbush decrease in a magnetic cloud

Anastasia Petukhova, Ivan Petukhov, Stanislav Petukhov

5.p02 On density enhancement in the halo CME forecast

Emiliya Yordanova, A. L. Elisabeth Werner, Kellen Smith, Manuela Temmer, Andrew P. Dimmock and Lisa Rosenqvist

5.p03 Analysis of the solar wind at 1 AU from ACE data

Carlos Larrodera, Consuelo Cid

5.p04 Heavy ion SEP observations by spacecraft widely separated in longitude

Peter Zelina, Silvia Dalla

5.p05 Clustering of fast Coronal Mass Ejections during solar cycles 23 and 24 and their implications for CME-CME interactions

Jenny Rodriguez Gomez, Tatiana Podladchikova, Astrid Veronig

5.p06 High resolution simulation of coronal and heliospheric MHD model for forecast of fast solar wind

Mitsue Den, Takashi Tanaka, Yuki Kubo, Shinichi Watari

5.p07 Solar energetic particles experience EUHFORIA's non-nominal solar winds in PARADISE

Nicolas Wijsen, Angels Aran, Jens Pomoell, Stefaan Poedts

5.p08 Investigating the evolution and interactions of the September 2017 CME events with EUHFORIA

Camilla Scolini, Luciano Rodriguez, Manuela Temmer, Mateja Dumbovic, Jingnan Guo, Emilia Kilpua, Jens Pomoell, Stefaan Poedts

5.p09 Multiple EUV wave reflection from a coronal hole

Tatiana Podladchikova, Astrid M. Veronig, Olena Podladchikova, Karin Dissauer, Bojan Vrsnak, Jonas Saqri, Isabell Piantschitsch, Manuela Temmer

5.p10 Bayesian analysis of flaring probabilities using the effective connected magnetic field strength

Evangelos Paouris, Athanasios Papaioannou, Anastasios Anastasiadis, Manolis K. Georgoulis, Ioannis Kontogiannis, Piers Jiggens

5.p11 Long-term evolution of coronal holes and associated co-rotating interaction regions

Veronika Jercic, Stephan G. Heinemann, Manuela Temmer, Mateja Dumbovic, Susanne Vennerstroem, Giuliana Verbanac, Stefan J. Hofmeister, Astrid M. Veronig

5.p12 Genesis, magnetic morphology and impulsive evolution of the fast CME associated with the X8.2 flare on 2017 September 10

Astrid M. Veronig, Tatiana Podladchikova, Karin Dissauer, Manuela Temmer, Daniel B. Seaton, David Long, Jingnan Guo, Bojan Vrsnak, Louise Harra, Bernhard Kliem

5.p13 The shape of Coronal Holes and its influence on Coronal Wave-Coronal Hole Interaction

Isabell Piantschitsch, Bojan Vrsnak, Manuela Temmer, Arnold Hanslmeier, Astrid Veronig, Tatiana Podladchikova, Jasa Calogovic

5.p14 Extended white-light reconstruction and MHD modeling of the 2010 April 3 CME

Curt A de Koning and Dusan Odstrcil

5.p15 Solar flare parameters: evidence for lognormal rather than power law distributions

Cis Verbeeck, Emil Kraaikamp, Daniel F. Ryan, Olena Podladchikova

5.p16 Long-term evolution of the solar corona using PROBA2 data

Marilena Mierla, Elke D'Huys, Jan Janssens, Laurence Wauters, Matthew J. West, Daniel B. Seaton, David Berghmans, Elena Podladchikova

5.p17 Numerical Simulations of Shear-Induced Consecutive Coronal Mass Ejections

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