

# Programma Congresso SWICo 2021

Agenzia Spaziale Italiana, 9 – 11 Febbraio 2022

## **Mercoledì 9 Febbraio 2022**

**8:30 – 09:30 Accoglienza**

**09:30 – 10:30 Saluti istituzionali**

*Ing. Giorgio Saccoccia, Presidente ASI*

*Prof. Marco Tavani, Presidente Inaf*

*Dr.ssa Fabrizia Buongiorno - INGV, Coordinatrice Centro di Osservazione della Terra dallo Spazio*

*Dr. Corrado Spinella - CNR, Direttore Dipartimento Scienze Fisiche e Tecnologie della Materia*

*Ing. Mario Cosmo - ASI, Direttore Scienza e Ricerca*

*Dr.ssa Barbara Negri - ASI, Responsabile Unità Volo Umano e Sperimentazione Scientifica*

**10:30 – 11:54 Comunicazioni** (Presiede: F. Berrilli)

**10:30** M. Messerotti *La Rete Nazionale di Servizi per lo Space Weather dell'INAF* (remoto)

**10:42** M. Graziani *Time dependence of Electron and Positron fluxes in primary Cosmic Rays with the Alpha Magnetic Spectrometer*

**10:54** A. Bemporad *Space weather related activities and projects on-going at INAF-Turin Observatory*

**11:06** D. Calchetti *SO/PHI on Solar Orbiter, the first magnetograph to leave the Sun-Earth line* (remoto)

**11:18** D. Sabbagh *Study of the foF2 variations at the Ionospheric Observatory of Rome during the last solar minima, in relation to the geomagnetic activity*

**11:30** G.E. Capuano *Effects of the chromospheric Ly $\alpha$  line profile shape on the determination of the solar wind outflow velocity using the Doppler dimming technique* (remoto)

**11:42** F. Faldi *Real time monitoring of Solar Energetic Particles outside the ISS with the AMS instrument*

**11:54 – 12:10 Intervallo**

**12:10 – 13:34 Comunicazioni** (Presiede: M. Casolino)

**12:10** M. Marongiu *A Python Approach for Solar Data Analysis: SUNDARA (SUNDish Active Region Analyser)* (remoto)

**12:22** E. De Angelis *SWEATERS-Space WEATher Ena Radiation Sensors*

**12:34** V. Formato *Precision measurement of the daily P and He fluxes in Cosmic Rays and their time variations with the Alpha Magnetic Spectrometer*

**12:46** F. Donnini *Precision measurement of the Monthly nuclei fluxes in Cosmic Rays with Alpha Magnetic Spectrometer on the International Space Station*

**12:58** F. Chiappetta *Proton energy spectra of Energetic Storm Particle events and relation with shock parameters and turbulence* (remoto)

**13:10** D. Di Mauro *Geomagnetic field variations observed at Lampedusa and comparison with the other Italian observatories*

**13:22** C. Grimani *Energy dependence of galactic cosmic-ray variations for Space Weather Applications (remoto)*

**13:34 – 15:00 Pranzo**

**15:00 – 17:24 Comunicazioni** (Presiede: G. Consolini)

**15:00** V. Romano *Space weather for civil aviation*

**15:12** P. Massa *The STIX image reconstruction problem: early results*

**15:24** R. Folds *Towards an operational tool for estimating the plasmaspheric mass density using ground-based magnetometer measurements (remoto)*

**15:36** T. Alberti *The solar wind between 0.1 and 0.6 AU: insights from Parker Solar Probe – BepiColombo radial and magnetic alignments*

**15:48** S. Mulas *Scientific development of the SRT/SDSA for the implementation of solar observations and radio-science configurations (remoto)*

**16:00** D. Recchiuti *On the transmission of compressional fluctuations from the solar wind to the magnetosphere: an analysis of critical aspects*

**16:12** P. Romano *INAF - Catania Solar Telescope contribution to the ESA - Space Weather Service Network (remoto)*

**16:24** D. Del Moro *The Tor Vergata Synoptic Solar Telescope and the Space Weather Services at UNITOV*

**16:36** A. Pellizzoni *Solar Imaging with INAF Radio Telescopes: Early Science Results and Space Weather Applications (remoto)*

**16:48** R. Speziali *He solar activity MOF monitor robotic telescope: first binocular images*

**17:00** M. Molinaro *TSRS-1.0: heritage data and new services (remoto)*

**17:12** M. Moroni *Study of radiation environment for Low-Earth Orbit spacecraft in view of ENA detection for SWE*

**17:24 Conclusione lavori prima giornata**

## **Giovedì 10 Febbraio 2022**

**08:30 – 09:00 Accoglienza**

**9:00 – 10:30: Assemblea Generale e Candidature – Prima parte**

**10:30 – 10:45 Intervallo**

**10:45 – 11:20 Conferimento Premio Franco Mariani**

**11:20** G. Carnevale (Vincitore) *MHD turbulence features in solar wind high-speed streams: solar origin or dynamic evolution?*

**11:35** F. Siciliano (Menzione) *Forecasting SYM-H Index: A Comparison Between Long Short-Term Memory and Convolutional Neural Networks*

**11: 50 Apertura Votazioni**

**11:50 – 13:26 Comunicazioni** (Presiede: S. Lepidi)

**11:50** A. Milillo *MESSENGER observations of Na<sup>+</sup> enhancement at Mercury's northern magnetospheric cusp during Flux Transfer Event Showers*

**12:02** S. Benella *Kramers-Moyal analysis of magnetic field fluctuations in the inner heliosphere*

**12:14** R. Reda *Long-term correlations in solar proxies and solar wind parameters*

**12:26** S. Orsini *The exospheric Na high latitude emission, as observed from ground-based stations: a link to solar wind precipitation at Mercury*

**12:38** S. Guglielmino *UV observations of small-scale heating events in the solar atmosphere (remoto)*

**12:50** I. Ermolli *IBIS 2.0: enabling new observations of small scale plasma processes in the solar atmosphere*

**13:02** M. Cantoresi *Analysis of cancellation index in photospheric magnetic fields associated to coronal holes*

**13:14** S. Di Matteo *On the role of solar wind periodic density structures in radiation belt electron loss as observed by the BARREL mission (remoto)*

**13:30 – 15:00 Pranzo**

**15:00 – 17:12 Comunicazioni** (Presiede: F. Zuccarello)

**15:00** C. Scotto *New version of Autoscala for the ionospheric station of Tucumán with N(h) estimation and ESF detection capabilities*

**15:12** A. Pignalberi *The ionospheric equivalent slab thickness: a parameter useful for Space Weather applications*

**15:24** G. D'Angelo *Investigation of the physical processes involved in GNSS amplitude scintillations at high latitude: a case study*

**15:36** I. Coco *TROPOMAG: Influence of geomagnetic storms on the TROPOsphere dynamics: Can the Earth's MAGnetic field be considered a proxy of climate changes? (remoto)*

**15:48** T. Chatzistergos *Irradiance reconstruction from Ca II K observations (remoto)*

**16:00** M. Murabito *Penumbral brightening events in a sunspot penumbra*

**16:12** N. Plutino *Signal processing for the automatic detection of flare events in the Soft-X GOES signal in the period 1986-2020*

**16:24** L. Marcelli *In-flight operations and performance of the Mini-EUSO telescope on board the ISS*

**16:36** R. Tozzi *Latitudinal dependence of geomagnetically induced currents during geomagnetic storms*

**16:48** C. Plainaki *Planetary Space Weather within the Jovian system: the Ganymede case*

**17:00** R. D'Amicis *Alfvénic turbulence in the solar wind as a driver of the geomagnetic response*

**17:12** *Conclusione lavori seconda giornata*

**Venerdì 11 Febbraio 2022**

**08:30 – 09:00 Accoglienza**

**9:00 – 10:48 Comunicazioni** (Presiede: R. Tozzi)

**9:00** A. Del Corpo *The changing magnetospheric ion composition during the active period 14 February-10 March 2014*

**9:12** P. De Michelis *Ionospheric turbulence: impact on the Global Navigation Satellite Systems functioning*

**9:36** M. Stumpo *An ensemble-based estimator of the transfer entropy for unveiling the magnetosphere-ionosphere coupling during activity periods*

**9:48:** M. Piersanti *On the source of the anomalous June 23, 2020 Pc5 waves detected at both ground and satellite data*

**10:00** F. Ferrente *Polarization signatures during the X1.6 flare observed in NOAA 12192 (remoto)*

**10:12** F. Berrilli *Flare Forecasting Algorithms Based on Polarity Inversion Lines in Active Regions: the new topological parameter D*

**10:24** G. Viavattene *Analysis of Pseudo-Lyapunov Exponents of Solar Convection Using State-of-the-Art Observations*

**10:36** P. Pagano *The St Andrews Space Weather Active Region Monitoring technique (remoto)*

**10:48 – 11:04 Intervallo**

**11:00 Chiusura votazioni**

**11:04 – 12:28 Comunicazioni** (Presiede: C. Plainaki)

**11:04** R. Biondo *Tracing interplanetary CME plasma with a MHD simulation from 0.1 to 1 AU*

**11:16** M. Casolino *Mini-EUSO telescope on board the International Space Station: first results*

**11:28** L. Giovannelli *Sun CubE OnE: A Multi-wavelength Synoptic Solar Micro Satellite*

**11:40** R. Crapolicchio *Inter-comparison of satellite derived L-band solar flux from ESA's earth explorer Soil Moisture Ocean Salinity (SMOS) mission and on-ground radio telescope observations*

**11:52** S. Sommariva *Study of the impact of cosmic radiation on the astronauts' central nervous system based on the ALTEA program*

**12:04** F. Giannattasio *Parallel electrical conductivity in the topside ionosphere (remoto)*

**12:16** N. Tomassetti *Data driven analysis of Galactic cosmic rays in the heliosphere: diffusion of cosmic protons and nuclei*

**12:28** F. M. Marcucci *Cross Polar Cap Potential evolution during the geomagnetic storm of 25 August 2018*

**12:40 -14:00** *Assemblea Generale – Seconda Parte – Risultati Elettorali*

**Chiusura Congresso**