Program book | 15th European Space Weather Week 2018

Program book

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Welcome in program book ESWW

Dear conference delegates!

It is my pleasure to host the 15th European Space Weather Week in Leuven from 5 to 9 November 2018!

The venue of the ESWW15 will be KU Leuven, situated in the heart of Western Europe and a centre of learning for almost six centuries now (founded in 1425 and the oldest university of the 'Low Countries'). KU Leuven has grown substantially and has become a multi-campus university employing over 11,500 persons and hosting more than 50,000 students, 14% of which are 'international' students representing 147 different nationalities. The auditoria of the Maria Theresia College, where our congress takes place, were built in 1826 and mark the second life of our university after the French Revolution and the Napoleonic wars. It was also here that in 1864 the first courses in Engineering were taught. In contrast to most European countries, Belgium never had separate Technical Universities: Engineering was taught from the beginning within the context of the existing universities.

We are honored to welcome this year's ESWW which is the main annual European forum for Space Weather. As mentioned on the webpages, "ESWW15 will again focus on bringing together the diverse groups in Europe working on different aspects of Space Weather: scientists, engineers, satellite operators, power grid technicians, communication and navigation specialists, people working in aviation, space weather service providers, etc."

Finally, I would like to thank all those who have helped in making ESWW15 happen: our sponsors, the invited speakers, the tutorial organizers and speakers, the members of the Programme Committee, the Belgian Solar-Terrestrial Centre of Excellence (STCE), the European Space Agency (ESA) and the Space Weather Working Team, the members of the Local Organizing Committee from KU Leuven, the staff of KU Leuven's Congress Service, in particular Anke Roekaerts, and of KU Leuven's Centre for mathematical Plasma Astrophysics.

On behalf of all organizers, I wish you a fruitful ESWW15 and an enjoyable stay in our university town in the heart of Europe! Leuven is a bustling city with many museums, monuments and historic buildings (incl. Unesco World Heritage) and a rich gastronomy, claiming to be *'The place to beer!'*.

Stefaan Poedts
Chair of the LOC

1.

PROGRAMME

	Monday 5 Nov	Tuesday 6 Nov
9:00	Registration open	End Users Plenary 5 9:00-10:30
9:30	coffee	
10:00	tutorial 10:00 - 11:45	
10:30		Coffee 10:30-11:15
11:00		
11:30	lunch 11:45-12:45	End Users Plenary 5 11:15-12:45
12:00		
12:30		
13:00	Opening 12:45-13:30	Lunch 12:45-14:00
13:30	Science & Research 1,2 Open Session 3 13:30-15:00	
14:00		Topical Discussion Meetings 14:00-15:15
14:30		
15:00	Coffee 15:00-15:45	Poster session 15:15-17:15
15:30		
16:00	Science & Research 1,2 Open Session 4 15:45-17:15	
16:30		
17:00		
17:30	Topical Discussion Meetings 17:15-18:30	Topical Discussion Meetings 17:15-18:30
18:00		
18:30		
19:00	Medal Ceremony Welcome Reception 18:45-21:00	
19:30		
20:00		Music Café 20:00-
20:30		
21:00		

Wednesday 7 Nov	Thursday 8 Nov	Friday 9 Nov
Science & Research 6,7 Open session 8 9:00-10:30	Operations & Services Plenary 10 9:00-10:30	Science & Research 11,12 Open session 13 9:00-10:30
Coffee 10:30-11:15	Coffee 10:30-11:15	Coffee 10:30-11:15
Science & Research 6,7 Open session 9 11:15-12:45	Operations & Services Plenary 10 11:15-12:45	Science & Research 11,12 Open session 14 11:15-12:45
Lunch 12:45-14:00	Lunch 12:45-14:00	Lunch 12:45-14:00
Topical Discussion Meetings 14:00-15:15	Topical Discussion Meetings 14:00-15:15	Topical Discussion Meetings 14:00-15:15
SWWT 15:15-17:15	Poster session 15:15-17:15	Topical Discussion Meetings 15:15-16:30
Beer tasting 17:15-18:15	Topical Discussion Meetings 17:15-18:30	
	Dinner 19:30-	

1.1 Monday, 5 November 2018

09:00	**Registration desk open**
09:30	**Welcome Coffee**
10:00 *Room:*	**Start Tutorial** *Promotion Room*
11:45	**Lunch break**
12:45 *Room:*	**Opening and welcome** *MTC 00.10, Large lecture room*
Session 1:	**Solar Corona and Heliosphere: From Flares to CMEs and Interplanetary Shocks (part 1)**
Chairs: *Room:*	*Luciano Rodriguez (ROB), Jasmina Magdalenic (ROB), Emilia Kilpua (Univ of Helsinki), Sergio Dasso (IAFE/UBA)* *MTC 00.10, Large lecture room*
13:30	Physics of Solar Storms: From Initiation to Heliospheric propagation - **Invited** Bojan Vrsnak
14:00	Diagnosing the Polar Field with EUV waves Nariaki Nitta, Meng Jin
14:15	In-situ density of ICMEs versus CME 3D geometry and mass derived from remote sensing data M. Temmer, L. Holzknecht, M. Dumbovic, B. Vrsnak, M. Rodari, A. Veronig
14:30	Origin of the two co-temporal shock waves observed on September 27, 2012 Immanuel Christopher Jebaraj, Jasmina Magdalenic, Camilla Scolini, Luciano Rodriguez, Stefaan Poedts, Vratislav Krupar, Jens Pomoell, Manuela Temmer

14:45	Forbush decreases as signatures of Interplanetary Coronal Mass Ejections (ICMEs) Mateja Dumbovic, Bojan Vrsnak, Bernd Heber, Manuela Temmer, Jingnan Guo, Christian Mostl, Reka Winslow, Noe Lugaz, Astrid Veronig, Anamarija Kirin, Martina Rodari, Lukas Holzknecht

Session 2:	**Geomagnetic Storms - Ground and near-Earth Space Weather Impacts (part 1)**
Chairs:	*Craig Rodger (University of Otago), Mark Clilverd (British Antarctic Survey)*
Room:	*MTC 00.15, Small lecture room*
13:30	On the little-known consequences of the August 1972 ultra-fast coronal mass ejecta - **Invited** Delores Knipp, Brian Fraser, Margaret Shea, Don Smart
13:50	Investigating the relationship between low frequency variations in the surface geomagnetic field and maximum rates of change Mervyn P. Freeman, Alan W. P. Thomson
14:05	Forecasting & Analysis of dB/dt with the Space Weather Modeling Framework - **Invited** Daniel Welling, Gabor Toth, Yuxi Chen, Agnit Mukhopadhyay, Michael Henderson, Howard Singer, Michele Cash
14:25	Active Experiments for Space Weather Applications Geoffrey Reeves and the CONNEX Team
14:40	Testing Realistic Scenarios, and the Economic Consequences, of the Failure of UK Electricity Transmission Infrastructure - **Invited** Mark Gibbs, Edward Oughton, Mike Hapgood

Session 3:	**Advancements and opportunities towards national and global resilience for space weather events: research, fore-casting, and mitigation (part 1)**
Chairs: *Room:*	*Seth Jonas, Christopher Cannizzaro* *MTC 01.03*
13:30	ESA SSA activities to support resilience for space weather - **Invited** Juha-Pekka Luntama
13:40	PROGRESS: An overview of the data products available M.A. Balikhin, S.N. Walker, R.J. Boynton, H.-L Wei, G. Bailey, R. Erdelyi, T. D. Arber, K. Bennett, M. Liemohn, B. van der Holst, P. Wintoft, M. Wik, V. Yatsenko, V. Krasnoselskikh, N. Y. Ganushkina, S. Dubyagin, Y. Y. Shprits, A. Tibocha
13:50	Improving the Resilience of Australia's Critical Infrastructure to Space Weather - **Invited** Richard Marshall
13:55	Embrace Initiatives to Foster Space Weather Forecast Centers - **Invited** C. M. Denardini, J. E. R. Costa, C. M Wrasse, M. B. Padua, and Embrace Team
14:00	International Collaboration Within the United Nations Committee on the Peaceful Uses of Outer Space: Framework for International Space Weather Services (2018–2030) - **Invited** Ian R. Mann
14:05	Preparedness for Space Weather disasters – in case of Japan – - **Invited** Mamoru Ishii, Daikou Shiota, Chihiro Tao
14:10	Advancements in UK Preparedness - **Invited** Mark Gibbs, Mike Hapgood, Mario Bisi
14:15	U.S. National Space Weather Policy - **Invited** Steven Clarke

14:20	Panel discussion - **Invited** Seth Jonas, Chris Cannizzaro
15:00	**Coffee break**
Session 1:	**Solar Corona and Heliosphere: From Flares to CMEs and Interplanetary Shocks (part 2)**
Chairs:	*Luciano Rodriguez (ROB), Jasmina Magdalenic (ROB), Emilia Kilpua (Univ of Helsinki), Sergio Dasso (IAFE/UBA)*
Room:	*MTC 00.10, Large lecture room*
15:45	What does "Realistic, Data-Driven Simulation of CMEs" Mean Curt A de Koning
16:00	Observation-based Sun-to-Earth simulations of geo-effective Coronal Mass Ejections with EUHFORIA Camilla Scolini, Francesco P. Zuccarello, Luciano Rodriguez, Stefaan Poedts, Marilena Mierla, Christine Verbeke, Jens Pomoell, Joachim Raeder, William D. Cramer
16:15	Multipoint study of an Earth-impacting CME erupting from the solar limb Erika Palmerio, Camilla Scolini, Luciano Rodriguez, Matthew West, Simon Good, Marilena Mierla
16:30	Launching Hydrodynamic and Magnetic CME-like Structures into the Operational Heliospheric Space Weather Models Dusan Odstrcil
16:45	Coupled Coronal Mass Ejection - Solar Particle Event Simulations Jon Linker, Ronald Caplan, Nathan Schwadron, Matthew Gorby, Cooper Downs, Roberto Lionello,Tibor Torok, Janvier Wijaya
17:00	The Effects of Uncertainty on Deflection, Rotation, Bz and Arrival Time Predictions Christina Kay, Nat Gopalswamy

Session 2:	**Geomagnetic Storms - Ground and near-Earth Space Weather Impacts (part 2)**
Chairs:	*Craig Rodger (University of Otago), Mark Clilverd (British Antarctic Survey)*
Room:	*MTC 00.15, Small lecture room*
15:45	The intense geomagnetic storms of solar cycle 24 and the associated surface electric field over Europe Venera Dobrica, Crisan Demetrescu, Razvan Greculeasa, Cristiana Stefan
16:00	Validating modelled transformer-level GIC flow in New Zealand's South Island with extensive observations Tim Divett, Craig J Rodger, Daniel Mac Manus, Malcolm Ingham, Michael Dalzell, Ciaran Beggan, Gemma Richardson, Ellen Clarke, Yuki Obana, and Alan W P Thomson
16:15	Regional 3-D modelling and verification of geomagnetically induced currents in Sweden Lisa Rosenqvist and Jan-Ove Hall
16:30	Initial results of pipeline modelling in the United Kingdom Gemma Richardson, Alan Thomson, Ciaran Beggan
16:45	Geomagnetically Induced Currents and Harmonic Distortion: Observations from New Zealand Craig J. Rodger, Mark A. Clilverd, Ian Martin, Michael Dalzell, James B. Brundell, Daniel H. Mac Manus, Tim Divett, Neil R. Thomson, Tanja Petersen, and Yuki Obana
17:00	Real-time forecast of GIC in power grids Larisa Trichtchenko, Lidia Nikitina

Session 4:	**Aviation Meets Space Weather - Roadmap Towards Space Weather Services for Aviation (part 1)**
Chairs:	*Marcin Latocha (Seibersdorf Laboratories), Erwin De Donder (BIRA-IASB)*
Room:	*MTC 01.03*
15:45	PECASUS, a European Space Weather Service Network for Aviation Kirsti Kauristie, Jesse Andries, Nicolas Bergeot, Peter Beck, David Berghmans, Claudio Cesaroni, Norma Crosby, Erwin De Donder, Mark Dierckxsens, Mark Gibbs, Haris Haralambous, Ari-Matti Harri, Marcin Latocha, Loredana Perrone, Vincenzo Romano, Leonardo Sagnotti, Luca Spogli, Iwona Stanislawska, Peter Thorn, Lukasz Tomasik, Bert van den Oord, Petra Vanlommel, Volker Wilken, Martin Kriegel and Kari Osterberg
16:10	Smartphone-Based Network for Measurements of Atmospheric Radiation Levels Benjamin Clewer, Keith Ryden, Alex Dyer, Alex Hands, David Jackson
16:25	DISTURB: real-time solar spectrum monitoring from 10 to 3000 MHz Michiel Brentjens, Andre Bos, Bert van den Oord, Willem-Pieter van der Laan
16:40	HF-START: Radio Propagation Information Service for Aviation Kornyanat Hozumi, Mamoru Ishii, Takuya Tsugawa, Susumu Saito, and Hiroyuki Nakata
16:55	Space-wx for airline pilots Klaus Sievers

17:15-18:30 Topical Discussion Meetings

MTC 00.10	MTC 00.15	MTC 01.03	MTC 00.03
Challenges in Understanding and Predicting Geomagnetic Storms without C	Validation: SEP Working Team and Scoreboard	Journal of Space Weather and Space Climate: a community driven journal for disseminating scientific advances	Radiation at aviation altitudes as a result of space weather
Nariaki Nitta, Tamitha Mulligan, Emilia Kilpua, Benjamin Lynch, Marilena Mierla, Jennifer O'kane, Paolo Pagano, Erika Palmerio, Jens Pomoell, Ian Richardson, Luciano Rodriguez, Alexis Rouillard, Nandita Srivastava, Dana-Camelia Talpeanu, Stephanie Yardley, Andrei Zhukov	M. Leila Mays (NASA GSFC), Mark Dierckxsens (BIRA-IASB), Mike Marsh (UK Met Office), Ian Richardson (UMD/NASA GSFC)	Anna Belehaki (National Observatory of Athens); Jean Lilensten (IPAG, France)	Marcin Latocha (Seibersdorf Laboratories); Mamoru Ishii (NICT); Erwin De Donder (BIRA-IASB)

18:45 Medal Ceremony
Promotion Room

19:45 Welcome Reception
Jubilee Hall

1.2 Tuesday, 6 November 2018

Session 5:	**Working with Space Weather Services, Now and in the Future (part 1)**
Chairs:	*Alexi Glover (ESA), Peter Thorn (Met Office)*
Room:	*MTC 00.10, Large lecture room*
09:00	Introduction Alexi Glover
09:10	Operational Preparedness for Geostationary satellite Operators Dave Pitchford
09:30	Space Weather Impacts on Railway Networks Libor Lochman
09:50	GEO Satellites Withstanding Space Weather: Eutelsat's experience David Zamora
10:10	Space weather information for aviation: past experience, status and progress Emilien Robert
10:30	**Coffee break**

Session 5:	**Working with Space Weather Services, Now and in the Future (part 2)**
Chairs:	*Alexi Glover (ESA), Peter Thorn (Met Office)*
Room:	*MTC 00.10, Large lecture room*
11:15	Reopen session Alexi Glover
11:20	The use of Space Weather information as part of EGNOS performance monitoring activities Sergio Magdaleno

11:40	UK Government Response to Space Weather Mark Prowse
12:00	Panel discussion Alexi Glover, Peter Thorn
12:45-14:00	**Lunch break**
14:00-15:15	**Topical Discussion Meetings**

MTC 00.10	**MTC 00.15**	**MTC 01.03**	**MTC 00.03**
Characterizing the Earth's ionosphere: recent advances and challenges	The FLARECAST Scientific and Technological Facility: What Now?	Long-term datasets for space weather and space climate: what is available, what is coming next?	Radiation global monitoring and awareness: from the Earth to the Moon
Anna Belehaki (National Observatory of Athens, Greece); Ioanna Tsagouri ((National Observatory of Athens, Greece); Hanna Rothkaehl (SRC/PAS, Poland); Viviane Pierrard (BISA, Belgium)	Manolis Georgoulis; Shaun Bloomfield; Peter Gallagher; Michele Piana; Anna Maria Massone; Andre Csillaghy; Marco Soldati; Frederic Baudin; Eric Buchlin; Etienne Pariat; Nicole Vilmer; David Jackson; Hanna Sathiapal	Thierry Dudok de Wit (Univ. Orleans); Luke Barnard (Univ. Reading); Ed Cliver (NSO); Alexei Pevtsov (NSO)	Vladimir Kalegaev (Moscow State University, Skobeltsyn Institute of Nuclear Physics); Piers Jiggens (European Space Agency)

15:15-17:15	**Posters Session**

17:15-18:30 Topical Discussion Meetings

MTC 00.10	MTC 00.15	MTC 01.03	MTC 000.03
ESA SSA SPACE WEATHER SERVICE NETWORK: SWE Portal Training session	Flare forecasting: where are we and where should we be going?	Expanded International Coordination for Space Weather in the UN Context – Fulfilling the promise of UNISPACE+50	Space Weather hazards in spacecraft, aircraft and launcher environments
Corentin Liber (BIRA-IASB / SSCC), Manuela Aguzzi (Space Applications Services NV/SA / SSCC)	Sophie A. Murray (Trinity College Dublin); M. Leila Mays (NASA CCMC); KD Leka (NWRA); Manolis K. Georgoulis (Academy of Athens); D. Shaun Bloomfield (Northumbria University)	Ian Mann (University of Alberta), Hermann J. Opgenoorth (Swedish Institute of Space Physics, Sweden)	Susan McKenna-Lawlor, Frederico Di Marco, Guenther Reitz

20:00 Music Café

1.3 Wednesday, 7 November 2018

Session 6:	**Unveiling Current Challenges in Space Weather Forecasting (part 1)**
Chairs:	*Anastasios Anastasiadis (National Observatory of Athens, IAASARS), Enrico Camporeale (Centre for Mathemat-ics and Computer Science, CWI), Manolis K. Georgoulis (Academy of Athens, RCAAM), Ryan McGranaghan (Jet Propulsion Laboratory)*
Room:	*MTC 00.10, Large lecture room*
09:00	The Solar Drivers of Space Weather: Review of the Open Issues Affecting Forecasting - **Invited** Angelos Vourlidas
09:25	On the usage of Principal Components Analysis (PCA) for the Prediction of Solar Energetic Particle (SEP) events A. Papaioannou, A. Anastasiadis, A. Kouloumvakos, M. Paassilta, R. Vainio, E. Valtonen, A. Belov, E. Eroshenko, M. Abunina, A. Abunin
09:40	Challenges of space weather and space radiation predictions for human space explorations Jingnan Guo, R F Wimmer-Schweingruber, Donald M. Hassler, Cary Zeitlin, Bent Ehresmann
09:55	Efficient photospheric flow tracking and machine learning for physics-based characterization of the solar activity Raphael Attie, Michael Kirk, Barbara Thompson
10:10	Forecasting Solar Wind Velocities from Coronal Hole Properties using Machine Learning Techniques. Tadhg Garton, Joan Campanya, Peter Gallagher, Sophie Murray, David Jackson

Session 7:	**Radiation Environments: From Solar Origin to Effects on Space Missions (part 1)**
Chairs:	*Eamonn Daly (ESA), Rositsa Miteva (Space Climate Group - Space Research and Technology Institute - Bulgarian Academy of Sciences), Larisa Kashapova (ISTP SB RAS, Russia), Richard Horne (British Antarctic Survey)*
Room:	*MTC 00.15, Small lecture room*
09:00	Recent results from the space radiation environment measurements aboard ExoMars Trace Gas Orbiter and comparison with the dose rate and flux estimations based on galactic cosmic ray models - **Invited** Victor Benghin, Jordanka Semkova, Rositza Koleva, Krasimir Krastev, Tsvetan Dachev, Yuri Matviichuk, Borislav Tomov, Stephan Maltchev, Plamen Dimitrov, Igor Mitrofanov, Alexey Malakhov, Dmitry Golovin, Maxim Mokrousov, Anton Sanin, Maxim Litvak, Alexander Kozyrev, Vladislav Tretyakov, Sergey Nikiforov, Andrey Vostrukhin, Natalia Grebennikova, Lev Zelenyi, Vyacheslav Shurshakov, Sergey Drobyshev
09:15	SEP Acceleration by Coronal Shocks with Realistic Seed Spectra in the Low and Middle Corona Kamen Kozarev, Maher A. Dayeh, Pietro Zucca, Ashraf Farahat
09:30	Evaluating Solar Proton Constraints for Flight Operations Joseph I. Minow, Linda Neergaard Parker
09:45	Towards a single framework for the modelling of Space Radiation Environment Constantinos Papadimitriou, Ingmar Sandberg, Sigiava Aminalragia-Giamini, Antonis Tsigkanos, Omiros Giannakis, Christos Katsavrias, Piers Jiggens, Ioannis A. Daglis
10:00	Four years of space weathering effects observed on the Gaia spacecraft Edmund Serpell

10:15	GOES-16 Solar Energetic Heavy Ion Observations from the SEP Events of July and September 2017: Comparison with ACE, SOHO and GOES 13-15 Juan V. Rodriguez, Athanasios Boudouridis, Brian Kress, James J. Connell, Clifford Lopate, Richard Mewaldt, Rami Vainio, Miikka Paassilta, Osku Raukunen, Daniel Heynderickx, Ingmar Sandberg, Piers Jiggens

Session 8:	**Citizen Science and Public Engagement (part 1)**
Chairs:	*Stijn Calders (BIRA-IASB), Yihua Zheng (CCMC)*
Room:	*MTC 01.03*
09:00	Promoting Space Weather to the public - **Invited** Pal Brekke
09:15	The Radio Meteor Zoo : a Citizen Science project using BRAMS data Herve Lamy, Stijn Calders, Cedric Tetard, Cis Verbeeck and Antonio Martinez Picar
09:30	The spark of crowdsourced opportunities & outcomes for space weather - **Invited** Elizabeth MacDonald
09:45	Sunspotter: Solar Physics in the Classroom Paul A. Higgins, Sophie A. Murray, Peter T. Gallagher, and the Sunspotter and Zooniverse Teams
10:00	How to engage the public in space weather research - **Invited** Stijn Calders, Yihua Zheng
10:30	**Coffee break**

Session 6:	**Unveiling Current Challenges in Space Weather Forecasting (part 2)**
Chairs:	*Anastasios Anastasiadis (National Observatory of Athens, IAASARS), Enrico Camporeale (Centre for Mathemat-ics and Computer Science, CWI), Manolis K. Georgoulis (Academy of Athens, RCAAM), Ryan McGranaghan (Jet Propulsion Laboratory)*
Room:	*MTC 00.10, Large lecture room*
11:15	Applied artificial intelligence for space weather research - **Invited** Madhulika Guhathakurta
11:40	Recurrence analysis of the magnetospheric dynamics T. Alberti, G. Consolini, P. De Michelis, M. Laurenza, M.F. Marcucci, R.V. Donner
11:55	Long-term electron radiation belt data assimilation based on multiple spacecraft I. Pelivan, J.S. Cervantes Villa, Y.Y. Shprits, A.C. Kellerman, A.Y. Drozdov, J. de Wiljes, S. Reich
12:10	Multiple hours ahead forecast of the Dst index using a combination of Long Short-Term Memory neural network and Gaussian Process Marina Gruet, Mandar Chandorkar, Angelica´ Sicard, Enrico Camporeale
12:25	How predictable are the polar ionospheric equivalent currents? R. Shore, M. P. Freeman, J. W. Gjerloev, J. C. Coxon, E. G. Thomas, N. Olsen

Session 7:	**Radiation Environments: From Solar Origin to Effects on Space Missions (part 2)**
Chairs:	*Eamonn Daly (ESA), Rositsa Miteva (Space Climate Group - Space Research and Technology Institute - Bulgarian Academy of Sciences), Larisa Kashapova (ISTP SB RAS, Russia), Richard Horne (British Antarctic Survey)*
Room:	*MTC 00.15, Small lecture room*
11:15	The AE9/AP9-IRENE Radiation and Plasma environment models T.P. O'Brien, W.R. Johnston, S. L. Huston, T.B. Guild, Y.-J. Su, C. Roth, R. Quinn
11:30	Evaluation of Solar Cell Radiation Damage during Electric Orbit Raising Alexander R. Lozinski, Richard B. Horne, Sarah A. Glauert, Giulio Del Zanna, Hugh D. R. Evans, Daniel Heynderickx
11:45	PreMevE: a New Predictive Model for Megaelectron-volt Electrons inside Earth's Outer Radiation Belt Yue Chen, XiangRong Fu, Geoffrey D. Reeves, and Michael Henderson
12:00	OHB's proposal of an in-orbit cross-calibration of space environment sensors Johan Idestrom
12:15	Non-diffusive processes leading to enhanced radiation belt fluxes: Global MHD/test particle simulations of extreme space weather events Ravindra T. Desai, Jonathan P. Eastwood, Lars Mejnertsen, Joe W. B. Eggington, Jeremy P. Chittenden
12:30	Measurements and Effects of Energetic Charged Particles Aboard a CubeSat in Low Earth Orbit: Aalto-1 / RADMON Rami Vainio, Arttu Punkkinen, Jan Gieseler, Heli Hietala, Philipp Oleynik, Juhani Peltonen, Thiago Brito, Hannu-Pekka Hedman, Edward Hæggstrom, Hannu Leppinen, Petri Niemela, Samuli Nyman, Jaan Praks, Risto Punkkinen, Tero Santti, and Eino Valtonen

Session 9:	**Satellite observations of the thermosphere-ionosphere contributing to Space Weather products and forecasting capabil-ities (part 1)**
Chairs:	*Guram Kervalishvili (GFZ German Research Centre for Geosciences), Eelco Doornbos (TU Delft)*
Room:	*MTC 01.03*
11:15	Daedalus: A Low-Flying Spacecraft for the Exploration of the Lower Thermosphere - Ionosphere - **Invited** Theodoros Sarris, Errico Armandillo, Vaios Lappas, Iannis Dandouras, Minna Palmroth, David Malaspina, Allison Jaynes, Guram Kervalishvili, Anita Aikio, Stephan Buchert, Mark Clilverd, Christopher Cully, Konstantinos Kourtidis, Nikolaos Paschalidis, Jasper Halekas, John Sample, Ingmar Sandberg, Qian Wu, Anna Belehaki,
11:30	Space weather and geospace research with ESA's Swarm constellation: results, perspectives and opportunities - **Invited** Rune Floberghagen and many members of the Swarm team
11:45	Ionospheric information obtained from ELF whistlers detected by the ESA Swarm satellites Pierdavide Coısson, Pierre Deram, Gauthier Hulot, Pierre Vigneron, Jean-Michel Leger, Thomas Jager
12:00	DTM2018 in the framework of the H2020 project SWAMI Sean Bruinsma
12:15	Observation of traveling ionospheric disturbances with ICON ultraviolet imagers Gilles Wautelet, Benoıt Hubert, Jean-Claude Gerard
12:30	European SpaceCraft for the study of Atmospheric Particle Escape: follow-on mission Iannis Dandouras, Masatoshi Yamauchi, Henri Reme, Johan De Keyser, Octav Marghitu, Masafumi Hirahara
12:45-14:00	**Lunch break**

14:00-15:15 Topical Discussion Meeting

MTC 00.10	MTC 00.15	MTC 01.03	MTC 00.03
Solar Storms Forecasting and Analysis: Solar Flares, Coronal Mass Ejections and Solar Energetic Particles	Atmospheric Effects Topical Group - supporting the ISWAT initiative	CME arrival time and impact: working team	Harmonisation of SEP Data Calibrations (HSDC)
Olga E. Malandraki (SWWT-TWG1 Spokesperson, National Observatory of Athens/ IAASARS, Greece); Nicole Vilmer (SWWT-TWG1 Spokesperson, LESIA, Observatoire de Paris); Norma B. Crosby (Royal Belgian Institute for Space Aeronomy)	Sean Bruinsma (CNES)	Christine Verbeke (KU Leuven); M. Leila Mays (NASA GSFC); Aleksandre Taktakishvili (CUA)	Stanislav Borisov; Daniel Heynderickx; Juan V. Rodriguez; Piers Jiggens

15:15-17:15 SWWT plenary meeting
MTC 00.10, Large lecture room

17:15-18:15 Beer tasting
Town Hall
Grote Markt 9, Leuven

1.4 Thursday, 8 November 2018

Session 10:	**Space Weather Operations & Services (part 1)**
Chairs:	*Suzy Bingham (Met Office), Sophie Murray (Trinity College Dublin)*
Room:	*MTC 00.10, Large lecture room*
09:00	SIDC operations and services: status, challenges, and lessons learned. - **Invited** Jesse Andries, and entire SIDC team
09:20	The Ionosphere Prediction Service for GNSS users Filippo Rodriguez, Roberto Ronchini, Stefano Di Rollo, Eric Guyader, Angela Aragon-Angel, Giorgiana De Franceschi, Claudio Cesaroni, Luca Spogli, Vincenzo Romano, Marcio Aquino, Sreeja Vadakke Veettil, Francesco Berrilli, Dario Del Moro, Alice Cristaldi, Michael Hutchinson, Osman Kalden
09:35	Scientist in the loop – Establishing tailored space weather services for Statnett, the Norwegian national power grid operator Raisa Leussu, Daniel Martini
09:50	The University of Colorado Space Weather Technology, Research, and Education Center (SWx TREC): Applied Research and Data Science to enhance the Space Weather Forecasting R20-02R Cycle Thomas Berger, Jeffrey Thayer, Dan Baker, Steve Cranmer, Chris Pankratz
10:05	Tracking Space Weather Application Progress Towards Usability: Application Usability Levels. - **Invited** Alexa Halford, Adam Kellerman, Barbara Thompson, Antti Pulkkinen, Katherine Garcia-Sage, Sophie Murphy, Brett Cater, Suzy Bingham, Dan Welling, and the Assessment of Understanding and Quantifying Progress Working Group
10:30	**Coffee break**

Session 10:	**Space Weather Operations & Services (part 2)**
Chairs:	*Suzy Bingham (Met Office), Sophie Murray (Trinity College Dublin)*
Room:	*MTC 00.10, Large lecture room*
11:15	The management of the space weather risk in KOREA Mun Junchul, Jangsuk Choi, Changhyu Ko, Jinwook Han
11:30	CME Scoreboard and CME Arrival Time and Impact Working Team M. L. Mays, P. Riley, C. Verbeke, CME Scoreboard participants and Working Team members
11:45	Operational Integration of New Space Weather Observations and Model Guidance - **Invited** Robert A. Steenburgh, Jeff M. Johnson, Eric Adamson, Howard J. Singer, Michele Cash, Christopher Balch
12:05	Tuesday's User oriented plenary session summary Alexi Glover, Peter Thorn
12:15	Panel Discussion - Jesse Andries, Alexa Halford, Michael Hesse, Rob Steenburgh, Manuela Temmer, Kirco Arsov Suzy Bingham, Sophie Murray
12:45-14:00	**Lunch break**

14:00-15:15 Topical Discussion Meetings

MTC 00.10	MTC 00.15	MTC 01.03	MTC 00.03
ESA SSA SPACE WEATHER SERVICE NETWORK: User Support Test Campaigns	COSPAR International Space Weather Action Teams: A bottom-up component of global coordination in space weather	How to reach a full set of alarms for lost communication and lost navigation	Nuclear hardening to protect satellites against high-altitude-nuclear-explosions (HANE)
Erwin De Donder (Royal Belgian Institute for Space Aeronomy); Robbe Vansintjan (Royal Observatory of Belgium); Alexi Glover (ESA SSA SWE)	Masha Kuznetsova; Hermann Opgenoorth; Anna Belehaki; Sean Bruinsma; Mario Bisi; Daniel Heynderickx; Ian Mann; Manuela Temmer	Claudia Borries (German Aerospace Center); Per Høeg (University Oslo)	Johan Idestrom (OHB System AG)

15:15-17:15 Posters Session

17:15-18:30 Topical Discussion Meetings

MTC 00.10	**MTC 00.15**	**MTC 01.03**	**MTC 00.03**
ESA SSA SPACE WEATHER SERVICE NETWORK: Case Study of the September 2017 Space Weather Events	Current and future systems for operational space weather observations	What are the large space weather events: views of space scientists and technology operators	Model validation for the benefit of space weather operations: surface charging and internal charging
Jennifer O'Hara (ROB- ORB/ SSCC); Sophie Chabanski (BIRA- IASB/ SSCC); Alexi Glover (ESA SSA); Coordinators of the SWE Network Expert Service Centres.	Juha-Pekka Luntama, Elsayed Talaat, Andrew Monham, Tsutomu Nagatsuma	Larisa Trichtchenko	Yihua Zheng (NASA/GSFC), T. Paul O'Brien (Aerospace Corp), Yuri Shprits (GFZ German Research Center and UCLA)

19:30 Dinner @ Faculty Club
Groot begijnhof 14, Leuven

1.5 Friday, 9 November 2018

Session 11:	**Space Weather Instrumentation (part 1)**
Chairs:	*Sylvie Benck (Universite Catholique de Louvain), Mervyn Freeman (British Antarctic Survey, Cambridge), Grigory Protopopov (URSC-ISDE, Moscow), Volker Bothmer (Insti-tut fur¨ Astrophysik, Georg-August-Universitat¨ Gottingen)¨*
Room:	*MTC 00.10, Large lecture room*
09:00	In-situ environment monitoring by space weather missions to the Sun-Earth Lagrange points Jonathan Rae, LGR InSitu Team
09:18	Lagrange Remote Sensing Instruments: the Extreme UltraViolet Imager (EUVI) Christian Kintziger, Serge Habraken, Philippe Bouchez, Manfred Gyo, Margit Haberreiter, Matthew J West, David Berghmans
09:36	Space Weather Monitoring with the NOAA GOES-16 Spacecraft: Instruments, Products and Initial Observations R. Redmon, J. Rodriguez, Paul T.M. Loto'aniu,J. Machol, D. Seaton, S. Califf, B. Kress, J. Darnel, W. Rowland, M. Tilton, A. Boudouridis, S. Codrescu, V. Hsu, H. J. Singer
09:54	The Space Weather Alternative In-Situ Demonstrator (SWAID) Mission Concept: An alternative to the GOES spacecraft in-situ observations Robert Redmon, Samuel Califf, Juan Rodriguez, Paul T.M. Loto'aniu, William Rowland
10:12	Analysis of the new Environmental Monitoring Units on-board EU Galileo satellites Ingmar Sandberg, Sigiava Aminalragia-Giamini, George Provatas, Alex Hands, Keith Ryden, Daniel Heynderickx, Antonis Tsigkanos, Constantinos Papadimitriou, Tsutomu Nagatsuma, Hugh Evans, and David Rodgers

Session 12:	**Thermosphere and Ionosphere : Irregular dynamics and structures as a response to Space Weather Events (part 1)**
Chairs:	*Mirko Piersanti (University of L'Aquila), Massimo Materassi (CNR, Italy)*
Room:	*MTC 00.15, Small lecture room*
09:00	On the Role of Dynamical Complexity and Turbulence in the Ionosphere - **Invited** Giuseppe Consolini
09:30	Investigating dynamical complexity in the topside ionosphere using information-theoretic measures Georgios Balasis, Adamantia Zoe Boutsi, Constantinos Papadimitriou
09:45	New capabilities for prediction of high-latitude ionospheric scintillation: A novel approach with machine learning Ryan McGranaghan, Anthony Mannucci, Brian Wilson, Chris Mattmann
10:00	Solar Activity and Space Weather Effects on Earth's Thermosphere Francesco Berrilli, Carlo Cauli, Mija Lovric, Alberto Bigazzi, Dario Del Moro, Luca Giovannelli, Marco Colace
10:15	A self-consistent approach to analysis of ionospheric and thermospheric parameter long-term trends A.V. Mikhailov and L. Perrone

Session 13:	**Critical challenges and recent advances in the reli-able forecast of solar activity and extreme space weather events (part 1)**
Chairs:	*Elena Popova, Michael Balikhin (University of Sheffield, UK)*
Room:	*MTC 01.03*
09:00	The Great August 1972 Heliospheric Disturbance—What We Know Now - **Invited** Delores Knipp, Brian Fraser, Margaret Shea, Don Smart

09:15	Towards Improved Operational Space Weather Forecasts – challenges in modelling and observations - **Invited** David Jackson
09:30	Forecasting Extreme Space Weather in Earth's Magnetosphere: Challenges and Opportunities - **Invited** Howard J. Singer, Michele Cash, Christopher Balch, Rob Steenburgh, George Millward, Eric Adamson, Gabor Toth, Daniel Welling
09:45	UNIVERSAT-SOCRATES project and complemen-tary cubsat missions for monitoring of space hazards M. Panasyuk, A. Iudin, V. Kalegaev, P. Klimov, S. Svertilov, O. Ploc, G. Reitz, I. Ambrozova, M. Kakona, I. Kolmasova, P. Kovar, V. Bogomolov, V. Osedlo, V. Petrov, M. Podzolko, E. Popova, I.V. Yashin, M. Bartelemy, T. Sequies, E. Roland
10:00	The development of a real time Dst Index forecast model Richard Boynton, Hua-Liang Wei, Simon Walker
10:15	Solar cycle prediction and phase synchronization of solar dynamo Alexander Shapoval, Elena Blanter, Jean-Louis Le Mouel, Mikhail Shnirman, Vincent Courtillot
10:30	**Coffee break**
Session 11:	**Space Weather Instrumentation (part 2)**
Chairs:	*Sylvie Benck (Universite Catholique de Louvain), Mervyn Freeman (British Antarctic Survey, Cambridge), Grigory Protopopov (URSC-ISDE, Moscow), Volker Bothmer (Insti-tut fur Astrophysik, Georg-August-Universitat Gottingen)*
Room:	*MTC 00.10, Large lecture room*
11:15	Timepix Detector Spacecraft Instrumentation and Radiation Monitor Payloads for Satellites and Cubesats Carlos Granja, Jan Jakubek, Benedikt Bergmann, Stanislav Pospisil, Vladimir Daniel, Pavel Soukup, Daniel Turecek, Stepan Polansky, Petr Svoboda, Tomas Baca
11:33	The Energetic Particle Telescope (EPT): its performances and its proposed miniaturization Stanislav Borisov, Sylvie Benck and Mathias Cyamukungu

11:51	Low resource magnetometer for space weather applications and implementation on RadCube Chiara Palla, Patrick Brown, Henry Eshbaugh, Tim Oddy, Jonathan Eastwood, Balazs Zabori, Dominik Nolbert, Gabor Marosy
12:09	New space-derived small platforms are generating in-orbit opportunities for space weather instrumentation Helene Boithias
12:27	LOFAR4SpaceWeather: Towards Space Weather Monitoring with Europe's Largest Radio Telescope Richard Fallows, Nicole Vilmer, Peter Gallagher, Eoin Carley, Mario Bisi, Joris Verbiest, Hanna Rothkaehl, Michael Olberg, and Rene Vermeulen

Session 12:	**Thermosphere and Ionosphere : Irregular dynamics and structures as a response to Space Weather Events (part 2)**
Chairs:	*Mirko Piersanti (University of L'Aquila), Massimo Materassi (CNR, Italy)*
Room:	*MTC 00.15, Small lecture room*
11:15	An assessment of the ability of the TIEGCM Rayleigh-Taylor growth rate to reproduce the daily occurrence variability of Equatorial Plasma Bubbles - **Invited** Brett A. Carter, J. Currie, M. Terkildsen, K. Groves, R. Caton
11:45	TechTIDE Horizon 2020 project: Warning and mitigation technologies for travelling ionospheric disturbances effects Anna Belehaki and the TechTIDE consortium
12:00	TIDs triggered by CIR/HSSS-related storms Dalia Buresova, Jaroslav Chum, Anna Belehaki, David Altadill, Estefania Blanch, Daniel Kouba, Ivan Galkin, Zbynek Mosna, and Jaroslav Urbar
12:15	Towards the calibration of empirical and physics-based thermospheric neutral density models considering ionosphere coupling Ganesh Lalgudi Gopalakrishnan, Michael Schmidt, Sergei Rudenko and Mathis Blossfeld

12:30	The detection of ultra-relativistic electrons in low Earth orbit by the LYRA instrument on board the PROBA2 satellite Athanassios C. Katsiyannis, Marie Dominique, Viviane Pierrard, Graciela Lopez Rosson

Session 14:	**Scientific and technological aspects of planetary space weather (part 1)**
Chairs:	*Christina Plainaki (ASI - Agenzia Spaziale Italiana), Nicolas Andre (IRAP, France)*
Room:	*MTC 01.03*
11:15	Planetary Space Weather at Mercury: correlations between Na exosphere and IMF - **Invited** Valeria Mangano, Stefano Massetti, Stefano Orsini, Anna Milillo
11:30	Pushing the P-DBM to its limits Francesco Berrilli, Alice Cristaldi, Dario Del Moro, Roberta Forte, Luca Giovannelli, Gianluca Napoletano, Ermanno Pietropalo
11:45	Investigating interplanetary space weather events with spacecraft engineering Mark Lester, Olivier Witasse, Robert F. Wimmer-Schweingruber, Jingnan Guo, Beatriz Sanchez–Cano, Michel Denis, Jeffrey J. Plaut, Emmanuel Grotheer
12:00	New results from Galileo's first flyby of Ganymede: Reconnection driven flows at the low-latitude magnetopause boundary, crossing the cusp, and icy ionospheric escape - **Invited** Glyn Collinson
12:15	Space weathering at Ganymede Gianluca Carnielli, Marina Galand, Ronan Modolo, Francois Leblanc, Arnaud Beth, Xianzhe Jia
12:30	Recurrent magnetic dipolarization process at Saturn: Cassini measurements Zhonghua Yao, A. Radioti, D. Grodent

12:45-14:00 Lunch break

14:00-15:15 Topical Discussion Meetings

MTC 00.10	MTC 00.15	MTC 01.03
What does Space Weather need from Space Science?	Using the Ny-Alesund facilities for space weather purposes	In-orbit cross-calibration of space environment sensors
Johan De Keyser (Royal Belgian Institute for Space Aeronomy); Iannis Dandouras (IRAP Toulouse)	Yngvild Andalsvik (Norwegian Mapping Authority); Jean Lilensten (IPAG)	Johan Idestrom¨ (OHB System AG)

15:15-16:30 Topical Discussion Meetings

MTC 00.10	MTC 00.15	MTC 01.03
Metrics, Verification and Validation: From Initial Concept to Operational Space Weather Services	Requirements for Space Weather Radio Science and Applications	Machine Learning Systems for Space Weather Prediction
Alexi Glover (ESA), Suzy Bingham (UK Met Office), Mark Dierckxsens (BIRA-IASB), Matthew Angling (Univ Birmingham)	Mauro Messerotti (INAF-Astronomical Observatory of Trieste); Jasmina Magdalenic (Royal Observatory of Belgium)	Thomas Berger (University of Colorado Boulder); Ryan Mcgranahan(NASA Jet Propulsion Laboratory); Enrico Camporeale(Centrum Wiskunde en Informatica, Amsterdam)

End of meeting

Thank you for participating.

We hope to see you again next year!

2.
PRACTICAL INFORMATION

1.1 INFOPOINT

If you have questions or require our help you can find us at the on-site registration stand.

1.2 INTERNET

There is free wireless access in the conference building. You may either access Eduroam or go online with the login details provided on the backside of your personalised badge.

1.3 CONFERENCE VENUES

The ESWW conference will take place at the Leuven University (KU Leuven), more specifically in the Maria Theresia college and the nearby Hallen.

MARIA THERESIA COLLEGE
Lectures will take place in the following lecture rooms:
- *MTC 00.10 - 'Grote Aula', translating to Large lecture room*
- *MTC 00.15 - 'Kleine Aula', translating to Small lecture room*
- *MTC 01.03*
- *MTC 00.03*

Wheelchair entrance**:** on the side of the building, accessible via the car park in the courtyard.
Maria Theresia college, Sint-Michielsstraat 6, 3000 Leuven

JUBILEE HALL AND PROMOTION HALL
Monday 5th November 18:45-21:00
The Medal Ceremony will take place in the Promotion Hall followed by the Welcome Reception in the Jubilee Hall. Both splendid rooms are located within the premises of the Hallen, **University Hall**, the university's main building.
University Hall - Naamsestraat 22 - Leuven

BELGIAN BEER RECEPTION @ OUR TOWN HALL
Wednesday 7th of November 17:15-18:15
The Belgian Beer reception on Wednesday will take place in the **town hall**, Leuven's pride and joy. Moreover, it's one of the best-known Gothic town halls worldwide.
Town Hall - Grote Markt 9 - Leuven

CONFERENCE DINNER @ FACULTY CLUB

Conference dinner @ Faculty Club 19:30 - end

The congress dinner on Thursday evening will be served in the Faculty Club, situated within the premises of the **Grand Beguinage**, which is a well preserved and completely restored historical quarter containing a dozen of streets in the south of downtown Leuven.

About 3 hectares (7.5 acres) in size, with some 300 apartments in almost 100 houses, it is one of the largest still existing beguinages in the Low Countries. The site has been recognized by **UNESCO** world heritage since 2000.

Faculty Club - Groot Begijnhof (Grand Beguinage) 14 - Leuven

3.
POSTERS

3.1 Session 1: Solar Corona and Heliosphere: From Flares to CMEs and Interplanetary Shocks

1.p01 Forbush Decrease Mechanism in a Magnetic Cloud
Anastasia Petukhova, Ivan Petukhov, Stanislav Petukhov

1.p02 Observing the Sun with LOFAR: Current results and future prospective.
Pietro Zucca, Mario Mark Bisi, Eoin Carley, Bartosz Dabrowski, Richard Fallows, Peter Gallagher, K-Ludwig Klein, Andrzej Krankowski, Jasmina Magdalenic, Christophe Marque, Diana Morosan, Hanna Rothkaehl, Nicole Vilmer, Christian Vocks, Gottfried Mann

1.p03 Investigation of the largest flares of solar cycle 24 and its interplanetary journey
Liliana Dumitru, Cristiana Dumitrache, Diana Ionescu

1.p04 Homologous prominence non-radial eruptions. Momchil Dechev, Kostadinka Koleva, Peter Duchlev

1.p05 Long-term evolution of the solar corona using SWAP data
Marilena Mierla,Elke D'Huys,Daniel B. Seaton,David Berghmans,Matt West,Elena Podladchikova, Laurence Wauters, Jan Janssens

1.p06 Observing of clusters of high energy particles on neutron monitor
Yury Balabin

1.p07 Exceptional Extended Field of View Observations by SWAP on 1 and 3 April 2017
Jennifer O'Hara, Marilena Mierla, Elena Podladchikova, Elke D'Huys, Matthew West

1.p08 Type II radio burst observed by LOFAR on August 25, 2014
Jasmina Magdalenic, Christophe Marque, Richard Fallows, Gottfried Mann, Christian Vocks

1.p09 An investigation of the early stages of solar eruptions: from remote observations to energetic particles
Kamen Kozarev, Rositsa Miteva, Kostadinka Koleva, Peter Duchlev, Momchil Dechev, Astrid Veronig, Manuela Temmer, Karin Dissauer

1.p10 Investigating CME distortions with the Solar Stormwatch project
Shannon Jones, Chris Scott, Luke Barnard, Mathew Owens

1.p11 Ensemble modeling of CMEs using EUHFORIA
Christine Verbeke, S. Poedts, M. Leila Mays, Camilla Scolini, Jens Pomoell

1.p12 Tomography Programing for Space Weather Analysis using the Worldwide IPS Stations Network (WIPSS)
Bernard V. JACKSON, Hsiu-Shan YU, Paul P. HICK, Andrew BUFFINGTON,Mario M. BISI,Richard A. FALLOWS,Munetoshi TOKUMARU,Sergei A. TYULI'BASHEV, Igor V. CHASEI,Victor H. DE LA LUZ

1.p13 Size Distributions of Solar Proton Events and Their Associated Soft X-ray Flares: Application of the Maximum Likelihood Estimator
D'Huys Elke, Cliver Edward W.

1.p14 Post-Flare Loop Signatures
Matthew West, Daniel Seaton, Erika Palmerio

1.p15 Multi-wavelength analysis of proton-producing solar flares
Rositsa Miteva, Astrid Veronig, Kostadinka Koleva, Momchil Dechev, Kamen Kozarev, Manuela Temmer

1.p16 Ensemble forecast of the background solar wind and CMEs B. Luo, J. Wang, Y. Zhu, S. Yang, S. Liu, J. Gong

1.p17 Radio Signatures of Shock Accelerated Electron Beams in the Corona
Gottfried Mann, Valentin N. Melnik, Helmut O. Rucker, Alexander A. Konovalenko, Aanatoli I. Brazhenko

1.p18 Impulsive CME expansion and fast EUV wave associated with the September 10, 2017 X8.2 flare observed by GOES/SUVI
Astrid M. Veronig, Tatiana Podladchikova, Karin Dissauer, Manuela Temmer, Daniel B. Seaton, Jingnan Guo

1.p19 LOFAR observations of fine spectral structure dynamics in type IIIb radio bursts
Ivan Sharykin, Eduard Kontar, Alexey Kuznetso

1.p20 Flow patterns observed in ascending phase of the flare on March 6, 2012
Elena Philishvili, B.M. Shergeleashvili, J. Raes, S. Poedts, T.V. Zagareshvili, M.L. Khodachkenko, P. De Causmaecker

1.p21 Linking the solar dynamo field and the wind: the impact of self-consistent dynamical coupling
Barbara Perri, Victor Reville,´ Allan Sacha Brun, Antoine Strugarek

1.p22 Insights into Coronal Mass Ejection Shock Kinematics with the Irish Low Frequency Array (I-LOFAR)
Maguire C, Gallagher P, Carley E, Nally A, Zucca P

1.p23 Numerical simulations of ICMES up to 1AU Skralan Hosteaux, Emmanuel Chane,´ Stefaan Poedts

1.p24 Estimating Uncertainty Polar Coronal Hole Measurements Using Multiple Observations Over Two Solar Cycles
Michael S.F. Kirk, W. Dean Pesnell, C. Nickolos Arge

1.p25 Reconnecting current sheets in a CME-CME interaction region
E. Yordanova, Z. Voros, E. Kilpua, C. Mostl, M. Temmer, A. P. Dimmock, L. Rosenqvist, M. Andre and E. Carlsson Sjoberg

1.p26 Multiple Regions of Shock Accelerated Particles in the Solar Corona
Peter T. Gallagher, Diana E. Morosan, Laura A. Hayes, Sophie A. Murray, Eoin P. Carley, Pietro Zucca, Richard A. Fallows, Joe McCauley, Emilia Kilpua, Gottfried Mann, Christian Vocks

1.p27 Observations the different types of radio bursts with LOFAR station in Baldy
Bartosz P. Dabrowski, Diana E. Morosan, Richard Fallows, Leszek Blaszkiewicz, Andrzej Krankowski, Jasmina Magdalenic, Christian Vocks, Gottfried Mann, Pietro Zucca, Tomasz Sidorowicz, Marcin Hajduk, Kacper Kotulak, Adam Fron, Karolina Sniadkowska

1.p28 On the possibility of the use of recurrent Forbush decreases in the Space Weather tasks
A. Melkumyan, A.V. Belov, E.A. Eroshenko, A.A. Abunin, M. A. Abunina, V.A.Oleneva, V.G. Yanke, A. Papaioannou

1.p29 A catalogue of Forbush decreases recorded on the surface of Mars from 2012 until 2016: comparison with terrestrial FDs
A. Papaioannou, A. Belov, M. Abunina, J. Guo, A. Anastasiadis, R. Wimmer-Schweingruber, E. Eroshenko, A. Melkumyan, A. Abunin, B. Heber, K. Herbst, C.T. Steigies

1.p30 Interplanetary Coronal Mass Ejections as the driver of non-recurrent Forbush Decreases
A. Belov, A. Papaioannou, M. Abunina, E. Eroshenko, A. Anastasiadis, S. Patsourakos, H. Mavromichalaki, A. Abunin

1.p31 Continuum emission enhancements and penumbral changes observed during flares by Hinode, IRIS and ROSA
Francesca Zuccarello, Vincenzo Capparelli, Mihalis Mathioudakis, Peter Keys, Lyndsay Fletcher, Serena Criscuoli, Mariachiara Falco, Salvo L. Guglielmino, Mariarita Murabito

1.p32 Numerical Modelling of Stealth Solar Eruptions Inserted in Different Solar Wind Speeds and Comparison with In-Situ Signatures at 1AU
Dana-Camelia Talpeanu, Francesco P. Zuccarello, Emmanuel Chane,´ Stefaan Poedts, Elke D'Huys, Skralan Hosteaux, Marilena Mierla

1.p33 Modelling Solar Energetic Particle Events Using EUHFORIA Nicolas Wijsen, Angels Aran, Jens Pomoell, Stefaan Poedts

1.p34 Precursory signs of Forbush decreases during solar cycle 24
Dimitra Lingri, Helen Mavromichalaki, Anatoly Belov, Maria Abunina, Eugenia Eroshenko

1.p35 Fully kinetic simulations of electron and ion temperature-anisotropy instabilities in the solar wind using the ECSIM code
A. Micera, A. N. Zhukov, E. Boella, D. Gonzalez-Herrero and G. Lapenta

1.p36 Understanding the effect of the 2017 September 10 flare on VLF waves
Consuelo Cid, Elena Saiz, Antonio Guerrero, Alberto Garcia, Fernando Montoya, Jasmina Magdalenic, Yolanda Cerrato

1.p37 Practical realization of the Force-free Magnetic Field Models
A. Petukhova, , Ivan Petukhov, Stanislav Petukhov

1.p38 SPARTOS: a forecasting tool for fast CME arrivals
P. Corona-Romero, J.A. Gonzalez-Esparza, E. Aguilar-Rodriguez, J.C. Mejia-Ambriz, M. Sergeeva, L. X. Gonzalez, V. de la Luz

1.p39 Comparative analysis of solar radio bursts before and during CME propagation
G.Dididze, B.M. Shergelashvili V.V. Dorovskyy, V.N. Melnik, A.I. Brazhenko, S. Poedts, T.V. Zaqarashvili, M.Khodachenko

1.p40 Comparison of Proton and Electron Particle Acceleration at CME Driven Shocks
Linda Neergaard Parker, Gang Li

1.p41 CME-driven shock and Type II solar radio burst band-splitting
Nicolina Chrysaphi, Eduard P. Kontar, Manuela Temmer, Gordon D. Holman

1.p42 Investigating the Magnetic Connection Between CME Source Regions and their ICME Counterparts
B. J. Lynch, M. D. Kazachenko, Y. Li, X. Sun, W. P. Abbett

1.p43 A case study of a coronal hole – CME interaction from the solar photosphere to Earth's magnetosphere.
Stephan G. Heinemann, Manuela Temmer, Astrid M. Veronig, Karin Dissauer, Stefan J. Hofmeister, Charlie Farrugia, Thomas Wiegelmann

1.p44 Magnetic field into the earth magnetic ramp and Mach number(M) variation co-relation at each angle between shock normal and upstream magnetic field Bn
jjivraj pipaliya

1.p45 Interplanetary Solar Radio Emissions observed by STEREO Vratislav Krupar,Adam Szabo,Robert MacDowall

3.2 Session 2: Geomagnetic Storms - Ground and near-Earth Space Weather Impacts

2.p01 The solar cycle 24 geomagnetic storms triggered by ICMEs and CIRs
Cristiana Dumitrache, Nedelia A.Popescu

2.p02 Differential Magnetometer Measurements of Geomagnetically Induced Currents in the UK Power Grid
Juliane Huebert, Ciaran Beggan, Thomas Martyn, Anthony Swan, Tim Taylor, Christopher Turbitt and Alan Thomson

2.p03 Periodicities and Singularities observed on IMF (Bz-component) and Auroral Electorjet (AE) Index during High Intensity Long Duration Continuous Auroral Activities
Binod Adhikari

2.p04 Stream interaction regions impact on weather variables in mid-latitudes
Deivydas Kiznys, Jone Vencloviene

2.p05 Ground level enhancement event on September 10, 2017
Yury Balabin, Boris Gvozdevsky, Eugenia Mikhalko, Aleksey Germanenko, Eugeny Maurchev

2.p06 Impact of large geomagnetic storms on space weather at the ground and earth environment during September 2017
Y.K. Tassev, P.I.Y. Velinov,A. Mishev,L. Mateev

2.p07 Geomagnetic cut- off rigidity calculations for long term magnetic conditions forecasting
M. Gerontidou, N. Katzourakis, H. Mavromichalaki, V. Yanke, E. Eroshenko

2.p08 The 06-09 September 2017 "Mega" event of solar cycle 24
Z. Bouya1, R. Marshall1, M. Terkildsen1, G. Steward1, M. Parkinson1, V. Lobzin1, D. Neudegg1, B. Carter2, P. Maher1, V. Kumar1, J. Young1, A. Kelly1

2.p09 Local time variations in 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, and Mervyn Freeman

2.p10 The geoelectric and geomagnetic response over Fennoscandia to the 7-8 September 2017 storm
A. P. Dimmock, L. Rosenqvist, J-O. Hall, A. Viljanen, E. Yordanova, K. Kauristie, M. Andre,´ E. Carlsson

2.p11 Global simulations of the solar wind magnetosphere interaction
J. P. Eastwood, L. Mejnertsen, J. W. B. Eggington, R. T. Desai, J. C. Chittenden

2.p12 Modelling and monitoring induced electric fields (IEFs) in Ireland and the UK for space weather applications
Joan Campanya, Peter Gallagher, Sean Blake, Mark Gibbs, David Jackson, Ciaran Beggan, Gemma S. Richardson, Colin Hogg

2.p13 Regional geomagnetic indexes for Mexico: Kmex & Hmex
P. Corona-Romero, M. Sergeeva, J.A. Gonzalez-Esparza, G. Cifuentes-Nava, E. Hernandez-Quintero, A. Caccavari, E. Aguilar-Rodriguez, J.C. Mejia-Ambriz, V. de la Luz, L. X. Gonzalez, E. Romero-Hernandez

2.p14 Local and global geomagnetic responses of extreme geomagnetic storms at mid latitude (pros and cons of being in the middle)
Elena Saiz, Antonio Guerrero, Consuelo Cid

2.p15 Improving nowcast capability through automatic processing of combined ground-based measurements
M. Yamauchi, U. Brandstrom, D. van Dijk, S. Kose,´ M. Nishi, P. Wintoft, T. Sergienko

2.p16 Electrical grids' failures in southern Poland in 2010 and 2014 in association to space weather effects
A. Gil, R. Modzelewska, Sz. Moskwa, A. Siluszyk, M. Siluszyk, A. Wawrzynczak, and S. Zakrzewska

3.3 Session 3: Advancements and opportunities towards national and global resilience for space weather events: research, fore-casting, and mitigation

3.p01 Space Weather Products and Services of Bucharest Solar Station
Octavian Blagoi, Cristian Danescu, Adrian Sonka, Liliana Dumitru, Diana Besliu-Ionescu, Cristiana Dumitrache

3.p02 Characters of Solar Cycle 24 and Prediction of Solar Cycle 25
Juan Miao, Siqing Liu, Zhitao Li, Tingling Ren

3.p03 Ionospheric modelling to boost the PPP-RTK positioning and navigation in Australia
Kirco Arsov, Michael Terkildsen, German Olivares

3.p04 Benchmarks for Space Weather Events Becaja Caldwell, Seth Jonas

3.p05 Solar Particle Radiation Storm Forecasting and Analysis: the real-time SEP prediction tools within the framework of the 'HESPERIA' HORIZON 2020 project
Olga E. Malandraki, Marlon Nunez, Bernd Heber, Johannes Labrenz, Patrick Kuehl, Arik Posner, Angelos Tzotzos, Nikos Milas, Georgia Tsiropoula, Evgenios Pavlos

3.p06 Space weather disruptions to satellite navigation and telecommunications in the case of interdependent services
Biagio Forte, Bruno Vani, Nathan Smith, Ivan Astin, Joao Francisco Galera Monico, Alexis Ruffenach, Ian Flintoft, Anthony Concannon, Les McCormack, Alexandra Koulouri

3.p07 En route to a global space weather forum: establishing the coordinated research initiative targeting improvements of global resilience to space weather events.
Masha Kuznetsova, Hermann Opgenoorth, Anna Belehaki, Mario Bisi, Sean Bruinsma, Alexi Glover, Manuel Grande, Daniel Heynderickx, Jon Linker, Ian Mann, Dibyendu Nandi, Manuela Temmer, Robert Wimmer-Schweingruber

3.p08 The Worldwide Interplanetary Scintillation (IPS) Stations (WIPSS) Network: Recent Campaign Results Including LOFAR and Steps Towards LOFAR For Space Weather (LOFAR4SW)
Mario M. Bisi, Bernard V. Jackson, Richard A. Fallows, Oyuki Chang, Munetoshi Tokumaru, Ernesto Aguilar-Rodriguez, J. Americo Gonzalez-Esparza, Julio C. Mejia-Ambriz, Igor Chashei, Sergey Tyul'bashev, John Morgan, Periasamy K. Manoharan, Hsiu-Shan Yu, Dusan Odstrcil, David Barnes, Biagio Forte, Stuart Robertson, S. James Tappin, and Rene Vermeulen.

3.p09 NSF Support of National and Global Resilience Through Fundamental Research
Michael Wiltberger, Carrie Black

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4.p01 First analysis of GLE 72 using neutron monitor data and assessment of radiation environment at aviation altitudes
A. Mishev, I. Usoskin, L. Kocharov, R. Vanio, E. Valtonen, O. Raukunen, M. Paasilta

4.p02 On user liaison between space weather services and the aviation sector
Bert van den Oord, Joost Koning, Kirsti Kauristi, Kari Osterberg

4.p03 Radiation Environment at Flight Altitude: Model Verification with Aircraft Measurement
Jiyoung Kim, Wonhyeong Yi, Kun-Il Jang, W. Kent Tobiska

4.p04 PECASUS: GNSS user domain service
Volker Wilken, Martin Kriegel, Claudio Cesaroni, Luca Spogli, Nicolas Bergeot, Jean-Marie Chevalier, Iwona Stanislawska, Lukasz Tomasik and Bert van den Oord

4.p05 PECASUS: Radiation Expert Group and Service
E. De Donder, M. Latocha, P. Beck, M. Dierckxsens, N. Crosby, S. Calders

4.p06 Assessing the radiation level at aviation altitude along different route in South Africa.
Rendani Rejoyce Nndanganeni

4.p07 Upgrade of the International GLE database for estimation of radiation exposure at flight altitudes
Alexander Mishev, Ilya Usoskin

4.p08 Integration of DYASTIMA to European Space Agency
P. Paschalis , A. Tezari , M. Gerontidou , H. Mavromichalaki , P. Karaiskos , N. Crosby , M. Dierckxsens

4.p09 Current Status of WASAVIES: Warning System for Aviation Exposure to Solar Energetic Particle
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Thierry Dudok de Wit, Alexis Rouillard and OFRAME team

5.p02 Regional Warning Center Sweden
P. Wintoft, M. Wik, U. Brandstr¨om,¨ M. Yamauchi, T. Sergienko, J. Kero

5.p03 Predicting the September 2017 Flares by Means of ESA's A-EFFort: Lessons Learned and an Extrapolation Toward a Carrington-Level Event
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Tianjiao Yuan, Yanhong Chen, Siqing Liu, Jiancun Gong

6.p02 Poynting flux evolution in active regions Andre Chicrala, D. Shaun Bloomfield

6.p03 Forecasting of a Solar Wind Classification using Convolutional Neural Networks
Gilles Depypere, Jorge Amaya, Giovanni Lapenta, Savvas Raptis, Adam Shamash

6.p04 Deep learning approach to next-day forecast of solar wind parameters at L1.
Carl Shneider, Mandar Chandorkar, Enrico Camporeale

6.p05 Statistical validation of an empirical model of solar proton event time profiles
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6.p10 Case Studies of Combining Expertise for Groundbreaking, Integrated Space Weather Forecasting
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6.p11 Pre-flare dynamics in 3D of the Active Regions Marianna Korsos

6.p12 Long-term electron radiation belt data assimilation relying on four spacecraft, the VERB code, and a sequential Kalman filter
Sebastian´ Cervantes, Yuri Shprits, Alexander Drozdov, Adam Kellerman and Nikita Aseev

6.p13 Anomalies of solar activity and phase synchronization of solar magnetic field.
Elena Blanter, Jean-Louis Le Mouel,¨ Alexander Shapoval, Mikhail Shnirman, Vincent Courtillot

6.p14 On the use of topside RO derived electron density for model validation
Muhammad Mubasshir Shaikh, Bruno Nava, Haris Haralambous

6.p15 Predicting and now-casting Kp index using historical and real-time observations
Yuri Shprits, Ruggero Vasile, David Jackson, Claudia Stolle, Zhelavskaya Ira, Sean Bruinsma

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Veronique Delouille, Stefan Hofmeister, Martin Reiss, Benjamin Mampaey, Manuela Temmer

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Mitsue Den, Takashi Tanaka, Yuki Kubo, Shinichi Watari

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Allan Sacha Brun, Ching Pui Hung, Alexandre Fournier, Laurene` Jouve, Antoine Strugarek, Olivier Talagrand

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Dario Sabbagh, Carlo Scotto

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L. Perrone and A.V. Mikhailov

6.p21 Innovative methods for the prediction of solar flares: data assimilation in sandpile models with machine learning
Antoine Strugarek, Benoˆıt Tremblay, Paul Charbonneau, Allan Sacha Brun, Nicole Vilmer

6.p22 Precise estimation of the delayed ionospheric response to solar EUV variations
Erik Schmolter,¨ Jens Berdermann, Norbert Jakowski, Christoph Jacobi, Rajesh Vaishnav

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Evangelos Paouris, Athanasios Papaioannou, Anastasios Anastasiadis, Georgios Balasis

6.p24 The dependence of high-speed stream peak velocities and of the Kp index on the positions of their source coronal holes on the sun
Stefan Hofmeister, Astrid Veronig, Manuela Temmer, Susanne Vennerstrom, Bernd Heber, Bojan Vrsnak˘

6.p25 High-speed solar wind stream forecast based on coronal hole data
Tatiana Podladchikova, Astrid M. Veronig, Manuela Temmer, Stefan Hofmeister

6.p26 Multi-spacecraft Prediction of Co-rotating Stream Interaction Regions
Susanne Vennerstrom, Astrid M. Veronig, Manuela Temmer, Stefan Hofmeister and Stephan G. Heinemann

6.p27 Inferring dynamic causal time lag: Applications to space weather
Mandar Chandorkar, Enrico Camporeale, Cyril Furtlehner, Michel´e` Sebag

6.p28 Verification of space weather forecast models: administrative, economic, and scientific
P. Wintoft, M. Wik

6.p30 A multiscale artificial neural network approach to geomagnetic index forecasting
G. Consolini, T. Alberti, F. Giannattasio and P. De Michelis

6.p31 ACE/EPAM Solar energetic electron catalog (1996-2017): Statistical Relationship with Flares and CMEs
Susan Samwel, Rositsa Miteva

6.p32 Operational Performance of the COMESEP Alert System Mark Dierckxsens, Norma Crosby, Stijn Calders, Lenka Zychova´

6.p33 Connecting the Sun to the Earth using Machine Learning
Jorge Amaya, Adam Shamash, Gilles Depypere, Savvas Raptis, Diego Gonzalez-Herrero, Giovanni Lapenta

6.p34 The Self-Adjusted Solar Flux Forecasting Tool (SASFF)
Olena Podladchikova, Christophe Marque, Koen Stegen, David Berghmans and SIDC forecasting team

6.p35 Photospheric Magnetic Field Properties of Flaring vs. Flare-quiet active regions, V: Results from HMI
KD Leka, G Barnes

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H. Mavromichalaki, M. Gerontidou, P. Paschalis, A. Tezari, C. Sgouropoulos, N. Crosby, M. Dierckxsens, V. Kurt, A. Belov, K. Kudela

7.p02 Estimation of the particle radiation environment at L1 point and near-Earth space
M. Laurenza, T. Alberti, M. F. Marcucci, G. Consolini, C. Jacquey, S. Molendi, C. Macculi, S. Lotti

7.p03 Global atmosphere phenomenon
Yury Balabin, Aleksey Germanenko, Boris Gvozdevsky, Eugenia Mikhalko

7.p04 Characterization of the L2 radiation environment using ESA SREM measurements
S. Aminalragia-Giamini, S. Raptis, I. Sandberg, A. Anastasiadis, C. Papadimitriou, I. A. Daglis, P. Nieminen

7.p05 SEP models coming to the Community Coordinated Modeling Center
M. L. Mays, J. G. Luhmann, D. Odstrcil, N. A. Schwadron, M. J. Gorby, M. Dierckxsens, M. Marsh, I. Richardson

7.p06 Exploring the energetic proton flux variability by using the Empirical Mode Decomposition
G. Consolini, T. Alberti, M. Laurenda, M.F. Marcucci

7.p07 An Empirical Modification of the Force Field Approach to Describe the Modulation of Galactic Cosmic Rays Close to Earth in a Broad Range of Rigidities
J. Gieseler, B. Heber, C. Herbst

7.p08 Solar and interplanetary sources of Solar Energetic Particle (SEP) Events during 1988-2013. Implications for SEP forecasting
A. Papaioannou, E. Paouris, A. Anastasiadis, A. Aran, R. Vainio, M. Paassilta, P. Jiggens

7.p09 The solar particle event on 10-13 September 2017 – Spectral reconstruction and calculation of the radiation exposure in aviation and space
Daniel Matthia,¨ Matthias M. Meier and Thomas Berger

7.p10 Radiation belts shape fluctuation due to geomagnetic disturbances
Vasily S. Anashin, Grigory A. Protopopov, Nataliya V. Balykina, Andrey Y. Repin, Valentina I. Denisova, Alexey V. Tsurgaev

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Edith Botek, Graciela Lopez Rosson, Fabiana Da Pieve and Viviane Pierrard

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Nigel Meredith, Richard Horne, Tobias Kersten, Wen Li, Jacob Bortnik, Angelica Sicard, Keith Yearby

7.p13 The Trapped Energetic Particle Environment Model
Constantinos Papadimitriou,Ingmar Sandberg,Christos Katsavrias,Antonis Tsigkanos,Sigiava Aminalragia-Giamini,Piers Jiggens,Ioannis A. Daglis

7.p14 In-depth validation of the IRENE models
D. Heynderickx, I. Sandberg, C. Papadimitriou, S. Aminalragia-Giamini, P. Truscott, F. Lei, I.A. Daglis, H. Evans, P. Jiggens

7.p15 Non-stationary properties of quasi-periodic pulsations in flare emission
Elena Kupriyanova, Anne-Marie Broomhall, Dmitrii Kolotkov, Alexandra Lysenko, Kudryavtseva Anastasiya

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7.p18 Increases and decreases in radiation belt electron content with geomagnetic activity
Colin Forsyth, C.E.J. Watt, M. P. Freeman, C.-L. Huang, A. J. Boyd, M. Lockwood, K. R. Murphy, I. J. Rae, H. E. Spence, R. Caro Carretero

7.p19 Nuclear hardening to protect satellites against high-altitude-nuclear-explosions (HANE) Johan Idestrom¨

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Vladimir Daniel, Tomas Baca, Carlos Granja, Lenka Mikulickova, Veronika Stehlikova, Adolf Inneman, Richard Pavlica, Vojtech Zadrazil, Petr Svoboda, Michaela Martinkova, Martin Urban, Ondrej Nentvich, Michal Platkevic, Robert Filgas

7.p21 Microwave emission of solar flares as indicator of the SEP origins
Larisa Kashapova,Rositsa Miteva,Natalia Meshalkina, Dmitrii Zhdanov, Irina Myagkova, Andrey Bogomolov

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Anna Chulaki, Yaireska Collado-Vega, Maria Kuznetsova, Peter MacNeice, Leila Mays, Karin Muglach, Richard Mullinix, Asher Pembroke, Lutz Rastaetter, Aleksandre Taktakishvili, Barbara Thompson, Chiu Wiegand, Yihua Zheng

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Y. Zhu, S. Yang, T. Ren, J. Miao, S. Liu, B. Luo

9.p02 The Extended Unified Model – a new non-hydrostatic model for the thermosphere
David Jackson, Emily Down, James Manners, Dan Griffin, Matt Griffith, Chris Kelly, Sean Bruinsma, Sandra Negrin, Claudia Stolle

9.p03 Use of GNSS to augment foF2 modelling
Z. Bouya, V. Kumar, M. Terkildsen, P. Maher, G. Patterson

9.p04 Discrimination between Internal and External origin contributions from LEO satellite magnetic field data.
Mirko Piersanti, Massimo Materassi, Luca Spogli, Antonio Cicone, Igor Bertello, Piero Diego, Pietro Ubertini.

9.p05 On the use of a CubeSats UHF modulated beacon for characterisation of small-scale ionospheric disturbances
E. McKenna, M. J. Angling, J. Subash, G. Minelli, J. Newman, P. A. Bernhardt

9.p06 Ionospheric variability over equatorial latitude during extreme low solar activity period
Roshni Atulkar, P.K.Purohit

9.p07 On the use of topside RO derived electron density for model validation
Muhammad Mubasshir Shaikh, Bruno Nava, Haris Haralambous

9.p08 Update on thermospheric density products from satellite observations
Gunther¨ March,Tim Visser,Eelco Doornbos,Elisabetta Iorfida,Jose van den lJssel,Pieter Visser

9.p09 An initial ULF wave index derived from 2 years of Swarm observations
Georgios Balasis, Constantinos Papadimitriou

9.p10 An improved nowcast tool for determining ionospheric recovery times for sudden ionospheric disturbances. Phillip Maher, Vickal Kumar, Michael Terkildsen

9.p11 Evidence of tropospheric 90-day oscillations in the thermosphere
Federico Gasperini, Maura E. Hagan, Yucheng Zhao

3.10 Session 10: Space Weather Operations & Services

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KD Leka and the Benchmarks for Solar Flare Forecasts Team*

10.p02 Space Weather Courses, SWeC
Petra Vanlommel, Tiera Laitinen, Peter Thorn, Bert Van den Oord

10.p03 Solar flare forecasting using photospheric active region properties
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10.p04 Solar cosmic ray dose rate assessments during GLE 72 using MIRA and PANDOCA
Daniel Matthia,¨ Kyle Copeland, Matthias M. Meier

10.p05 Progress with VOEvent implementation as alerts protocol in RWC Warsaw
Łukasz Tomasik,Mariusz Pozoga,Barbara˙ Matyjasiak, Beata Dziak-Jankowska

10.p06 Validating the background solar wind using the EUHFORIA model
Manuela Temmer, Stephan Heinemann, Jurgen¨ Hinterreiter, Jasmina Magdalenic, Immanuel Jebaraj, Christine Verbeke, Stefaan Poedts, Jens Pomoell, Camilla Scolini, Luciano Rodriguez, Emili Kilpua, and Eleanna Asvestari

10.p07 Evaluation and Comparison of Geomagnetic Activity Forecasts
John Williamson, Ellen Clarke and Sarah Reay

10.p08 Database and services for space weather from the Italian ground geomagnetic observatory network
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10.p09 SWAMI: Steps to put MOWA into operations
Sandra Negrin, Sean Bruinsma, David Jackson, Claudia Stolle

10.p10 Catalogs of solar energetic protons, electrons and the related radio emissions in solar cycles 23 and 24
R. Miteva, S. W. Samwel, V. Krupar and D. Danov

10.p11 The ESA Virtual Space Weather Modelling Centre – Part 2
Stefaan Poedts, Andrey Kochanov and Andrea Lani, Herman Deconinck, Nicolae Mmihalache and Fabien Diet, Daniel Heynderickx, Johan De Keyser, Erwin De Donder, Norma B. Crosby and Marius Echim, Luciano Rodriguez, Freek Verstringe, Robbe Vansintjan and Benjamin Mampaey, Richard Horne, Sarah Glauert and John Isles, Piers Jiggens, Ralf Keil, Alexi Glover, Alain Hilgers and Juha-Pekka Luntama

10.p12 The H2020 project SWAMI activity: high cadence global geomagnetic index
G.N. Kervalishvili, C. Stolle, J. Matzka, and J. Rauberg

10.p13 A new website showing past, present and upcoming solar activity
Egor Illarionov, Andrey Tlatov

10.p14 Introducing SWERTO: a Regional Space Weather Service
Francesco Berrilli, Marco Casolino, Alice Cristaldi, Dario Del Moro, Roberta Forte, Luca Giovannelli, Matteo Martucci, Matteo Merge, Gianluca Napoletano, Livio Narici, Ermanno Pietropalo, Giuseppe Pucacco, Alessandro Rizzo, Stefano Scardigli, Roberta Sparvoli

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Stanislav Borisov, Sylvie Benck and Mathias Cyamukungu

10.p16 Evaluating Auroral Forecasts against Satellite Observations
Michaela. K. Mooney, Mike Marsh, Colin Forsyth, Teresa Hughes, Michael Sharpe, Suzy Bingham

10.p17 Why is some probabilistic forecast system not reliable?
Yuki Kubo

10.p18 Development of services related to space weather effects on aviation
Robyn A. D. Fiori

10.p19 Developing Cloud Computing based platform for the Ionospheric segment of the Space Weather domain – (SW Telltale)
Beata Dziak-Jankowska, Marcin Gil, Anna Kaminska,´ Michał Olszewski, Mariusz Pozoga,˙ Łukasz Tomasik

10.p20 Earth's Radiation Environment during February 14 - March 5, 2014 as Represented by Operational Services of SMDC MSU
Vladimir Kalegaev, Irina Myagkova, Yulia Shugai, Natalia Vlasova, Wera Barinova, Evgenia Beresneva, Sergey Bobrovnikov, Valery Eremeev, Sergey Dolenko, Ilya Nazarkov, Minh D. Nguyen

10.p21 Solar wind and CME prediction with an improved operational Enlil Prediction System
Siegfried Gonzi, David Jackson, Emily Down, Carl J. Henney

10.p22 Model validation in the context of space weather applications
Y. Zheng, T. P. O'Brien, Y. Shprits, A. Kellerman, Y. Yu, V. Jordanova, M.-C. Fok, S.-B. Kang, L. Rastaetter, M. M. Kuznetsova

10.p23 A Novel Space Weather Service: the HelioMet Center
Marta Casti, Roberto Susino, Fabio Filippi, Daniele Telloni, Angelo Fabio Mulone, Ester Antonucci, Rosario Messineo, Alessandro Bemporad, Filomena Solitro, Silvano Fineschi, Gianalfredo Nicolini, Enrico Magli, Tomas Bjorklund, Antonio Volpicelli, Michele Martino

10.p24 Space Weather services from SeNMEs focused on Carrington-like events
Guerrero Antonio, Cid Consuelo, Saiz Elena

10.p25 Monitoring and predicting HF circumstances for specialized services
I. Stanislawska, L. Perrone, A.Ippolito, D. Sabbagh, C. Scotto, L. Tomasik, A. Zalizovsky

10.p26 On the generation of probabilistic forecasts from deterministic models
Enrico Camporeale, Xiangning Chu, Oleksiy Agapitov, Jacob Bortnik

10.p27 Combining data by means of data assimilation to provide now-cast, forecast and reanalysis of the near Earth radiation environment
Yuri Shprits, Kondrashov, Dmitri, Janet Green, Ivanka Pelivan, Juan Sebastian Cervantes Villa

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11.p01 Plasma spectrometers with beam tracking strategies for space weather science applications
Johan De Keyser, Benoit Lavraud, Lubomir Prech, Romain Maggiolo, Iannis Dandouras

11.p02 High Spectral and Temporal Resolution Spectro - Polarimeter near the Ionospheric cut - off for solar radio observations and preliminary results
Anshu Kumari, Mugundhan Vijayraghvan, Indrajit V. Barve, G.V.S. Gireesh, R. Ramesh, C. Kathiravan

11.p03 The GOES-16 Energetic Heavy Ion Sensor (EHIS)
James. J. Connell, Clifford Lopate and Juan V. Rodriguez

11.p04 System of space radiation exposure monitoring based on semiconductor sensitive elements
Vasily S. Anashin, Pavel A. Chubunov, Grigory A. Protopopov, Egor V. Bulaev, Petr A. Zimin

11.p05 PECASUS: Space Weather instrumentation for a global space weather service to support civil aviation
Tiera Laitinen, Jesse Andries, Nicolas Bergeot, Peter Beck, David Berghmans, Claudio Cesaroni, Norma Crosby, Erwin De Donder, Mark Dierckxsens, Domenico Di Mauro, Mark Gibbs, Haris Haralambous, Marcin Latocha, Loredana Perrone, Vincenzo Romano, Luca Spogli, Iwona Stanislawska, Peter Thorn, Lukasz Tomasik, Volker Wilken and Martin Kriegel

11.p06 The in-situ detection of ultra-relativistic electrons by LYRA, an UV radiometer on board PROBA2
Athanassios C. Katsiyannis, Marie Dominique

11.p07 Edge computing for space applications: probabilistic description of data
Norbert Deak, Marius Echim, Octavian Cret, Lucia Vacariu, Catalin Negrea, Eliza Teodorescu, Costel Munteanu

11.p08 RadMag space weather instrument development
Balazs Zabori, Attila Hirn, Sandor Deme, Jonathan Eastwood, Patrick Brown, Tim Oddy, Chiara Palla, Dominik Nolbert, Petteri Nieminen, Giovanni Santin, Gabor Marosy

11.p09 CLARA on NorSat-1: A new operational space experiment to measure Total Solar Irradiance
Werner Schmutz, Benjamin Walter, Wolfgang Finsterle, Bo Andersen

11.p10 Imaging the far corona in EUV: SUVI Extended Corona Observations
Neal Hurlburt, Dan Seaton, Lawrence Shing, Greg Slater, Margaret Shaw, Ralph Seguin, Robin Minor, Calvin Nwachuku, Meng Jin

11.p11 FORESAIL-1: Energetic particle and de-orbiting experiments with a CubeSat
Rami Vainio, Jan Gieseler, Hannu-Pekka Hedman, Syed Rameez Ullah Kakakhel, Philipp Oleynik, Juhani Peltonen, Juha Plosila, Arttu Punkkinen, Risto Punkkinen, Lassi Salomaa, Tero Santti,¨ Jani Tammi, Hannu Tenhunen, Jarno Tuominen, Eino Valtonen, Pasi Virtanen, Tomi Westerlund, Pekka Janhunen, Jouni Envall, Sean Haslam, Petri Toivanen, Jaan Praks, Arno Alho, Alexandre Bosser, Nemanja Jovanovic, Oskari Lahti, Petri Niemela,¨ Samuli Nyman, Bagus Riwanto, Maxime Grandin, Emilia Kilpua, and Minna Palmroth

11.p12 Contributions of SuperDARN to space weather science and potential operational systems.
Mark Lester, Steve Milan, Tim Yeoman and alexandra Fogg

11.p13 Monitoring of space weather conditions with LOFAR station in Borowiec
Mariusz Pozoga,˙ Barbara Matyjasiak, Hanna Rothkaehl, Marcin Grzesiak, Katarzyna Budzinska,´ Dorota Przepiorka,´ Roman Wronowski

11.p14 The Gaia spacecraft focal plane as a radiation monitor Edmund Serpell

11.p15 Zenith: the upper atmosphere radiosonde detector Alexander Dyer

11.p16 Software defined radio technologies for monitoring of the solar activity
Christophe Marque,´ Antonio Mart´ınez Picar, Jasmina Magdalenic,´ Aydin Ergen

11.p17 SMILE: Exploring Solar-Terrestrial Relationships in a Novel and Global Way
Graziella Branduardi-Raymont, Chi Wang, Steve Sembay, Eric Donovan, Lei Dai, Lei Li, Tianran Sun, Huigen Yang, Dhiren Kataria, Rumi Nakamura, Jonny Rae, Andrew Read, Emma Spanswick, David Sibeck, Kip Kuntz, Philippe Escoubet, David Agnolon, Walfried Raab, Jianhua Zheng

11.p18 An All-Sky Heliospheric Imager (ASHI) for Viewing Thomson-Scattered Light: Updates on Progress
Mario M. Bisi, Bernard V. Jackson, Andrew Buffington, Philippe Leblanc, Hsiu-Shan Yu, P. Paul Hick, and William Grainger.

11.p19 Current status and future plans of NICT ionospheric observations
Takuya Tsugawa, Michi Nishioka, Kornyanat (Kukkai) Hozumi, Hiromitsu Ishibashi, Takumi Kondo, and Mamoru Ishii

11.p20 Solar radio observation from Soil Moisture and Ocean Salinity (SMOS) mission: a potential new dataset for space weather services
Raffaele Crapolicchio Daniele Casella, Christophe Marque, Nicolas Bergeot, Jean-Marie Chevalier

11.p21 Enhancing space weather forecast capabilities by vector-magnetograms obtained from deep space
J. Staub, J. Hirzberger, J. Woch, A. Gandorfer, G. Fernandez Rico, S.K. Solanki, J. Davies

11.p23 The remote-sensing package for ESA's Lagrange mission
J. Davies, S. Kraft and the Larange remote-sensing consortium

3.12 Session 12: Thermosphere and Ionosphere : Irregular dynamics and structures as a response to Space Weather Events

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Tshimangadzo Merline Matamba, John Bosco Habarulema

12.p02 Atmospheric density determination using high-accuracy satellite GPS data
TingLing Ren, Juan Miao, SiQing Liu

12.p03 Electron Density anomalies recorded by ground and satellite instruments in correspondence of Rome during the last solar minimum
A. De Santis, A. Ippolito, D. Marchetti, C. Cesaroni, L. Spogli, L. Perrone, R. Di Giovambattista, G. Cianchini and A. Piscini

12.p04 Ionospheric effects of the September 2017 space weather storm over Brazil
Juliana G. Damaceno, Elvira Musico1,` Claudio Cesaroni, Luca Spogli, Marcin Grzesiak, Giorgiana De Franceschi, Massimo Cafaro

12.p05 Study of the impact of St. Patrick's 2013 and 2015 events on the midlatitude ionosphere over Europe
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