

Observatory Days 2025

08.-10. January 2025

Sodankylä Geophysical Observatory

Programme

Wednesday, 08th January, morning

10:00 - 10:30

ARRIVAL & COFFEE

10:30 J. K. Manninen Welcome & Practicalities

10:45 E. Tanskanen Opening Observatory Days

Session 1 – Observatory Business & News - I (Chair E. Tanskanen)

10:50 A. Kozlovsky Sixteen years of the meteor radar observations in Sodankylä

11:05 S. Oyama Observation activities with passive optical and radio wave instruments in Fennoscandia by Japanese team

11:20 J. K. Manninen Some Results from VLF-CHAMP

11:35 A. Kero Cosmic radio noise absorption spectrum during the solar proton event in October 2024

11:50

DISCUSSION

12:00

LUNCH (included)

* Online Participation, # Invited Talk



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Session 2 – Science Results: Ionosphere-Magnetosphere Research (Chair A. Aikio)

- 13:30 M. Myllymaa Electrodynamic of an isolated substorm: Currents and spectra of precipitating electrons
- 13:45 J.T. Manninen Statistical Modeling and Prediction of Ionospheric Equivalent Currents Based on SuperMAG Data
- 14:00 S. Moges Solar activity dependence of TID amplitudes using a rapid-run Sodankylä ionosonde
- 14:15 R. Sherstyukov A Deep Learning Approach for Automatic Ionogram Parameters Recognition
- 14:30 R. Hynönen Global presentation of ground Pc5 power according to SuperMAG magnetometer network

14:45 **DISCUSSION**

15:00 **COFFEE**

Session 3 – Space Debris and Hazard Monitoring (Chair I. Virtanen)

- 15:30 D. Kastinen NOrdic Space Tracking RAdar (NOSTRA)
- 15:45 T. Grydeland Improving neutral atmosphere models using NOSTRA observations of space debris
- 16:00 J. Paatero* Radioactivity soundings at Sodankylä, Finland – past and present activities
- 16:15 M. Kellinsalmi Assessing GIC Risks in Fennoscandia: Insights from the September 2017 Geomagnetic Storm Using 1D and 3D Ground Conductivity Models
- 16:30 L. Macotela* Possible Structures Observed in the Ionosphere Using the Synthetic Aperture Radar Technique

16:45 **DISCUSSION**

17:00 End of Session

18:30 **CONFERENCE DINNER** (included)

* Online Participation, # Invited Talk



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Thursday, 09th January, morning

Session 4 – EISCAT_3D (Chair A. Kero)

- 08:30 M. Conde*# A Tristatic Array of Aeronomy Instruments to Support EISCAT-3D
- 08:50 T. Ulich EISCAT – The Road Ahead
- 09:05 M. S. Lehtinen* EISCAT_3D or Sanya Radar: which one will take the world leader title ?
- 09:20 I. Virtanen On D region observations with EISCAT3D
- 09:35 H. W. Tesfaw Modeling regional electric field based on the EISCAT3D plasma velocity observation

09:50 **DISCUSSION**

10:00 **COFFEE**

Session 5 – Optical studies (Chair T. Raita)

- 10:30 N. Partamies* Continuum emission -- the weird aurora.
- 10:45 J. Rautiainen Sodankylä Geophysical Observatory SKY-i Network
- 11:00 M. van de Kamp Calibrated aurora data and the R-index
- 11:15 M. Grandin ARCTICS: Advances in auroral and subauroral research leveraging citizen science
- 11:30 M. Takala Estimating fireball geographic positions using citizen observations

11:45 **DISCUSSION**

12:00 **Group Photo**

12:10 **LUNCH** (included)

* Online Participation, # Invited Talk



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Thursday, 09th January, afternoon

Session 6 – Observatory Business & News - II (Chair T. Ulich)

- 13:30 K. Latola*# Fifth International Polar Year 2032-33
13:50 H. Silvennoinen SGO measurement news from 2024
14:05 J. Kero Kiruna Atmospheric and Geophysical Observatory at IRF - status report
14:20 H. Lindqvist Expansion to versatile multi-satellite Cal/Val activities by FMI at the Arctic Space Centre
14:35 L.S. Lakso Introduction to UArctic thematic network Arctic Space Hub

14:50 **DISCUSSION**

15:00 **COFFEE**

Session 7 – Cosmic Ray (Chair M. Grandin)

- 15:30 I. Usoskin Cosmic-ray studies at SGO in 2024
15:45 A. Mishev* Summary of the of Academy of Finland QUASARE project
16:00 P. K. Väisänen High-cadence modulation potential for study of cosmic ray variation, solar activity and data quality
16:15 S. Poluianov Three GLE events of 2024. Rich year after a drought.
16:30 N. Larsen Assessing the radiation impacts of the Halloween ground-level enhancement events using an updated CRAC:DOMO dosimetry model

16:45 **DISCUSSION**

17:00 End of Session

18:30 **DINNER** (optional, own cost)

* Online Participation, # Invited Talk



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Friday, 10th January, morning

Session 8 – Comprehensive security (Chair A. Vaarala)

- 08:30 K. Halunen* Cybersecurity in the SafeEarth programme
- 08:45 P. Laaksonen* Security, energy resilience and economic vitality in the EU
- 09:00 P. Aalto The contemporary geopolitical environment for critical infrastructure operators
- 09:15 S. Järvinen# Scientist as a target person - Human Intelligence operator at work
- 09:35 E. Tanskanen SafeEarth Research Programme

09:50 **DISCUSSION**

10:00 **COFFEE**

Session 9 – Science Results: Particle precipitation (Chair S. Oyama)

- 10:30 K. Mursula* Asynchronous evolution of solar UV irradiance and sunspots during the Gleissberg cycle disclosed by dayside ionospheric currents
- 10:45 P. Verronen New Data Sets of Electron Precipitation Forcing - Impact on Polar NOx and Ozone
- 11:00 J. Jia* UMLT trace gas variations by geomagnetic storm and SSW
- 11:15 S. Koldobskiy Induced Ionization by Solar Energetic Particles for the CMIP7 Solar Forcing Dataset
- 11:30 N. Thomas EISCAT-VHF observations of energetic particle precipitation during 10 -11 October 2024 geomagnetic storm

11:45 **DISCUSSION AND CONCLUSION**

END of MEETING!

12:00 **LUNCH** (optional, own cost)

* Online Participation, # Invited Talk

