

FinCOSPAR 2022

17.-18. February 2022

Finnish Meteorological Institute and Finnish National COSPAR committee

Programme

Thursday, February 17th, 2022

Morning session 10:00-12:05

- 10:00 – 10:15 Welcome and Practical arrangements
Markku Alho, University of Helsinki
- 10:15 – 10:45 On the possibility and relevance of small-scale dynamo action in the Sun
Maarit Käpylä, Aalto University
- 10:45 – 10:50 Type II radio bursts and their association with coronal mass ejections
Anshu Kumari, University of Helsinki
- 10:50 – 10:55 Global hybrid-Vlasov simulations of foreshock waves and their transmission into the magnetosphere
Lucile Turc, University of Helsinki
- 10:55 – 11:00 Magnetospheric Responses to Solar Wind Pc5 Density Fluctuations From 2D Hybrid Vlasov Simulation
Hongyang Zhou, University of Helsinki
- 11:00 – 11:10 **Break**
- 11:10 – 11:15 Observation-based modelling of the energetic storm particle event of 14 July 2012
Nicolas Wijsen, Centre for mathematical Plasma Astrophysics, KU Leuven
- 11:15 – 11:30 **Virtual break-out rooms:** Kumari, Turc, Zhou, Wijsen
- 11:30 – 11:35 Electric solar wind sail's applicability and demonstration status
Pekka Janhunen, Finnish Meteorological Institute, Aurora Propulsion Technologies, University of Tartu
- 11:35 – 11:40 FORESAIL-1 cubesat mission to measure radiation belt losses and demonstrate de-orbit
Petri Niemelä, Aalto University
- 11:40 – 11:45 Performance and Design of COTS Components-based Magnetometer for FORESAIL-1 CubeSat
Ville Lundén, Aalto University

FinCOSPAR 2022

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11:45 – 11:50 FORESAIL-2: System Engineering Challenges for Cubesat Missions in High Radiation Orbits
Marius Anger, Aalto University

11:50 – 12:05 **Virtual break-out rooms:** Janhunen, Niemelä, Lundén, Anger

Afternoon session 13:00-15:10

13:00 – 13:30 Evolution and assessment of hemispheric snow mass based on satellite data analysis
Jouni Pulliainen, Finnish Meteorological Institute

13:30 – 13:35 Supporting Paris Agreement with space-based carbon dioxide observations
Johanna Tamminen, Finnish Meteorological Institute

13:35 – 13:40 Simulations of improved glint observations over snow for CO₂M
Antti Mikkonen, Finnish Meteorological Institute

13:40 – 13:45 Magnetic-local-time dependency of radiation belt electron precipitation: impact on polar ozone
Pekka Verronen, Sodankylä Geophysical Observatory, Finnish Meteorological Institute

13:45 – 14:00 **Virtual break-out rooms:** Tamminen, Mikkonen, Verronen

14:00 – 14:10 **Break**

14:10 – 14:40 Science with the James Webb Space Telescope
Seppo Mattila, University of Turku

14:40 – 14:45 The curious host galaxies of narrow-line Seyfert 1 galaxies
Irene Björklund, Metsähovi Radio Observatory, Aalto University

14:45 – 14:50 Icarus – Witnessing the erosion of a near-Sun asteroid
Mikael Granvik, Luleå University of Technology, University of Helsinki

14:50 – 14:55 Asteroid photometric phase functions from Gaia observations
Karri Muinonen, University of Helsinki, Finnish Geospatial Research Institute FGI

14:55 – 15:10 **Virtual break-out rooms:** Björklund, Granvik, Muinonen

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- 10:00 – 10:30 MEDA PS & HS: First months on Mars onboard Perseverance
Maria Hieta, Finnish Meteorological Institute
- 10:30 – 10:35 MiniPINS - Miniature Planetary Sensor Packages for Mars and Moon
Maria Genzer, Finnish Meteorological Institute
- 10:35 – 10:40 Tool for optimizing the scientific operations and performance of the Mars lander
Harri Haukka, Finnish Meteorological Institute
- 10:40 – 11:10 From petascale to exascale: The Vlasiator semi-lagrangian grid-based plasma simulation in the age of GPU supercomputing
Markus Battarbee, University of Helsinki
- 11:10 – 11:20 **Break**
- 11:20 – 11:25 Properties of cavitons and spontaneous hot flow anomalies in a global hybrid-Vlasov simulation
Vertti Tarvus, University of Helsinki
- 11:25 – 11:40 **Virtual break-out rooms:** Genzer, Haukka, Tarvus
- 11:40 – 11:45 Over 20 year global magnetohydrodynamic simulation of Earth's magnetosphere
Ilja Honkonen, Finnish Meteorological Institute
- 11:45 – 11:50 Ionospheric Precipitation of Particles in the first 6D hybrid-Vlasov Vlasiator simulation.
Thijs Lutikhuis, University of Helsinki
- 11:50 – 11:55 The Vlasiator Ionosphere: Progress Report
Urs Ganse, University of Helsinki
- 11:55 – 12:10 **Virtual break-out rooms:** Honkonen, Lutikhuis, Ganse

FinCOSPAR 2022

17.-18. February 2022

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Afternoon session 13:00-14:05

- 13:00 – 13:30 EISCAT future prospects for Finnish Research Community
Thomas Ulich, Oulu University, Sodankylä Geophysical Observatory
- 13:30 – 13:35 Large-scale high-latitude dayside aurora (HiLDA) during IMF By prevailing conditions
Lei Cai, University of Oulu, KTH Royal Institute of Technology
- 13:35 – 13:40 The EZIE satellite mission for measuring ionospheric electrojet currents
Heikki Vanhamäki, University of Oulu
- 13:40 – 13:45 Spatio-temporal development of large scale auroral electrojet currents relative to substorm onsets
Sebastian Käki, Finnish Meteorological Institute, University of Helsinki
- 13:45 – 13:50 Space weather advisories for civil aviation: Experiences gathered by the PECASUS service
Kirsti Kauristie, Finnish Meteorological Institute
- 13:50 – 14:05 **Virtual break out rooms:** Cai, Vanhamäki, Käki, Kauristie