Hall	Session Title	Session Type
08:30 - 09:00		
	ARRIVAL TIME	
09:00 - 10:00		
Auditorium	**Plenary 4 Followed by Live forecast Austrian Space Weather Office, GeoSphere Austria**	**PL4**
09:05 - 09:30	**A unique view on the Sun - What Solar Orbiter can bring to Space Weather** Anik De Groof (1), Matthew West (2) *(1) European Space Agency (ESAC), Villanueva de la Cañada (SPAIN), (2) European Space Agency (ESTEC), Noordwijk (NETHERLANDS)*	
09:30 - 10:00	**Operational Translation of Space Weather Services into NATO Operational Planning and Exercises** Damien Lebrun (1) *(1) Belgian Ministry of Defence, Brussels (BELGIUM)*	
10:00 - 11:15		
	Posters & Refreshments	**POSTER**
10:00 - 11:00		
Catering Area	**Coffee break**	
10:00 - 11:15		
Passi perduti	**Plenary 2**	**PL2**
	SONATA: An Analog Ensemble Tool for Probabilistic Forecasting of Radiation Belt Enhancements Using Ground-Based Geomagnetic Indices Guillerme Bernoux (1), Vincent Maget (1), Gautier Nguyen (1), Antoine Brunet (1), Nour Dahmen (1) *(1) DPHY, ONERA, Université de Toulouse, Toulouse (FRANCE)*	
	Storm-time Dst forecast: An innovative approach Yongliang Zhang (1), Larry Paxton (1) *(1) The Johns Hopkins University Applied Physics Lab, Laurel (USA)*	
	Learning and propagating solar-wind forecast errors to extend cold forecast skill Dale Weigt (1), Maarit Korpi-Lagg (1,2), Harriet Turner (3), Luke Barnard (4), Mathew Owens (4), Matthew Lang (4) *(1) Aalto University, HPC Lab, Department of Computer Science, Espoo (FINLAND), (2) Nordita, KTH Royal Institute of Technology and Stockholm University, Stockholm (SWEDEN), (3) UK Met Office, Exeter (UNITED KINGDOM), (4) University of Reading, Department of Meteorology, Reading (UNITED KINGDOM)*	
	SPEADIT – Space Domain Enhanced Awareness With Digital Twin	

Silvia Tosi (1), Andrea Compagnoni (1)

(1) ACMECUBO, ROME (ITALY)

Forecast of SYM-H Index Under Strong Southward IMF Bz Condition by Deep Learning

Jihyeon Son (1), Yong -Jae Moon (2), Young -Sil Kwak (1,3), Seungheon Shin (2)

(1) Korea Astronomy & Space Science Institute, Daejeon (SOUTH KOREA), (2) Kyung Hee University, Yongin (SOUTH KOREA), (3) University of Science & Technology, Daejeon (SOUTH KOREA)

Space Weather Research Activities at Ruhr University Bochum

Lautenbach Simon (1)

(1) Ruhr University Bochum, Bochum (GERMANY)

Automated Detection of Solar EUV Brightenings and Coronal Dimmings Using Density-Based Clustering

Susino Roberto (1), Arwn Deblieck (2), Silvano Fineschi (1)

(1) INAF - ASTROPHYSICAL OBSERVATORY OF TURIN, TURIN (ITALY), (2) KU LEUVEN - DEPARTMENT OF MATHEMATICS, LEUVEN (BELGIUM)

Machine Learning insights into the relationship between coronal mass ejection kinematics and solar energetic particle events

Laura Rodriguez-Garcia (1), Laura Balmaceda (2), Nicola Maria D'angelo (1)

(1) European Space Agency (ESA), MADRID (SPAIN), (2) NASA Goddard Space Flight Center, GREENBELT (UNITED STATES MINOR OUTLYING ISLANDS)

JHelioviewer - A versatile tool for solar data visualisation and science planning

Daniel Müller (1), Bogdan Nicula (2), David Berghmans (2), Bram Bourgoignie (2), Luka Poniatowski (2), Freek Verstringe (2)

(1) European Space Agency / ESTEC, Noordwijk (NETHERLANDS), (2) Royal Observatory of Belgium, Brussels (BELGIUM)

Design and Benchmarking of an Onboard AI for Multi-Wavelength Solar Structure Segmentation

Romain Maddox (1), Panagiotis Gonidakis (2), Simon Mackovjak (3)

(1) KU Leuven - Department of Physics and Astronomy - Leuven - Belgium, Institute of Experimental Physics - Department of Sp, Leuven (BELGIUM), (2) KU Leuven - Centre for mathematical Plasma Astrophysics (CmPA) - Department of Mathematics - Leuven - Belgium, Leuven (BELGIUM), (3) Institute of Experimental Physics - Department of Space Physics - Slovak Academy of Sciences, Kosice (SLOVAK REPUBLIC)

Deep-learning-based single-source multi-perspective coronagraphy (SSMPC) for coronal mass ejections

Jiajia Liu (1)

(1) University of Science and Technology of China, Hefei (CHINA)

SIDC Perspective on Operational Space Weather Prediction: Event-Chain Catalogues and R2O2R

Judith De Patoul (1)

(1) Royal Observatory of Belgium, STCE/SIDC, Brussels (BELGIUM)

A learning-based representation of the photospheric magnetic geometry of solar active regions : application to polarity maps and inversion lines

Maxime Gressier (1), Adeline Paiement (1, 2), Jean Aboudarham (3)

(1) Université de Toulon, Aix Marseille Univ, CNRS, LIS, Marseille, France, Toulon (FRANCE), (2) Institut universitaire de France (IUF) (FRANCE), (3) Observatoire de Paris/PSL, LESIA, CNRS, Paris, France, Paris (FRANCE)

Forecasting Solar Wind at Earth up to Seven Days Ahead from a Three-Day Look-Back of the Backmapped HUXt Boundary

Yaroslav Egorov (1,2), Victor Fainshtein (1)

(1) Institute of Solar-Terrestrial Physics, Irkutsk (RUSSIA), (2) Yandex School of Data Analysis, Moscow (RUSSIA)

Space Weather Retro-forecasting Study Using Wide-Field Imaging from NASA's PUNCH Mission to Track Halo CMEs

Craig E. DeForest (1), Alec R. DeForest (2), Sam Van Kooten (1), Heather A. Elliott (1), Maher A. Dayeh (1), Sarah E. Gibson (3), Anna Malanushenko (3), David F. Webb (4), J. Marcus Hughes (1), Daniel. B. Seaton (1), Ritesh Patel

(1), Chris Lowder (1), Derek A. Lamb (1), Courtney Peck (1), Jasmine Kobayashi (1), Jillian Redfern (1)

(1) Southwest Research Institute, Boulder, CO and San Antonio, TX (USA), (2) Independent, Nederland, CO (USA), (3) University Corporation for Atmospheric Research, Boulder, CO (USA), (4) Boston College, Boston, MA (USA)

Improving CME Arrival Forecasting via Wide-field Imaging with PUNCH

Craig Deforest (1), Sarah Gibson (2), Kieran Russell (3), Samuel Van Kooten (1), Heather Elliott (1), Maher Dayeh (1), Anna Malanushenko (2), David Webb (4), Ronnie Killough (1), Jillian Redfern (1), William Wells (1), Matthew Beasley (1), Glenn Laurent (1), Nick Waltham (5), J. Marcus Hughes (1), Daniel Seaton (1), Ritesh Patel (1), Chris Lowder (1), Derek Lamb (1), Alec DeForest (6)

(1) Southwest Research Institute, Boulder, Colorado (USA), (2) University Corporation for Atmospheric Research, Boulder, Colorado (USA), (3) Michigan State University, East Lansing, Michigan (USA), (4) Boston College, Boston, Massachusetts (USA), (5) RAL Space, STFC, Didcot (UNITED KINGDOM), (6) Fairview School, Boulder, Colorado (USA)

Operational 1-Minute Geomagnetic Kp Index Nowcasting for Space Weather Monitoring Using Genetic Algorithms

Joaquim Costa (1), Alexandre José Silva (1), Daniele da SIlva Medeiros (2,1), Paulo Ricardo Jauer (1)

(1) National Institute for Space Research - INPE, Sao Jose dos Campos (BRAZIL), (2) China-Brazil Joint Laboratory for Space Weather - CBJLSW, Sao Jose dos Campos (BRAZIL)

AI for Space Weather and Ionospheric Forecasting: Current Progress and Future Challenges

Maria Graciela Molina (1)

(1) FACET-UNT, Tucuman (ARGENTINA), (2) CONICET, Tucuman (ARGENTINA), (3) INGV, Rome (ITALY)

Passi perduti — **Long-term Solar Variability: Observations, Proxies, and Models** — **SCL1**

NSF - NOAA GONG: THE CONTINUING ROLE OF SCIENTISTS IN SUSTAINING THE GONG PROJECT

Luca Bertello (1), Sushanta Tripathy (1), Sanjay Gusain (1), Amr Hamada (1), Kiran Jain (1), Shukur Kholikov (1), Rudolf Komm (1), BiJi Lekshmi (1), Gordon Petrie (1), Alexei Pevtsov (1)

(1) National Solar Observatory, Boulder (USA)

DigiSun: A Standardized Tool and Uncertainty Budget for Long-Term Sunspot Drawing Analysis

Sabrina Bechet (1), Frederic Clette (1)

(1) Royal Observatory of Belgium, Brussels (BELGIUM), (2) Brussels Laboratory of the Universe (BLU), Université Libre de Bruxelles, Belgium, Brussels (BELGIUM)

Solar Variability Reconstruction between 15 and 9 ka BP: A Multi-Radionuclide Approach

Ellyn Auriol (1), Edouard Bard (1), Timofei Sukhodolov (2), Kseniia Golubenko (3), Ilya Usoskin (3), Mirko Severi (4), Nathaelle Bouttes (5), Didier Roche (5), Alexis Lamothe (1), Louka Masko (1), Team Aster (1), Melanie Baroni (1)

(1) CEREGE, Aix-Marseille Université, CNRS, IRD, Collège de France, INRAE, Aix-en-Provence (FRANCE), (2) Physikalisch-Meteorologisches Observatorium Davos World Radiation Center, Davos (SWITZERLAND), (3) Space Physics and Astronomy research Unit, University of Oulu, Oulu (FINLAND), (4) Department of Chemistry Ugo Schiff, University of Florence, Florence (ITALY), (5) Laboratoire des Sciences du Climat et de l Environnement, LSCE-IPSL, CEA-CNRS-UVSQ, Université Paris-Saclay, Gif-sur-Yvette (FRANCE)

Solar Cycle Reconstruction over the Past Nine Millennia

Duresa Temaj (1), Natalie Krivova (1), Sami Solanki (1), Ilya Usoskin (3), Theodosis Chatzistergos (1), Chi -Ju Wu (1)

(1) Max Planck Institute for Solar System Research, Goettingen (GERMANY), (2) Technical University of Braunschweig, Braunschweig (GERMANY), (3) Space Climate Research Unit and Sodankyla Geophysical Observatory, Oulu (FINLAND)

Understanding the physics of early solar cycle prediction and predicting Cycle 26

Bidya Binay Karak (1)

(1) Indian Institute of Technology BHU Varanasi, Varanasi (INDIA)

Long Term Multi Solar Cycle Trend Analysis of foF2

Mitchell Hopper (1), Sandra Chapman (1), Nick Watkins (1), Natasha Jackson-Booth (2)

(1) Centre for Fusion, Space and Astrophysics - Department of Physics - University of Warwick, Coventry (UNITED KINGDOM), (2) Ionospheric Physics - Physics Department - Adelaide University, Adelaide (AUSTRALIA)

Quasi-Biennial Oscillations and Rieger-Type Periodicities in a Babcock–Leighton Solar Dynamo: Generation and Possible Physical Origin

Pawan Kumar (1), Belur Ravindra (3), Partha Chowdhury (4), Bidya Binay Karak (2)

(1) Physics and Astronomy Department, University of Florence (FI), Florence (ITALY), (2) Indian Institute of Astrophysics, Bengaluru (INDIA), (3) Indian Institute of Astrophysics, Bengaluru (INDIA), (4) University College of Science and Technology, Department of Chemical Technology, University of Calcutta, Kolkata (INDIA), (5) Department of Physics, Indian Institute of Technology (BHU), Varanasi (INDIA)

Constraining Secular Variability in Solar Irradiance

Theodosios Chatzistergos (1)

(1) Max Planck institute for solar system research, Goettingen (GERMANY)

Long-term Solar Photospheric and Chromospheric Observations at Istanbul University Observatory

Zahide Funda Bostanci (1), Tolga Guver (1,2), Korhan Yelkenci (1), Olcay Plevne (1), Suleyman Fisek (1), Ergun Ege (1), Burcin Ozturk (1), Tugba Boztepe (3), Emre Yilman (3)

(1) Istanbul University Astronomy and Space Science, Istanbul (TURKEY), (2) Istanbul University Observatory, Research and Application Center, Istanbul (TURKEY), (3) Istanbul University Institute Of Graduate Studies In Sciences, Istanbul (TURKEY)

Long-Term Multi-Spectral Reconstruction of Solar Irradiance

Francesco Berrilli (1), Penza Valentina (1), Bertello Luca (2), Serena Criscuoli (2), Lorenza Lucaferri (1), Raffaele Reda (1), Matteo Cantoresi (1), Simone Ulzega (3)

(1) University of Rome Tor Vergata, Rome (ITALY), (2) National Solar Observatory, Rome (USA), (3) University of Applied Sciences, Zurich (SWITZERLAND)

Passi perduti

Bridging the inner solar atmosphere to the heliosphere: Integrating low-atmospheric physics into next-generation Space Weather forecasting **SOL3**

Investigating Anomalous Expansion in Coronal Mass Ejections with Spheromak-Based MHD Simulations

Samriddhi Sankar Maity (1), Talwinder Singh (1), Nat Gopalswamy (2)

(1) GEORGIA STATE UNIVERSITY, DEPARTMENT OF PHYSICS & ASTRONOMY, ATLANTA (USA), (2) NASA GODDARD SPACE FLIGHT CENTER, HELIOPHYSICS SCIENCE DIVISION, GREENBELT (USA)

Observational constraints on the large-scale coronal structure over the solar cycle: comparison with the MULTI-VP model

Alessandro Bemporad (1), Rui Pinto (2)

(1) Purple Mountain Observatory (PMO-CAS), Nanjing (CHINA), (2) Research Institute in Astrophysics and Planetology (IRAP-CNRS), Toulouse (FRANCE)

Total solar eclipse 2026 prediction with COCONUT

Tinatin Baratashvili (1), Martina Condoluci (1), Rayan Dhib (1), Andreas Debrabandere (1,2), Haopeng Wang (1), HyunJin Jeong (1), Brigitte Schmieder (3,4), Andrea Lani (1), Stefaan Poedts (1,5), Jorge Amaya (6)

(1) Centre for mathematical Plasma Astrophysics, KU Leuven, Leuven (BELGIUM), (2) Solar Terrestrial Centre of Excellence, SIDC,Royal Observatory of Belgium, Brussels (BELGIUM), (3) LESIA, Observatoire de Paris, Meudon (FRANCE), (4) LUNEX EMMESI COSPAR PEX Eurospacehub, Noordwijk (NETHERLANDS), (5) Institute of Physics, University of Maria Curie-Sklodowska, Lublin (POLAND), (6) European Space Agency, ESOC, Darmstadt (GERMANY)

Faster-than-real-time and quasi-realistic Sun-to-Earth coronal and wind MHD modeling

Haopeng Wang Wang (1), Stefaan Poedts (1,2), Andrea Lani (1), Rayan Dhib (1), Luis Linan (1), Tinatin Baratashvili (1), Quentin Noraz (1), Hyun -Jin Jeong (1), Junyan Liu (1), Lingyu Dong (1), Brigitte Schmied (1,3,4)

(1) KU Leuven, Leuven (BELGIUM), (2) University of Maria Curie-Sklodowska, Lublin (POLAND), (3) Observatoire de Paris (FRANCE), (4) LUNEX EMMESI COSPAR-PEX Eurospacehub (NETHERLANDS)

3D inference of Alfven speed and plasma beta in a solar flare

Tatiana Kaltman (1), Sijie Yu (2), Gregory Fleishman (1,2), Daniel Ryan (3)

(1) Institut für Sonnenphysik (KIS), Freiburg (GERMANY), (2) Center For Solar-Terrestrial Research, New Jersey Institute of Technology, Newark (USA), (3) University College London, Mullard Space Science Laboratory, Dorking (UNITED KINGDOM)

Total Eclipse on August 12, 2026: observations in Spain, in Space and Predictions with COCONUT and others

Brigitte Schmieder (1), Tinatin Baratashvili (1), Stefaan Poedts (1,2), Andrea Lani (1), Haopeng Wang (1), Hyun -Jin Jeong (1), Quentin Noraz (1), Nancy Narang (3), Andreas Labrabandere (3), Martina Condoluci (1), Rayan Dhib (1), Bernard Foing (4,5,6), Kristers Nagainis (4,6), Annik DEGrove (7), Jorge Amaya (3), Andrei Zhukov (3), Joe Zender (7)

(1) KU, Leuven (BELGIUM), (2) University of Lublin, Lublin (POLAND), (3) Observatoire Royal de Belgique, Bruxelles (BELGIUM), (4) LUNEX EMMISI, Noordwijk (NETHERLANDS), (5) University Leiden, Leiden (NETHERLANDS), (6) University of Latvia, Riga (LATVIA), (7) ESA, Madrid (SPAIN), (8) University of Vienna, Vienna (AUSTRIA), (9) Kosmica Institute,, Santiago Compostela (SPAIN), (10) Facultad de Ciencias Matemáticas, UCM, Madrid (SPAIN), (11) ESAC, Madrid (SPAIN), (12) University of Graz, Graz (AUSTRIA), (13) Universidad de Murcia, Madrid (SPAIN), (14) Riga Stradins University, Riga (LATVIA)

Coronal Magnetic Topology and Loop Parameters of NOAA AR 3663 via PINN-based NLFFF Extrapolation

Bruno Fernandes Garcia (1), Enrico Camporeale (2), Joaquim Eduardo Costa (1), Luis Eduardo Vieira (1)

(1) National Institute for Space Research, São José dos Campos (BRAZIL), (2) Queen Mary University of London, London (UNITED KINGDOM)

The middle corona in three dimensions as seen by Metis

Federico Alberto Nuevo (1), Alberto Marcos Vásquez (1), Marco Romoli (2,3), Alessandro Bemporad (4), Richard Frazin (5)

(1) Instituto de Astronomía y Física del Espacio (IAFE), Consejo Nacional de Investigaciones Científicas y Técnicas (CONICET, Ciudad de Buenos Aires (ARGENTINA), (2) Dipartimento di Fisica e Astronomia, Università degli Studi di Firenze (UniFI), Firenze (ITALY), (3) INAF -- Osservatorio Astrofisico di Arcetri (OAA), Firenze (ITALY), (4) INAF -- Osservatorio Astrofisico di Torino (OATo), Pino Tironese (ITALY), (5) Department of Climate and Space Sciences and Engineering (CLaSP), University of Michigan, Ann Arbor (USA)

Magnetogram filtering techniques for global coronal modelling

José Miguel Luzia Murteira (1), Michaela Brchnelová (1), Andrea Lani (1), Stefaan Poedts (1,2)

(1) Centre for Mathematical Plasma Astrophysics, KU Leuven, Leuven (BELGIUM), (2) Institute of Physics, University of Maria Curie-Sklodowska, Lublin (POLAND)

3D MHD Prominence Modeling from Formation to Eruption

Valeriia Liakh (1)

(1) University of Oslo - Rosseland Centre for Solar Physics, Oslo (NORWAY)

Can the Chromosphere Inform Us about Solar Energetic Events?

Kd Leka (1), Graham Barnes (1), Karin Dissauer (2,1), Regner Trampedach (3,1)

(1) NorthWest Research Associates, Boulder (USA), (2) Institute of Physics, U. Graz, Graz (AUSTRIA), (3) Space Sciences Institute, Boulder (USA)

Proba-3/ASPIICS observations of the early stages of an eruptive prominence undergoing leg-leg reconnection

Stanislav Gunar (1), Jaroslav Dudik (1), Sergei Shestov (2, 3), Guillaume Aulanier (4, 5), Binal Patel (2), Pavol Schwartz (1), Petr Heinzel (1), Andrei Zhukov (2), Silvano Fineschi (6), Phillipe Lamy (7), Marilena Mierla (2, 8), Hardi Peter (9), Pawel Rudawy (10), Kanaris Tsinganos (11), Shinichi Nagata (12), Takako Ishii (12), Bram Bourgoignie (2), Andreas Debrabandere (2), Laurent Dolla (2)

(1) Astronomical Institute of the Czech Academy of Sciences, Ondrejov (CZECH REPUBLIC), (2) Solar-Terrestrial Centre of Excellence -- SIDC, Royal Observatory of Belgium, Brussels (BELGIUM), (3) Centre Spatial de Liege, Universite de Liege, Liege (BELGIUM), (4) Sorbonne Université, Observatoire de Paris -- PSL, Ecole Polytechnique, Institut Polytechnique de Paris, CNRS, Laboratoi, Paris (FRANCE), (5) Rosseland Centre for Solar Physics, University of Oslo, Oslo (NORWAY), (6) National Institute for Astrophysics, Astrophysical Observatory of Torino, Turin (ITALY), (7) Laboratoire Atmospheres et Observations Spatiales, Marseiles (FRANCE), (8) Institute of Geodynamics of the Romanian Academy, Bucharest (ROMANIA), (9) Max Planck Institute for Solar System Research, Goettingen (GERMANY), (10) Astronomical Institute, University of Wroclaw, Wroclaw (POLAND), (11) University of Athens, Athens (GREECE), (12) Kwasan and Hida Observatory, Kyoto University, Kyoto (JAPAN)

Two-fluid Coronal Modeling with a Full Energy Equation

Mahdi Najafi-Ziyazi (1), Stefaan Poedts (1), Andrea Lani (1, 2)

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ALMA-SDO Correlation and Time-Lag Analysis of Coronal Bright Points: Evidence for Chromosphere-Corona Coupling

Filip Matkovic (1), Roman Brajsa (1), Davor Sudar (1), Ivica Skokic (2, 3), Manuela Temmer (4), Arnold Hanslmeier (4), Stephan G. Heinemann (5), Hans -G. Ludwig (6), Arnold O. Benz (7, 8), Miroslav Barta (9)

(1) Hvar Observatory, University of Zagreb - Faculty of Geodesy, Zagreb (CROATIA), (2) Astronomical Society Anonymus, Valpovo (CROATIA), (3) Protostar Labs d.o.o., Belisce (CROATIA), (4) Institute of Physics, University of Graz, Graz (AUSTRIA), (5) University of Helsinki, Department of Physics, Helsinki (FINLAND), (6) Landessternwarte, Zentrum für Astronomie der Universität Heidelberg, Heidelberg (GERMANY), (7) University of Applied Sciences and Arts Northwestern Switzerland, Windisch (SWITZERLAND), (8) Institute for Particle Physics and Astrophysics, ETH Zurich, Zurich (SWITZERLAND), (9) Astronomical Institute of the Czech Academy of Sciences, Ondrejov (CZECH REPUBLIC)

Comets as probes of the young solar wind: identifying comets in SOHO LASCO solar coronagraph images using machine learning

Jose Diogo Marinho Goncalves (1), Olga Khabarova (2)

(1) Department of Computer Science, University of Luxembourg, Esch-sur-Alzette (LUXEMBOURG), (2) Interdisciplinary Centre for Security, Reliability and Trust, University of Luxembourg, Luxembourg (LUXEMBOURG)

Passi perduti

Advances in the assessment of geomagnetically induced currents and ground geoelectric fields **SWI**

Hybrid GIC modelling in New Zealand: Utilizing a mix of Magnetotellurics and Thin-sheet approaches to better model GICs.

Daniel Mac Manus (1), Craig Rodger (1), Andrew Renton (2), Malcolm Ingham (3), Kristin Pratscher (4), Wiebke Heise (4), Ted Bertrand (4), Johnny Malone-Leigh (1), Tanja Petersen (4)

(1) University of Otago, Department of Physics, Dunedin (NEW ZEALAND), (2) Transpower New Zealand Limited, Wellington (NEW ZEALAND), (3) Victoria University of Wellington, Wellington (NEW ZEALAND), (4) Earth Sciences New Zealand, Lower Hutt (NEW ZEALAND)

Design of the geomagnetic measurement's website dedicated to the protection of civil aviation

Natalia-Silvia Asimopolos (1), Laurentiu Asimopolos (1), Adrian -Aristide Asimopolos (2), Adrian Tataru (1), Dinu Luminita (1)

(1) GEOLOGICAL INSTITUTE OF ROMANIA, BUCHAREST (ROMANIA), (2) National University of Science and Technology POLITEHNICA Bucharest, BUCHAREST (ROMANIA)

Spectral and wavelet analyses of geomagnetic storms this year

Laurentiu Asimopolos (1), Natalia-Silvia Asimopolo (1), Luminita Dinu (1), Adrian -Aristide Asimopol (2), Adrian Tataru (1)

(1) GEOLOGICAL INSTITUTE OF ROMANIA, BUCHAREST (ROMANIA), (2) UNIVERSITY POLITEHNICA, BUCHAREST (ROMANIA)

The Nature of Geomagnetically Induced Currents in Sweden

Alice Wallner (1), Andrew Dimmock (1), Vanina Lanabere (1), Lisa Rosenqvist (2), Andreas Johlander (2), Johan Setréus (3), Martin Pettersson (3)

(1) Swedish Institute of Space Physics, Uppsala (SWEDEN), (2) Swedish Defence Research Agency, Stockholm (SWEDEN), (3) Swedish National Grid, Sundbyberg (SWEDEN)

An Overview of Geomagnetic Storms Observed At Valentia Observatory, Ireland, and Grouping Storms By Their Geoelectric Field Impact

Guanren Wang (1,2), Peter Gallagher (1,2), Alexandra Ruth-Fogg (1), Sophie Murray (1)

(1) Dublin Institute For Advanced Studies, Astronomy & Astrophysics, Dunsink Observatory, DUBLIN (IRELAND), (2) Trinity College Dublin, School of Physics, DUBLIN (IRELAND)

MagIE – The Magnetic Network of Ireland

Simon Walker (1), Peter Gallagher (1), Sophie Murray (1), Guanren Wang (1,5), James Hodgson (2), Sarah Gallagher (3), Michael Gill (4), Charles Gillman (3)

(1) Dublin Institute For Advanced Studies, Dublin (IRELAND), (2) Geological Survey Ireland, Dublin (IRELAND), (3) Met Éireann, Dublin (IRELAND), (4) Met Éireann, Garranebane (IRELAND), (5) Trinity College Dublin, Dublin (IRELAND)

A pilot study for assessing geomagnetically induced currents in the Italian power transmission grid

Roberta Tozzi (1), Gerardo Romano (2,3), Stefano Zunino (4), Igino Coco (1), Agata Siniscalchi (2,3), Marino Sforna (4), Mauro Regi (5), Andrea Aquilante

(4), Manuele Di Persio (5), Paola De Michelis (1), Fabio Giannattasio (1), Domenico Patella (3), Giulia Pignatiello (2,3), Lucia Santarelli (5)

(1) Istituto Nazionale di Geofisica e Vulcanologia, Roma (ITALY), (2) Geoprosys S.r.l., Bari (ITALY), (3) Dipartimento di Scienze della Terra e Geoambientali, Università degli Studi di Bari, Aldo Moro, Bari (ITALY), (4) Terna, Italian Transmission System Operator, Roma (ITALY), (5) Istituto Nazionale di Geofisica e Vulcanologia, L'Aquila (ITALY)

Cumulative corrosion and extreme storm risk to the New Zealand gas pipeline network – where and why

Malcolm Ingham (1), Mark Sigley (2), Tim Divett (1), Craig Rodger (3)

(1) Victoria University of Wellington, Wellington (NEW ZEALAND), (2) Firstgas Ltd., New Plymouth (NEW ZEALAND), (3) University of Otago, Dunedin (NEW ZEALAND)

3D Time-Domain Simulation of the Induced Geoelectric Field in Fennoscandia

maria Hamrin (1), Juan Araújo (1), Jakub Vaverka (1), Milton Arencibia (1), Eddie Wadbro (2), Pan Lu (1)

(1) Department of Physics, Umeå University, Umeå (SWEDEN), (2) Department of Mathematics and Computer Science, Karlsad University, Karlstad (SWEDEN)

Equatorward Expansion of Geomagnetic Power During Severe Storms

Neesha Schnepf (1), Bhagyashree Waghule (2), Jeffrey Love (3), Anna Willer (4)

(1) 1School of Physics, Chemistry and Earth Sciences, Adelaide University, Adelaide (AUSTRALIA), (2) University of Colorado Boulder, Boulder (USA), (3) 3United States Geological Survey, Geologic Hazards Science Center, Golden (USA), (4) Department of Space Research and Technology, Geomagnetism and Geospace, Technical University of Denmark, Kongens Lyngby (DENMARK)

A Comparative Study of Geomagnetic Storm Impacts Across Hemispheres

Neesha Schnepf (1), Paul Bedrosian (2), Stephan Thiel (3), Graham Heinson (1), Bhagyashree Waghule (4), Leijun Wang (5), Richard Marshall (6), Anna Kelbert (7), Greg Lucas (8)

(1) 1School of Physics, Chemistry and Earth Sciences, Adelaide University, Adelaide (AUSTRALIA), (2) Geology, Geophysics, and Geochemistry Science Center, United States Geological Survey, Denver (USA), (3) Commonwealth Scientific and Industrial Research Organisation, Mineral Resources, Urrbrae (AUSTRALIA), (4) University of Colorado Boulder, Boulder (USA), (5) Geoscience Australia, Canberra (AUSTRALIA), (6) Australian Bureau of Meteorology, Sydney (AUSTRALIA), (7) Center for Astrophysics, Harvard & Smithsonian, Cambridge (USA), (8) Independent researcher, Denver (USA)

Dynamical Network Analysis of US Power Grid GIC Data

Lauren Orr (1), Sandra Chapman (2), Ryan Mcgranaghan (3)

(1) British Geological Survery, Edinburgh (UNITED KINGDOM), (2) University of Warwick, Coventry (UNITED KINGDOM), (3) NASA Jet Propulsion Laboratory, Pasadena (USA)

Geomagnetically Induced Currents and Reactive Power Impacts in New Zealand: Producing observationally determined relationships and looking at extreme storm impacts

Craig J. Rodger (1), Xinhu Feng (1), Mark A. Clilverd (2), Daniel H. Mac Manus (1), Victor Lo (3), Andrew Renton (3), James B. Brundell (1), Michael Dalzell (3), Andrew Lapthorn (4), Tanja Petersen (5)

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Developing a new operational model of geomagnetically induced currents in the European high-voltage power network

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Fast time-domain simulations of geomagnetically induced currents in New Zealand power grids using magnetic field data with gaps

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Towards a Real-Time Geomagnetic Disturbance Alert System for Railway Signalling Operations

Cameron Patterson (1), James Wild (1), Ciaran Beggan (2), Gemma Richardson (2), Juliane Hübert (2), David Boteler (3)

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Impacts of space weather on industrial mine shovel operations

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The Rise Time and Form of Sudden Commencements at Geostationary Orbit

Mervyn Freeman (1)

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GEOELECTRIC FIELD AMPLIFICATION OVER THE SAMA DRIVEN BY CONJUGATE ULF WAVE DYNAMICS AT (L~1.2) DURING THE MAY 2024 SUPER-STORM

Karen Viviana Espinosa Sarmiento (1,2), Ian Mann (2), Jose Paulo Marchezi (1), Clezio de Nardin (1), Sony Su Chen (1), Daniele Medeiros (1), Laysa Resende (1), Amanda Piassi (3)

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Three Sites, Three Responses: Magnetotelluric Evidence of Spatially Variable Geoelectric Hazard Across Central Italy

Paola De Michelis (1), Marianna Balasco (2), Igino Coco (1), Elettra Consolini (3), Michele De Girolamo (1), Manuele Di Persio (1), Fabio Giannattasio (1), Valerio Materni (1), Massimo Miconi (1), Luca Miconi (1), Giovanna Lucia Piangiamore (1), Giulia Pignatiello (4), Gerardo Romano (4), Valentina Romano (1), Vincenzo Sapia (1), Agata Siniscalchi (4), Sabina Spadoni (1), Roberta Tozzi (1), Simona Tripaldi (4)

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Causal inference in Geomagnetically Induced Current indices

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Low Cost Geomagnetic and Geoelectric Instrumentation: Choosing the Right Variable to Measure

Martin Connors (1), Ian Schofield (2), Darcy Cordell (1)

(1) Athabasca University, Athabasca (CANADA), (2) New Mexico Institute of Mining and Technology, Socorro (USA)

Magnetometer Prototype for Space Weather Local Real Time Geomagnetic Disturbances

Pepa Brazal (1), Cristina Ariza (1), Jose A Rodriguez (1), Cristina Diaz (1), Consuelo Cid (2), Pablo Muñoz (2)

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Passi perduti — **Open Session** — **OPS**

Operational Solar Radio Flux Observation at the Geodetic Observatory Wettzell

Daniel J. Bauer (1), Martin Ketelhut (1), Sebastian Muehlbauer (1)

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The AGATA Scientific Research Programme: an open platform for collaboration in the polar regions

Lucilla Alfonsi (1), Wojciech J. Miloch (2), Tracy Moffat-Griffin (3)

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Results of the Awareness and Preparedness Survey for Pilots and ATCs in Indonesia

Rufayda Abudan (1,2), Claire Foullon (1), Theo Economou (1)

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An Analysis of Eruptive Events Observed with the Hvar Observatory's Double Solar Telescope

Luci Karbonini (1), Mateja Dumbovic (2), Karmen Martinic (2), FILIP Matkovic (2), Akshay Kumar Remeshan (2)

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The EU OSCARS-FSD project and the SOLARNET Virtual Observatory

Robbe Vansintjan (1), Benjamin Mampaey (1), Veronique Delouille (1)

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Aviation Radiation Mitigation Strategy Validation

W Kent Tobiska (1), Ben Hogan (1), Leonid Didkovsky (1), Kevin Judge (1), Justin Bailey (1), Kai Drumm (1), Kaiya Wahl (1), Alexander Sosnov (1)

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Shift in the Center of the South American Magnetic Anomaly: Discrepancies Between the Locations of Minimum Geomagnetic Intensity and Maximum Proton Flux

Francisco Jose O Souza (1), Everton Frigo (1), Ligia Alves Silva (2), Laysa Cristina Chagas (2), Edu Pacheco Rockenbach (2)

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Space Weather Forecasting Using AI for Belgian Defence

Panagiotis Gonidakis (1), Ekaterina Dineva (1), Ephrem Seba (1), Stefaan Poedts (1,2)

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Development, Implementation and Operational Behaviour of RLDi

Iván Maseda-Zurdo (1), Pablo Muñoz (1), Consuelo Cid (1)

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Modelling Coronal Mass Ejections from the Middle Corona to the Heliosphere with EUHFORIA+

Jens Pomoell (1), Ranadeep Sarkar (1), Farhad Daei (1), Steohan G. Heinemann (1), Emilia Kilpua (1)

(1) University of Helsinki, Helsinki (FINLAND)

Maintaining a sub-nanotesla magnetic field by external-reference compensation and internal magnetic feedback in the ZBL

István Lemperger (1,3), Géza Erdos (2), Zsófia Bebesi (2), Péter Kovács (2), Lukács Kuslits (1), Árpád Kis (1), Viktor Wesztergom (1), Csaba Molnár (1)

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The Zero Magnetic Field Laboratory: a dual active–passive system for controlled sub-nanotesla magnetic environments

István Lemperger (1,3), Géza Erdos (2), Zsófia Bebesi (2), Péter Kovács (2), Lukács Kuslits (1), Árpád Kis (1), Viktor Wesztergom (1), Csaba Molnár (1)

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The New and Improved TSST: Advancing Toward a Robotic Solar Facility for Continuous Space Weather Monitoring.

Andrea Chiodini (1), Fallon Konow (1,2), Francesco Berrilli (1), Daniele Calchetti (3), Stuart Mark Jeffereis (2), Dario Del Moro (1), Neil Murphy (4),

Ermanno Pietropaolo (5), Wayne Rodgers (4), Giorgio Viavattene (6), Luca Giovannelli (1)

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SOLER Open-Source Python Tools for the Analysis of Energetic Solar Eruptions

Jan Gieseler (1), N Dresing (1), A Fedeli (1), I. C. Jebaraj (1), S Kanto (1), J. T. Lang (1), C Palmroos (1), D. J. Price (2), O Santala (1), L Vuorinen (3), R Vainio (1)

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Space weather research in Slovakia and related observational activities

Ivan Dorotovic (1)

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Resilient space weather monitoring for security purposes

Michaela Brchnelova (1)

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Recommendations for Advancing Heliophysics and Space Weather Modeling through Open Science

Claudio Corti (1), Masha Kuznetsova (1), Martin Reiss (1)

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METEOSPACE: automated monitoring of the solar chromosphere at the Calern Observatory

Thierry Corbard (1), Frederic Morand (1), Florence Guitton (1), Sebastien Flament (1), Guillaume Verbiese (1)

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Passi perduti

Preparing for L5 and Beyond: Operational and Scientific Readiness for the ESA Vigil Mission and Future Heliospheric Observations **IOM1**

Preparing for the Future Vigil Mission: how RIMAP and L5 Observations will sharpen Space Weather Forecasting

Alessandro Bemporad (1), Ruggero Biondo (2), Paolo Pagano (3), Fabio Reale (3), Alessandro Ippolito (4), Fabio Giannattasio (4), Andrea Mignone (5), Federica Frassati (2), Costanza Argiroffi (3), Carlo Benna (2), Alberto Cora (2), Francesco Massaro (5), Stefania Rasetti (2), Francesco Carella (4)

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The Vigil Mission

Matthew West (1)

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Impact of Far Side Magnetic Fields on Coronal and Solar Wind Predictions

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Bridging the Gap: Automated CME Segmentation from Coronagraphs to Heliospheric Imagers

Justin Le Louëdec (1), Maike Bauer (1,2), Satabdwa Majumdar (1), Tanja Amerstorfer (1)

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Performance Assessment and Signal Cleaning Strategies for the Vigil Heliospheric Imager

Benedett Talone (1), Federico La China (1)

(1) Leonardo S.p.A., Campi Bisenzio (ITALY)

Towards 2031 Vigil Mission: Self-tuning algorithmic and data-driven segmentation of coronograph data and dynamic 3D Reconstruction of Coronal Mass Ejections

Oleg Stepanyuk (1), Kamen Kozarev (1)

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EUCOR – Provisional design of a visible light solar coronagraph for space weather monitoring

Sergei Shestov (1), Aline Hermans (2), Alexandra Mazolli (2), David Berghmans (1), Marc Georges (2), Cedrick Lenaerts (2), Michal Mosdorf (4), Michal Kurowsky (4), Dana Tomuta (3), Sonya Valls (3), Andrei Zhukov (1)

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Bridging Solar Orbiter Heritage to Vigil: Highlights and Lessons Learned from the Metis Coronagraph

Marco Romoli (1)

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Observing the Solar Corona from Off-the-Sun-Earth-Line with an Innovative Class of Coronagraphs

Silvano Fineschi (1), Gianalfredo Nicolini (1), Federico Landini (1), Luca Zangrilli (1), Davide Loreggia (1), Maurizio Pancrazzi (1), Alessandro Liberatore (1), Riccardo Chiartano (1), Emanuele Amato (1), Clementina Sasso (2), Marco Romoli (3), Jeffrey S. Newmark (4)

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Evaluating sunspot tracking and rotating algorithms for Vigil data.

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Predicting the Solar Corona Through a Multi-Messenger Perspective: Preparing for the VIGIL Mission

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The European Coronagraph (EUCOR): INAF Contributions to the Pre-Phase-A Study

Gianalfredo Nicolini (1), Silvano Fineschi (1), Andrea Alberti (2), Gerardo Capobianco (1), Fabio Frassetto (3), Federico Landini (1), Alessandro Liberatore (1), Davide Loreggia (1), Enrico Magli (4), Valeria Marras (5), Radek Melich (6), Sergio Mottini (7), Jeffrey Newmark (8), Maurizio Pancrazzi (1), Emma Perracchione (4), Marco Romoli (9), Clementina Sasso (10), Luca Zangrilli (1)

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Synthetic Solar Wind to reconstruct the interplanetary medium with RIMAP using STEREO observations at L5

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One Simple Trick for Calibrating a Coronagraph: Use Sun-Like Stars

Gabriel Dima (1), Donald Schmit (1,2), Tyler Gardner (1,2), Vicente Salinas (1,2), Chris Bethge (1,2), Elysia Lucas (1,2)

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ONBOARD DETECTION AND TRACKING OF CMEs: FOURIER FILTERING AND KALMAN ESTIMATION FOR HARDWARE-ORIENTED ARCHITECTURES

Simone Brilli (1), Benedetta Talone (2), Federico La China (3)

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P2D - A Two-Dimensional Multi-Spacecraft Solar Wind Persistence Model

Daniel Milosic (1), Manuela Temmer (1), Stephan Heinemann (2), Stefan Hofmeister (3), Matthew Owens (4)

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Ballatoio **Space Weather Missions - From Science to Operations** **IOM2**

Space Weather Observations with the HEPD-02 Detector on Board the CSES-02 Satellite

Stefano Amoroso (1), Giada Rinaldi (1)

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Mission overview of CENSSAT-1: Bifrost – a space situational awareness satellite

Shayla Viet (1), Elise Knutsen (1), Anastasios Retselis (1), Sam Holdcroft (1), Anja Kohfeldt (1), Mario Virdis (2), Ramsey Al Jebali (3), Rebecka Wahlèn (1), Aikaterini Papadopoulou (1), Lasse Clausen (4), Torbjorn Skauli (1, 6), Pal Gunnar Ellingsen (6), Tobias Thorvaldsen (5), Alessio Bocci (5), Jose Sanchez (5), Lars Erling Braten (2, 6), Ole Andreas Wammer (6), Oyvind Lensjo (6), Simen Nettestad (7), Martin Grande (7), Laura Scholtz (5), Raymond Kristiansen (5), Ulrik Noer (5), Andreas Nossum (6), Stian Lovold (1), Svein - Erik Hamran (1), Simen Berg (7), Lewis Williams (8), Martin Mostad (7)

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An operational space weather mission to the far-side of the Sun

Jorge Amaya (1)

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Thermospheric density retrieval from GNSS-based precise orbits of LEO satellites: potential, limitations, and future prospects

Myrto Tzamali (1), Christian Siemes (2), Alexi Glover (1), Juha -Pekka Luntama (1)

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Diagnosing the Radiation Belts: The Case for a Global X-ray Auroral Imager

Shannon Killey (1), Jonathan Rae (1), Steven Petrinec (2), Neal Hurlburt (2)

(1) Northumbria University - School of Engineering, Physics and Mathematics, Newcastle (UNITED KINGDOM), (2) Lockheed Martin Advanced Technology Center, Palo Alto (USA)

Development of ESA's Space Weather Mission SAWA

Kraft Stefan (1)

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End-to-End Software Suite for Space Weather Sub-L1 Multi-Spacecraft Mission Planning and CME Early Warning

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Daedalus+ : A science mission for the in-situ exploration of the Lower Thermosphere - Ionosphere at altitudes below 200 km.

Theodoros Sarris (1)

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A Metric for Space Weather Payload Trade-Off Analysis

Raffaele Reda (1), Francesco Berrilli (1), Dario Del Moro (1), Luca Giovannelli (1), Stefania Civerchia (1), Roberto Casini (2)

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Mission proposal for a 3 satellites constellation to generate real-time equatorial TEC data based on a methodology developed for deriving TEC from in-situ electron density measurements in highly eccentric equatorial orbits from Tan Ce 1 data

ALIYUTHUMAN SADHIQUE (1)

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In-Flight Commissioning of the SOLAR-1 Fluxgate Magnetometers

Juan Rodriguez (1), Konstantinos Horaites (1, 6), Nathan Howard (1, 6), Fadil Inceoglu (1, 6), Benjamin Short (1, 6), Nathan Miles (1, 7), Michael Grotenhuis (2, 8), Jeffrey Kronenwetter (2, 8), Dimitrios Vassiliadis (3), Matthew Argall (4), Bernard Vasquez (4), Ivan Dors (4), Charles Smith (4), Roy Torbert (4), Timothy Horbury (5), Mhairi Finlayson (5)

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The X- and Gamma-ray payload on board the SEE mission

Laura Marcelli (1), Matteo Battisti (1), Francesco Berrilli (2), Matteo Cantoresi (2), Letizia Casara (2), Marco Casolino (1), Dario Del Moro (2), Luca Giovannelli (2), Francesca Liberatori (2,1), Valentina Penza (2), Enzo Reali (2)

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Preparatory Space Weather Simulations for the HENON Mission: CME Evolution and Solar Energetic Particle Acceleration

Giuseppe Prete (1), Luisa Scarivaglione (1), Stefaan Poedts (2,3), Gaetano Zimbardo (1), Federica Chiappetta (1), Francesco Pecora (4), Antonio Niemela (5,6), Giuseppe Nisticò (1), Antonella Greco (1), Fabio Lepreti (1), Silvia Perri (1), Sergio Servidio (1)

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Solar Orbiter, STEREO-A and L1 Measurements of Coronal Mass Ejections and Energetic Storm Particle Events: Lessons for Future Space Weather Missions

Noè Lugaz (1), Bin Zhuang (1), Adolfo Santa Fe Dueñas (1), Sahanaj Banu (1), Nada Al-Haddad (1), Charles J. Farrugia (1), Toni Galvin (1)

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METIS Operations Facility: Advancing Space Weather and Climate Research

Federico Pinna (1), Lorenzo Bramante (1), Vincenzo Chiaramida (1), Francesco Marino (1), Rosario Messineo (1), Stefano Pisciotta (1), Filomena Solitro (1)

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SAS4 intelligent plasma wave instrument

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Standardizing Space Weather Data for Radiation Belt Modelling

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Probing the Ionosphere from Above: The Evolution and Impact of Topside Sounding Systems

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Advanced Modelling of Geospace (AMOG) Using Satellite Platform Magnetometers

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Beyond DMSP: Constellation-Ready Plasma Instrumentation for Real-Time Space Weather Nowcasting

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An AI-Enabled Approach for Calibrating Radio Occultation TEC into GNSS-Equivalent TEC for Operational Space Weather Systems

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Observing the Earth's Plasmasphere and Ionosphere from the Lunar Surface

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SWING data products: Transforming Space Weather Measurements into Actionable Space Weather Data Products

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The UV imager payload on board the SEE mission

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Ballatoio — **Radio instruments and diagnostics: from source regions to space weather applications** — **HEL3**

Type II Solar Radio Bursts and Geomagnetic Storm Severity During Solar Cycle 25

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NEW EUROPIAN IONONET STATIONS

Achille Zirizzotti (1), Umberto Sciacca (1), Enrico Zuccheretti (1), Carlo Scotto (1), Loredana Perrone (1), Tiera Latinen (2), Haris Haralambous (3), Pierdavide Coïsson (4), Veronika Barta (5), Tobias Verhulst (6)

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From Continuous Monitoring to High-Resolution Imaging: Comparative Solar Radio Burst Observations with CALLISTO, RSTN, and LOFAR

Daniela Banys (1), Lutz Heinrich (1), Frank Tandler (1), David Wenzel (1), Christian Monstein (2), Bartosz Dabrowski (3), Andrzej Krankowski (3), Christian Vocks (4)

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Relating Long-Baseline VLF and SoLO/STIX Observations of Solar Flares

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Observation of Jupiter's Decameter Radio Storms in 2025 Before, During, and After the Solar Coronal Eclipse

Oleg Ulyanov (1), Caterina Tiburzi (2), Philippe Zarka (3,4), Vyacheslav Zakharenko (1), Oleksandr Konovalenko (1), Serge Yerin (1), Alisa Shevtsova (1), Maksym Skoryk (1), Anatolii Brazhenko (1,5), Galyna Litvinenko (1,6)

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Fine Structures of Type III Radio Bursts

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EISCAT_3D – A tri-static incoherent scatter radar in the European Arctic

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Remote sensing of solar flare dynamics with the microwave imaging spectroscopy

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Jovian Decametric Emission as a Diagnostic of Plasma Variability from Jupiter to Near-Earth Space

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Synthetic dynamic spectra of solar radio bursts from QL theory and simulations

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Solaris: Towards a Global Network for High-Frequency Radio Monitoring of the Sun

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Radio Investigations for Space Environment Research (RISER): Overview and Plans at the end of Year 3

Mario Bisi (1), Biagio Forte (2), Steve Milan (3), David Jackson (4), Richard Fallows (1), Bernard Jackson (5), Dusan Odstrcil (6), Edmund Henley (4), Oyuki Chang (1), David Barnes (1), Siegfried Gonzi (4), Paul Kinsler (2), Michaela Mooney (3), Tianchu Lu (2)

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RASOR: Radio Astronomy and Space Observation Research Facility – A Future Prospect for Space Weather, Space Domain Awareness, and Astrophysics

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Studying the ionospheric effects of solar flares as observed by radio-quiet observations by European mid-latitude ionosondes

Attila Buzás (1,2,3), Tobias Verhulst (4), Júlia Erdey (1), David Altadill (5), Antoni Segarra (5), Victor de Paula (5), Veronika Barta (1)

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Ballatoio — **Validation of Space Weather Models, Forecasts, and Services: From Research to Operations** — **OTH1**

Space Weather in Mid-latitude and the Role of the Thermospheric Wind

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Operational Implementation and Validation of a Physics-Based Solar Flare Prediction Scheme for Warning Development

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Comparing Observations of Spacecraft Internal Charging to Predictions Derived from VERB-4D and GRAS

Fraser Baird (1), Bernhard Haas (2), Dedong Wang (2), Yuri Shprits (2), Keith Ryden (2), Fan Lei (1), Clive Dyer (1,3), Paul Morris (1), Matt Barker (4)

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Empirical Solar Energetic Proton (E-SEP) Model

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Deployment of the Advanced Ionospheric Data Assimilation (AIDA) into the ESA Space Weather Portal

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Year-Long Comparison of EGNOS Ionospheric Corrections and the Helgeo2-PT Model Over Europe in 2025

Lukasz Tomasik (1), Anna Swiatek (1), Mariusz Pozoga (1), Hubert Pierzchala (1), Paulina Gajdowska (1)

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Probabilistic Verification of CME Forecasting

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The performance of near-real time ionospheric data assimilation systems: weighing operational approaches against user needs

David Themens (1), Benjamin Reid (1), Sean Elvidge (1), Matthew Brown (1), Jack Brown (1), Emma -Claire Gurney (1), Warrick Ball (1), Mohammad Afraz Ahmed (1), Matthew Angling (1)

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Space weather services for precise GNSS applications (WeGA)

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Automated Validation Framework for Solar Wind Models

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From space weather forecasts to spacecraft charging risk: validation and operationalisation of a physics-based forecasting service

Benjamin Ruard (1), Benoît Tezenas du Montcel (1), Arnaud Trouche (1), Julien Forest (2), Yuri Shprits (3), Bernhard Haas (3)

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Towards an improved NeQuick Topside Ionosphere model based on Radio Occultation and POD TEC observations

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Monitoring the HF Ionospheric Channel during the May 2024 Superstorm through IRI&LKWnewUP Nowcasting Maps

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Validating an automated pipeline for short-term CME magnetic field forecasting

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The RB-FAN framework providing Space Weather information for radiation belts induced risks for Space Operators: 2026 current status

Antoine Ferlin (1), Vincent MAGET (1), Stefaan Poedts (2), Constantinos Papadimitriou (3), Ingmar Sandberg (3), Sigiava Aminalragia-Giamini (3), Zafar Iqbal (3), Mark Dierckxsens (4), Natalia Ganushkina (5), Stepan Dubyagin (5), Kaspar Schiess (6), Joep Neijt (6), João Gameiro (6), Janos Lichtenberger (7), Balazs Heilig (8), Ioannis Daglis (9), Christos Katsavrias (9), Alexey Isavnin (10), Alexi Glover (11), Ralf Keil (12), Hugh Evans (13)

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Characterizing the radiation environment at the surface and low Lunar Orbits

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Validation of the MAIRE+/MAIRE-S atmospheric radiation model during GLE77 using UK balloon and transatlantic aircraft dose measurements

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Towards Reliable Solar Energetic Particle Event Prediction: Validation of ASPECS within ADVISOR

Athanasios Papaioannou (1), George Vasalos (1), Kathryn Whitman (2), Philip Quinn (3), Anastasios Anastasiadis (1), Markus Leila Lays (4), Janet Barzilla (3), Chinwe Didigu (4), Christopher Light (4), Claudio Corti (4), Joycelyn Jones (4), Anna Chulaki (4), Hannah Hermann (4), Edward Semones (5)

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Regional Validation and Sensitivity Assessment of SAMI3 TEC Variability

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Assessment of Current Thermosphere Density Models Across Different Space Weather Conditions

Banafsheh Ferdousi (1), Henry Christiansen (2)

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Is Kp an Accurate Proxy for Users Affected by Geomagnetic Storms?

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Latitudinal Bands vs Polygons: assessing the added value of impacted region identification for Aviation Space Weather Services

Dimitrios Millas (1), Yana Maneva (1), Judith De Patoul (1), Daria Shukhobodskaia (1), Freek Verstringe (1)

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R2O2R experience from SEPFORECAST: a re-implementation and continued validation

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Passi perduti & Ballatoio — **All about the solar wind and CMEs** — **HEL4**

Mother’s Day 2024: Modelling an Extreme Solar Event and Learning How to Improve Space Weather Forecasting

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Understanding the Complex Morphology of a CME: How to Create a Severe Geomagnetic Storm

Cecilia Mac Cormack (1), Abril Samara (1), Erika Palmerio (2), Evangelia Samara (1), Phillip Hess (3), Robin Colaninno (3), Teresa Nieves-Chinchilla (1)

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Statistical Analysis of Solar Wind Recovery and Interaction Following Isolated Interplanetary Coronal Mass Ejections

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Core dimmings and their relation to flux rope footpoints as inferred from solar coronal modelling

Andreas Wagner (1), Amaia Razquin (2), Astrid Veronig (2), Emilia K. J. Kilpua (1), Karin Dissauer (2), Jens Pomoell (1)

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Characterizing Alfvénicity and Proton Temperature Distributions in ICME Magnetic Clouds

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Influence of morphology of heliospheric current sheet on the modeled solar wind

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The physics of interplanetary disturbances: identifying solar wind structures and transients through unsupervised anomaly detection

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Automatic CMEs Identification and Tracking from LASCO images via a Semi-Lagrangian Approximation

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Synthetic polarized white-light imaging of evolving coronal mass ejections

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Many Roads to 1/f in Space Weather: Distinguishing Mechanisms Behind Broadband Power-Law Fluctuations

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Solar Wind Expanding Parcel Tracking (SWEPT): A Web Tool for the Identification of Plasma Lineups

Mirko Stumpo (1), Simone Benella (1), Etienne Berriot (2), Luca Sorriso-Valvo (3,4), Denise Perrone (5), Olga Alexandrova (2), Andrea Verdini (6), Raffaella D'Amicis (1), Daniele Telloni (7), Sergio Servidio (8)

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Modeling Energetic Particles during Solar Eruptions

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Revealing the 3D Structure of Coronal Mass Ejections with Physics-Informed Neural Radiance Fields

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Space Weather Capabilities of the Polarimeter to UNify the Corona and Heliosphere

James Marcus Hughes (1), Craig DeForest (1), Jasmine Kobayashi (1), Derek Lamb (1), Chris Lowder (1), Jillian Redfern (1), Ritesh Patel (1), Joseph Plowman (1), Daniel Seaton (1), Samuel Van Kooten (1)

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A Statistical Study of the Dependency of Magnetic Switchback Occurrences during Parker Solar Probe Encounters

Ezgi Gülay (1), Eleanna Asvestari (1), Thierry Dudok de Wit (2, 3)

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New Insights into Quiet Time Solar Wind and CME-Driven Energetic Ions Dynamics from ASPEX on-board Aditya-L1

Aakash Gupta (1), Dibyendu Chakrabarty (1), Santosh Vadawale (1), Shiv Kumar Goyal (1), Jacob Sebastian (1), Bijoy Dalal (1), Abhishek Kumar (1), M Shanmugam (1), Anil Bhardwaj (1)

(1) Physical Research Laboratory, Ahmedabad (INDIA)

May 2024 CMEs arrival times with EUHFORIA and the cone model

Brigitte Schmiedr (1), Jin Han Guo (4), Anwesha Maharana (2), Stefaan Poedts (2,5)

(1) Observatoire de Paris, LIRA, Meudon (FRANCE), (2) Centre for mathematical Plasma Astrophysics, Dept. of Mathematics, KU Leuven,, Leuven (BELGIUM), (3) LUNEX EMMESI Institut, SBI, Noordwijk (NETHERLANDS), (4) School of Astronomy and Space Science and Key Laboratory of Modern Astronomy and Astrophysics, Nanjing University, Nanjing (CHINA), (5) Institute of Physics, University of Maria Curie, Lublin (POLAND)

Identifying and predicting coronal mass ejection occurrence: observational checklists for space weather forecasters

Lucie Green (1), Alexander James (1), Nawin Ngampoopun (2), Stephanie Yardley (3), Kirk Waite (4), Emily Mottram (1), Julio Hernandez Camero (1), Jennifer O'Kane (5)

(1) UCL-MSSL, Dorking (UNITED KINGDOM), (2) Max Planck Institute for Solar System Research, Gottingen (GERMANY), (3) Northumbria University, Newcastle (UNITED KINGDOM), (4) Met Office, Exeter (UNITED KINGDOM), (5) Defence Science and Technology Laboratory, Fareham (UNITED KINGDOM)

Impact of Far-Side Magnetogram Information on CME Arrival Times During the May 2024 Geomagnetic Storm

Evangelia Samara (1), Dusan Odstrcil (2), Leila Mays (3), C. Nick Arge (4)

(1) The Catholic University of America-Dep. of Physics, Washington, DC (USA), (2) George Mason University-Dep. of Physics and Astronomy, Fairfax, VA (USA), (3) Community Coordinated Modeling Center, NASA/Goddard Space Flight Center, Greenbelt, MD (USA), (4) Solar Physics Laboratory, NASA/Goddard Space Flight Center, Greenbelt, MD (USA)

ANALYSING THE EVENT OF 26TH OCTOBER USING METIS OBSERVATIONS AND PHYSICS BASED MODELLING

Preity Sukla Sahani (1,2), Vincenzo Andretta (1), Giuliana Russano (1), Jasmina Magdalenic Zhukov (3,4), Senthamizh Pavai Valliappan (3), Cecilia Mac Cormack (5,6), Clementina Sasso (1)

(1) INAF-Astronomical Observatory of Capodimonte, Napoli (ITALY), (2) University of Naples Federico II, Napoli (ITALY), (3) Royal Observatory of Belgium, Brussels (BELGIUM), (4) KU Leuven, Leuven (BELGIUM), (5) NASA GSFC, Maryland (USA), (6) Catholic University of America, Washington DC (USA)

Time-dependent data-driven modelling of active region evolution at global and local scales

Jens Pomoell (1), Farhad Daei (1), Andreas Wagner (1), Daniel Price (1)

(1) Department of Physics, University of Helsinki, Helsinki (FINLAND)

Simulation of Spacecraft Charging Dynamics During a Coronal Mass Ejection Encounter

Marianna Michelagnoli (1), Fredrik Leffe Johansson (3), Gregoire Deprez (3), Francois Gutierrez (3), Federica Maria Marcucci (1), Mauro Focardi (4)

(1) INAF/IAPS, Istituto di Astrofisica e Planetologia Spaziali, Rome (ITALY), (2) Dipartimento di Fisica e Astronomia, Università degli Studi di Firenze, Florence (ITALY), (3) ESA/ESTEC, European Space Research and Technology Centre, Noordwijk (NETHERLANDS), (4) INAF/OAA, Osservatorio Astrofisico di Arcetri, Florence (ITALY)

Tracing Solar Wind Variability at 1 AU: The Role of Flow-Type Dominance in the Delayed Response to Solar Activity

Raffaele Reda (1), Luca Giovannelli (1), Tommaso Alberti (2)

(1) University of Rome Tor Vergata, Rome (ITALY), (2) INGV - Istituto Nazionale di Geofisica e Vulcanologia, Rome (ITALY)

Radial Evolution of the Coronal Hole Area – High Speed Stream Velocity Relation: Multi-Point Observations from PSP and Solar Orbiter

Anjana Shree Ramiya Jegadeeshbabu (1), Stephan G Heinemann (1), Emilia Kilpua (1), Jens Pomoell (1)

(1) University of Helsinki - Department of Physics, Helsinki (FINLAND)

Deriving an Interpretable CME Travel Time Formula by Symbolic Regression

Changeon Park (1), Youngjae Kim (1), Mingye Jeon (1), Yong -Jae Moon (1)

(1) G-LAMP NEXUS Institute/School of Space Research, Kyung Hee University, Yongin-si (SOUTH KOREA)

The SBCross Catalog

Stephan G. Heinemann (1), Manuela Temmer (2), Mathew Owens (3), Emilia Kilpua (1), Charles Farrugia (4), Daniel Price (1)

(1) Department of Physics, University of Helsinki, Helsinki (FINLAND), (2) Institute of Physics, University of Graz, Graz (AUSTRIA), (3) Department of Meteorology, University of Reading, Reading (UNITED KINGDOM), (4) Institute for the Study of Earth, Oceans, and Space, University of New Hampshire, Durham (USA)

Ensemble magnetized CME modelling with FLAG: analysis of October 2024 event and forecast framework

Helen Norman (1), Ravindra Desai (1), Tony Arber (1), Keith Bennett (1)

(1) Centre for Space Fusion and Astrophysics, Department of Physics, University of Warwick, Coventry (UNITED KINGDOM)

Ion-Scale Wave Signatures and ICME-HCS Interaction: A Conjunction Study of PSP, SolO, and Wind

Samuel Fordin (1), Jaye Verniero (1), Yeimy Rivera (2), Samuel Badman (2)

(1) NASA Goddard Space Flight Center, Greenbelt, MD (USA), (2) Center for Astrophysics | Harvard & Smithsonian, Harvard, MA (USA)

Second Floor

Radiation Instrumentation for In-Situ Space Weather Monitoring Across the Solar System

IOM4

The Energetic Particle Telescope on board PROBA-V: space weather products, lessons learned and future plans

Sylvie Benck (1), Stanislav Borisov (1)

(1) UCLouvain - ICTEAM - ELEN (CSR), Louvain-la-Neuve (BELGIUM)

Response of AMORE a Novel Secondary Cosmic Rays Detector During a Mid-latitude Scientific Aircraft Flight

Gabriele Auriemma (1), Justin Dante Tabbett (1), Wojciech Hajdas (1), Mike Christian Gantert (1), Michael Mueller (1), Malte Hildebrandt (1)

(1) Paul Scherrer Institut - PSI, Villigen (SWITZERLAND)

Hight Energy Proton Instrument (HEPI) Developments – Modelling and Implementations

Fan Lei (1), Fraser Baird (1), Ben Clewer (1), Chris Cousins (1), Chris Davis (1), Paul Morris (1), Keith Ryden (1)

(1) Surrey Space Centre, University of Surrey, Guildford (UNITED KINGDOM)

South Atlantic Anomaly Suite Detectors (SAMA-Suite): Radiation Belt Electron Proton Monitor

Livia Alves (1), Ligia da Silva (1), Luis Vieira (1), David Sibeck (2), Jayne Melo (1), Karen Ferreira (1), Jose Marchezi (1), Laysa Resende (1), Gislayne Nobrega (1), Laine Rosales (1), Pedro Fister (1), Edu Rockenback (1), Vinicius Degeronne (1), Thiago Santanna (3)

(1) INPE, Sao Jose dos Campos (BRAZIL), (2) INPE, Sao Jose dos Campos (BRAZIL), (3) INPE, Sao Jose dos Campos (BRAZIL), (4) NASA GSFC, Maryland (USA), (5) INPE, Sao Jose dos Campos (BRAZIL), (6) INPE, Sao Jose dos Campos (BRAZIL), (7) INPE, Sao Jose dos Campos (BRAZIL), (8) INPE, Sao Jose dos Campos (BRAZIL), (9) INPE, Sao Jose dos Campos (BRAZIL), (10) INPE, Sao Jose dos Campos (BRAZIL), (11) INPE, Sao Jose dos Campos (BRAZIL), (12) INPE, Sao Jose dos Campos (BRAZIL), (13) INPE, Sao Jose dos Campos (BRAZIL), (14) ON, Rio de Janeiro (BRAZIL)

Ion Measurements with the Lorentz Electron and Ion Analyzer - Combining Low-Energy Detection with dE/dx vs total E Measurements

Svea Jürgensen (1), Hannes Ebeling (1), Patrick Kühl (1), Lars Berger (1), Robert F. Wimmer-Schweingruber (1), Lars Seimetz (1), Stephan I. Böttcher (1), Björn Schuster (1)

(1) Kiel University, Department of Extraterrestial Physics, Kiel (GERMANY)

ESA's Space Radiation Monitors: Past, Present and Future Contributions to Space Weather Monitoring and Exploration

Marco Vuolo (1), Petteri Nieminen (1), Gioavnni Santin (1), Hugh Evans (1)

(1) European Space Agency, Noordwijk (NETHERLANDS)

Final Report of ESA's Future Exploration Radiation Facility Definition Team

Piers Jiggens (1), Carlotta Achille (2), Thomas Berger (3), Bernd Heber (4), Ramsey Al Jebal (5), Martin Jan Losekamm (1), Marco Pinto (6), Osku Raukunen (7), Laura Rodriguez Rodriguez Garcia (8), Giovanni Santin (1), Luis Teodoro (9), Robert Wimmer-Schweingruber (4)

(1) ESA/ESTEC, Noordwijk (NETHERLANDS), (2) Amaldi Foundation, Rome (ITALY), (3) DLR, Koln (GERMANY), (4) Christian-Albrechts-Universität, Keil (GERMANY), (5) Ideas, Oslo (NORWAY), (6) Laboratory for Instrumentation and Experimental Particle Physics, Lisbon (PORTUGAL), (7) Aboa Space Research Oy, Turku (FINLAND), (8) ESA/ESAC, Madrid (SPAIN), (9) University of Glasgow, Glasgow (UNITED KINGDOM)

Microscintillator Radiation Detector for Space Weather Studies

Yasin Peker (1), Justin Tabbett (2), David Reid (1), Karen Aplin (1)

(1) University of Bristol, School of Civil, Aerospace and Design Engineering, Bristol (UNITED KINGDOM), (2) Paul Scherrer Institute, Canton of Aargau (SWITZERLAND)

Use of Drift Echoes to Characterize Long-term Effects of Radiation Damage on GOES Ring Current Proton Channel Energies

Juan Rodriguez (1), Fadil Inceoglu (1), Brian Kress (1)

(1) University of Colorado CIRES, Boulder (USA)

Bridging the Measurement Gap between MeV and GeV Particles in Space: Design and First Results of the CHerenkov Atmospheric Observation System (CHAOS)

Hannes Ebeling (1), Ava Pohley (1), Pierre Bornfleth (1), Stephan I. Böttcher (1), Patrick Kühl (1), Björn Schuster (1), Lars Seimetz (1), Bernd Heber (1), Robert F. Wimmer-Schweingruber (1)

(1) Kiel University - Department of Extraterrestrial Physics, Kiel (GERMANY)

The radiation exposure during the Artemis II mission measured by the M-42 detectors

Daniel Matthiä (1), Thomas Berger (1), Karel Marsalek (1), Moritz Kasemann (1), Bartos Przybyla (1), Maximilian Radenhäuser (1), Joachim Aeckerlein (1), Aleksandra Rutczynska (1), Markus Rohde (1)

(1) German Aerospace Center (DLR), Institute of Aerospace Medicine, Cologne (GERMANY)

A Prototype Detector for Near-Relativistic Protons and Helium: ProHEPaM

Ava Pohley (1), Robert Wimmer-Schweingruber (1), Bernd Heber (1), Patrick Kühl (1), Lars Seimetz (1), Björn Schuster (1), Stephan Böttcher (1)

(1) Christian-Albrechts-Universität zu Kiel, Kiel (GERMANY)

First Simultaneous Observations of Ground Level Enhancements using Antarctic Water-Cherenkov Detectors for Space Weather Monitoring and Alerts: Results from Argentine Stations

Sergio Dasso (1), Christian Gutierrez (1), Noelia Santos (2), Antonio Niemela (3)

(1) Universidad de Buenos Aires, Facultad de Ciencias Exactas y Naturales, DCAO & CONICET - UBA, IAFE, LAMP, Buenos Aires (ARGENTINA), (2) Universidad de Buenos Aires, Facultad de Ciencias Exactas y Naturales, DCAO, LAMP, Buenos Aires (ARGENTINA), (3) University of Maryland Baltimore County (UMBC) y NASA - Goddard Space Flight Center (NASA-GSFC)., Maryland (USA)

Omnidirectional Proton Flux Derivation from Sentinel 6 - MF NGRM Observations

Evangelia Christodoulou (1), Hugh Evans (2), Marco Vuolo (2), Ingmar Sandberg (3), Ioannis Daglis (1), Giovanni Santin (2), Petteri Nieminen (2)

(1) National and Kapodistrian University of Athens (NKUA), Department of Physics, Athens (GREECE), (2) European Space Agency, European Space Research and Technology Centre (ESA/ESTEC), Noordwijk (NETHERLANDS), (3) Space Applications & Research Consultancy (SPARC), Athens (GREECE)

dvancing Radiation Belt Monitoring: The Pulse Shape Analysis based PRISE Instrument

Sebastien Bourdarie (1), Pablo Caron (1), Quentin Gibaru (1), Victor Bolin (1), Marin Chabot (2), Emmanuel Rauly (2), Guillaume Gourves (1), Jean Guerard (1), Marco Vuolo (3), Hugh Evans (3), Melanie Heil (3)

(1) ONERA-DPHY, Toulouse (FRANCE), (2) IJCLab, Orsay (FRANCE), (3) ESA, Noordwijk (NETHERLANDS)

Small Instrument, High Energies: The Design, Simulation and Calibration of the Galactic Ray high-Energy TELescope, GRETEL

Mathis Mewes (1), Stephan I. Böttcher (1), Lars Seimetz (1), Robert F. Wimmer-Schweingruber (1)

(1) Kiel University, Kiel (GERMANY)

Second Floor | **Radiation Belts and plasma in the Magnetosphere** | **MIT3**

Models and Tools at CCMC relevant to Space Plasma and Radiation Effects: Status Update

Yihua Zheng (1), CCMC Team (1)

(1) NASA Goddard Space Flight Center, Greenbelt (USA)

The midlatitude ionospheric trough as an ionospheric signature of the plasmapause and plasmaspheric plumes

Balázs Heilig (1, 2), Máté Tomasik (1, 2, 3), Kolos Németh (1, 2, 3), Lilla Juhász-Murár (2, 4)

(1) HUN-REN EPSS, Sopron (HUNGARY), (2) Kármán Space Research Centre, Obuda University, Budapest (HUNGARY), (3) Eötvös University, Budapest (HUNGARY), (4) Kandó Kálmán Faculty of Electrical Engineering, Obuda University, Budapest (HUNGARY)

Statistical Characteristics of Plasmaspheric Hiss Based on Van Allen Probes and Arase Observations

Yijuan Liu (1), Dedong Wang (1, 2), Chao Yue (3), Haobo Fu (1), Alwin Roy (1, 2), Xuan Zhou (1,4), Yuri Y. Shprits (1,2,5), Yoshizumi Miyoshi (6), Yoshiya Kasahara (7), Atsushi Kumamoto (8), Shoya Matsuda (9), Ayako Matsuoka (10), Tomoaki Hori (6), Iku Shinohara (9), Fuminori Tsuchiya (8), Mariko Teramoto (11), Kazuhiro Yamamoto (6), Atsuki Shinbori (6)

(1) GFZ Helmholtz Centre for Geosciences, Potsdam (GERMANY), (2) University of Potsdam, Potsdam (GERMANY), (3) School of Earth and Space Sciences, Peking University, Beijing (CHINA), (4) 4CAS Key Laboratory of Geospace Environment, University of Science and Technology of China, Hefei (CHINA), (5) University of California, Los Angeles (USA), (6) Nagoya University (JAPAN), (7) Kanazawa University (JAPAN), (8) Tohoku University (JAPAN), (9) ISAS/JAXA, Sagamihara (JAPAN), (10) Kyoto University (JAPAN), (11) Kyushu Institute of Technology (JAPAN)

An SEP-analogue approach for event-based modelling of the outer radiation belt environment.

Christos Katsavrias (1), Sigiava Aminalragia-Giamini (1), Constantinos Papadimitriou (1), Kimon Tsilias (1), Nourallah Dahmen (2), Gautier Nguyen (2), Antoine Brunet (2), Ingmar Sandberg (1), Piers Jiggens (3), Hugh Evans (3)

(1) Space Applications and Research Consultancy (SPARC), Athens (GREECE), (2) ONERA, Toulouse (FRANCE), (3) ESA/ESTEC (NETHERLANDS)

Kinetic versus cold-plasma dispersion in quasi-linear diffusion coefficients for whistler-mode waves

Katja Stoll (1), Dedong Wang (1), Yuri Shprits (1)

(1) GFZ Helmholtz Centre for Geosciences, Potsdam (GERMANY)

RECENT DEVELOPMENTS IN THE VERSATILE ELECTRON RADIATION BELT (VERB) CODE AND DATA ASSIMILATION APPLICATIONS

Yuri Shprits (1,2,3), Alexander Drozdo (4), Bernhard Haas (1), Dedong Wang (1)

(1) GFZ Helmholtz Centre for Geosciences, Potsdam (GERMANY), (2) University of Potsdam, Germany, Potsdam (GERMANY), (3) University of California Los Angeles, Los Angeles (USA), (4) The Aerospace Corporation, El Segundo (USA)

Influence of Plasmaspheric Density Representations on Simulated Ultra-Relativistic Electron Dynamics: A Statistical Study

Parvathy Santhini (1), Yuri Shprits (1,2), Bernhard Haas (1), Dedong Wang (1), Xingzhi Lyu (1)

(1) GFZ German Research Centre for Geosciences, Potsdam (GERMANY), (2) University of Potsdam, Potsdam (GERMANY)

Identifying the Drivers of Radiation Belt Electron Phase Space Density Across the Adiabatic Coordinates

Igor Panfil (1), Richard Boynton (1)

(1) School of Electrical and Electronic Engineering - University of Sheffield, Sheffield (UNITED KINGDOM)

Downscaling Methods Applied to Numerical Simulation of the Earth's Radiation Belts

Merlin Savard (1), Gautier Nguyen (1), Guillerme Bernoux (1), Vincent Maget (1), Antoine Brunet (1), Nourallah Dahmen (1)

(1) DPHY, ONERA, UNIVERSITÉ DE TOULOUSE, Toulouse (FRANCE)

Shallow Internal Charging as a Distinct Space Weather Hazard

Buzulukova Natalia (1), Juan Rodriguez (2,3), Brian Kress (2,3), Mei-Ching Fok (4), Rob Redmon (3), Joseph Minow (5)

(1) University of Maryland/PHaSER, College Park (USA), (2) University of Colorado/CIRES, Boulder (USA), (3) NOAA, Boulder (USA), (4) NASA GSFC, Greenbelt (USA), (5) NASA MSFC, Huntsville (USA)

Extending Radial Diffusion Theory from Earth to Saturn's Electron Radiation Belts

Edu Rockenbach (1), Ligia Da Silva (1), Josè Marchezi (1), Livia Alves (1), Hadassa Jàcome (1), Vinicius Deggeroni (1), Karen Ferreira (1,2), Gislayne Nòbrega (1,3), Pedro Fister (1), Laine Rosales (1), Jayne Melo (1)

(1) National Institute for Space Research - Department DIHPA/DICEP, São José dos Campos (BRAZIL), (2) NASA - Goddard Space Flight Center, Greenbelt (USA), (3) Centre National de la Recherche Scientifique - Laboratoire de Physique et Chimie de l'Environnement et de l'Espace, Orléans (FRANCE)

Multi-Spacecraft Investigation of Ring Current Density Using Cluster and THEMIS

Akos Madar (1), Peter Kovacs (1)

(1) HUN-REN Wigner Research Centre for Physics, Budapest (HUNGARY)

Analysis of Proton Flux Profiles in the South Atlantic Anomaly with the RadMap Telescope

Martin J. Losekamm (1), Luise Meyer-Hetling (2), Stephan Paul (2)

(1) European Space Agency, Directorate of Human and Robotic Exploration, Noordwijk (NETHERLANDS), (2) Technical University of Munich, School of Natural Sciences, Garching (GERMANY)

Physics-based modelling of radial diffusion in the outer Van Allen belt

Adamantia Dimitrakoula (1), Christos Katsavrias (1,2), Constantinos Papadimitriou (1,2), Ioannis A. Daglia (1), Sigiava Aminalragia-Giamini (1,2)

(1) Department of Physics, National and Kapodistrian University of Athens (NKUA), Athens (GREECE), (2) Space Applications & Research Consultancy (SPARC), Athens (GREECE)

The IRENE-AE9/AP9 Next Generation Radiation Specification Models – Progress Report

Paul Obrien (1), Bob Johnston (2), Piers Jiggens (3), Yoshi Miyoshi (4)

(1) The Aerospace Corporation, Chantilly, vA (USA), (2) AFRL, Albuquerque, NM (USA), (3) ESA, Noordwijk (NETHERLANDS), (4) Nagoya University, Nagoya (JAPAN)

Revisiting XMM/ERMD data set 2000-2026

Sebastien Bourdarie (1), Pablo Caron (1), Quentin Gibaru (1), Hugh Evans (2)

(1) ONERA, Toulouse (FRANCE), (2) ESA, Noordwijk (NETHERLANDS)

Second Floor | **Education and Outreach in Space Weather: Engaging Communities and Shaping the Next Generation** | **OTH4**

Sidera: a digital guide to the places of Science and Astronomy in Rome

Leonardo Simonetti (1), Alberto Berretti (1), Francesco Berrilli (1)

(1) Università degli Studi di Roma Tor Vergata, Rome (ITALY)

Exploring Space Weather with a comic book for kids

Daria Guidetti (1), Francesca Brunetti (1), Martina Cardillo (1), Adamantia Paizis (1), Simona Righini (1)

(1) ISTITUTO NAZIONALE DI ASTROFISICA, ROMA (ITALIA)

Beyond the Clouds: A Hands-On Educational Approach to Space Weather Resilience

Giuseppe Prete (1), Giuseppe Ficarra (1), Rosita De Bartolo (2), Francesco Pecora (3), Sergio Servidio (1), Peirfrancesco Riccardi (1), Paola Francesca Mantuano (4), Federica Chiappetta (1)

(1) Dipartimento di Fisica, Università della Calabria, Rende (ITALY), (2) Convitto Nazionale B. Telesio, Cosenza (ITALY), (3) Department of Physics and Astronomy, University of Delaware,, Newark (USA), (4) Centro Di Terapia Cognitivo Comportamentale, ABA, Psicoterapia e Neuropsicologia, Cosenza (ITALY)

Bridging Science and Society: The INGV Space Weather Bulletin for the Mediterranean Area as an Educational and Outreach Tool

Dario Sabbagh (1), Emanuele Pica (1), Paolo Bagiacchi (1), Lili Cafarella (1), Gianfranco Cianchini (1,2), Igino Coco (1), Paola De Michelis (1), Domenico Di Mauro (1), Fabio Giannattasio (1), Alessandro Ippolito (1), Stefania Lepidi (1), Carlo Marcocci (1), Michael Pezzopane (1), Lucia Santarelli (1), Carlo Scotto (1), Luca Spogli (1), Roberta Tozzi (1), Massimo Viola (1)

(1) Istituto Nazionale di Geofisica e Vulcanologia (INGV), Rome (ITALY), (2) Istituto di Astrofisica e Planetologia Spaziali (INAF IAPS), Rome (ITALY)

Shocking! The intense geomagnetic storm plus severe proton storm events in January 2026 and general communication to the public.

Judit Palacios (1), Diana Besliu-Ionescu (2), Jennifer O'Hara (3), Jorge Amaya (4), Alexi Glover (4), Wenda van der Berg (5), Gareth Rhys Lawrence (1), Juha Pekka Luntama (4)

(1) Starion/CS Group for ESA/ESOC, Darmstadt (GERMANY), (2) Astronomical Institute of the Romanian Academy (AIRA), Bucarest (ROMANIA), (3) Royal Observatory of Belgium (ROB), Brussels (BELGIUM), (4) ESA/ESOC, Space Weather Office, Darmstadt (GERMANY), (5) EJR QUARTZ B.V for ESOC communication Office, Darmstadt (GERMANY)

Collaborative research on Space Weather at the International Space Science Institute

Thierry Dudok De Wit (1)

(1) University of Orléans, Orléans (FRANCE)

International Capacity Building series: Machine Learning applied to Space Weather and GNSS

Maria Graciela Molina (1), Yenca Migoya Orue (2), Carolina Salas Matamoros (3), Sharafat Gadimova (4)

(1) Facultad de Ciencias Exactas y Tecnología, (FACET), Universidad Nacional de Tucumán (UNT), Tucuman (ARGENTINA), (2) STI, The Abdus Salam International Centre for Theoretical Physics (ICTP), Trieste (ITALY), (3) Space Research Center (CINESPA), University of Costa Rica, San jose de Costa Rica (COSTA RICA), (4) The United Nations Office for Outer Space Affairs (UNOOSA), Vienna (AUSTRIA)

Citizen science opportunities during IPY 2032-33

Emma Bruus (1), Matias Takala (3,2), Maxime Grandin (3)

(1) Sodankylä Geophysical Observatory, University of Oulu, Oulu (FINLAND), (2) Ursa Astronomical Association, Helsinki (FINLAND), (3) Finnish Meteorological Institute, Helsinki (FINLAND)

11:15 - 12:45

Auditorium | **All about the solar wind and CMEs** | **HEL4**

11:15 - 11:45 | **What We Know and Do Not Know About Coronal Mass Ejections**

	Emilia Kilpua (1) *(1) University of Helsinki, Helsinki (FINLAND)*	
11:45 - 12:00	**Coronal Dimmings as Early Diagnostics of CME Structure and Evolution** Larisza Krista (1) *(1) University of Colorado, Boulder (USA)*	
12:00 - 12:15	**Analysis of interplanetary coronal mass ejections observed by Solar Orbiter (2020-2024) and their solar sources** Mateja Dumbovic (1), Karmen Martinic (1), Erika Palmerio (2), Alexis Rouillard (3), Mario Amaro (4) *(1) Hvar Observatory, Faculty of Geodesy, University of Zagreb, Zagreb (CROATIA), (2) Predictive Science, San Diego (USA), (3) IRAP, Toulouse (FRANCE), (4) Stockholm University, Stockholm (SWEDEN)*	
12:15 - 12:30	**Modern Tools for White Light Geometric Reconstructions with Mass Estimates** Christina Kay (1), Angelos Vourlidas (1) *(1) JHU APL, Laurel, MD (USA)*	
12:30 - 12:45	**Characterizing the 'Martin Luther King' Storm: Severe Solar Radiation and Geomagnetic Impacts of the 19 January 2026 Event** Abril Sahade (1), Cecilia Mac Cormack (1), Andreas Weiss (1), Antonio Niemela (1), Diego Lloveras (1), Erika Palmerio (2), Teresa Nieves-chinchilla (1) *(1) NASA Goddard Space Flight Center, Greenbelt (USA), (2) Predictive Science Inc., San Diego (USA)*	
Verde Room	**Radiation Belts and plasma in the Magnetosphere**	**MIT3**
11:15 - 11:30	**ULF wave - cold plasma coupling and the impacts on radiation belt dynamics** Jasmine Sandhu (1), Tim Yeoman (1), Matthew James (1), Tom Elsden (2), Andrew Wright (2), Jonathan Rae (3), Alexander Degeling (4), Kyle Murphy (5) *(1) University of Leicester, Leicester (UNITED KINGDOM), (2) University of St Andrews, St Andrews (UNITED KINGDOM), (3) Northumbria University, Newcastle upon Tyne (UNITED KINGDOM), (4) Shandong University, Weihai (CHINA), (5) Independent, Thunder Bay (CANADA)*	
11:30 - 11:45	**Estimating the Occurrence Conditions of EMIC Waves Using Dual-RBSP Observations** Haobo Fu (1), Dedong Wang (1), Chao Yue (2), Yuri Shprits (1), Qiugang Zong (2), Shangchun Teng (3), Huiting Feng (1), Xingzhi Lyu (1) *(1) GFZ German Research Centre for Geosciences, Potsdam (GERMANY), (2) Peking University, Beijing (CHINA), (3) University of Hong Kong, Hong Kong (HONG KONG SAR, CHINA)*	
11:45 - 12:00	**Proton Belt Dynamics Following the May 2024 Geospace Magnetic Superstorm** Evangelia Christodoulou (1), Adamantia Dimitrakoula (1), Christos Katsavrias (1), Hugh Evans (2), Ioannis Daglis (1), Constantinos Papadimitriou (3), Ingmar Sandberg (3) *(1) National and Kapodistrian University of Athens (NKUA), Department of Physics, Athens (GREECE), (2) European Space Agency, European Space Research and Technology Centre (ESA/ESTEC), Noordwijk (NETHERLANDS), (3) Space Applications & Research Consultancy (SPARC), Athens (GREECE)*	
12:00 - 12:15	**New Approaches Calculating Radial, Pitch Angle Diffusion Coefficients Identify Dominant Mechanisms Responsible Electron Flux Enhancement Patterns inOuterRadiationBeltUnderComplex Solar Wind Structures** Ligia A. Da Silva (1), Dedong Wang (2), Livia R. Alves (1), José Paulo Marchezi (1), Luis Eduardo A. Vieira (1), Oleksiy V. Agapitov (3), David G. Sibeck (4), Edu P. Rockenbach (1), Karen Júlia C. Ferreira (1), Laysa C. Resende (1), Joaquim E. R. Costa (1) *(1) National Institute for Space Research INPE, São José dos Campos (BRAZIL), (2) Helmholtz Centre for Geosciences GFZ, Potsdam (GERMANY), (3) University of California UCB, Berkeley (USA), (4) NASA Goddard Space Flight Center, Greenbelt (USA)*	
12:15 - 12:30	**Simulating extreme events in the radiation belts: Part 2** Sarah Glauert (1), Ravindra Desai (2), Richard Horne (1), Aaron Hendry (1) *(1) British Antarctic Survey, Cambridge (UNITED KINGDOM), (2) University of Warwick, Coventry (UNITED KINGDOM)*	

12:30 - 12:45	**Reduced-Order Emulation of the Earth Electron radiation belts** Gautier Nguyen (1), Guillerme Bernoux (1), Antoine Brunet (1), Maria Tahtouh (1), Nourallah Dahmen (1), Ingmar Sandberg (2) *(1) DPHY, ONERA, Université de Toulouse, Toulouse (FRANCE), (2) Space Applications & Research Consultancy (SPARC), Athens (GREECE)*	
Onice Room	**SW effects on Infrastructure - Advances in the assessment of geomagnetically induced currents and ground geoelectric fields**	**SWI**

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