

Observatory Days 2023

11.-13. January 2023

Sodankylä Geophysical Observatory

Programme

Wednesday, 11th January, morning

ARRIVAL

Session 1 – Science Results (Chair Th Ulich)

10:30	Th Ulich	Welcome and Practicalities
10:45	J Manninen	First observations from new VLF receiver at OUJ
11:00	J Vierinen	Investigation of mesospheric turbulence: Estimating correlation functions of mesospheric wind using meteor radars
11:15	E Sarkar	Mesospheric temperature estimation using meteor wind radar
11:30	R Hynönen	Investigating solar wind's effect on ground ULF power over SC24

11:30 **DISCUSSION**

12:00 **LUNCH** (included)



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Session 2 – EISCAT (Chair A Aikio)

13:30	A Steuwer	EISCAT and EISCAT 3D – The road ahead
13:45	H Hellgren	EISCAT3D system development status
14:00	C-F Enell	Data handling in EISCAT and EISCAT_3D
14:15	J Kero	EISCAT_3D and complementary instruments: an inventory of research infrastructure needs

14:30 **DISCUSSION**

15:00 **COFFEE**

Session 3 – EISCAT (Chair H Hellgren)

15:30	D Kastinen	EISCAT/EISCAT_3D meteor and space object, current and planned, research at IRF
15:45	N Thomas	EISCAT D-region Analysis: Challenges of temperature measurements
16:00	I Virtanen	Incoherent scatter radar observations of ion composition and molecular ion upflows in the ionosphere
16:15	M Myrvang	Modelling a non-Maxwellian electron velocity distribution in the ionospheric D-region during artificial radio wave heating

16:30 **DISCUSSION**

17:00 End of Session

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



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Thursday, 12th January, morning

Session 4 – Observatory Operations (Chair J Manninen)

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|-------|----------------|--|
| 08:30 | E Tanskanen | New space situational awareness capabilities and assets at SGO |
| 08:45 | M van de Kamp | Calibration of all-sky cameras resumed |
| 09:00 | R Sherstyukov | Implementation of Deep Learning for Ionogram Images Recognition and Parameters Scaling |
| 09:15 | H Silvennoinen | SGO participation in AdriaArray Initiative studying the active deformation of Adriatic plate |

09:30 **DISCUSSION**

10:00 **COFFEE**

Session 5 – Observatory Operations (Chair E Tanskanen)

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|-------|--------------|---|
| 10:30 | U Brändström | Kiruna Atmospheric and Geophysical Observatory – status report |
| 10:45 | J Kallunki | Metsähovi Radio Observatory in the 2020s |
| 11:00 | Th Ulich | News from SGO |
| 11:30 | O Kärhä | DigiMAG digitisation method for local magnetic disturbances |
| 11:45 | R Hynönen | Investigating solar wind's effect on ground ULF power over SC24 |

11:45 **DISCUSSION**

12:00 **LUNCH** (included)



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Thursday, 12th January, afternoon

Session 6 – CHAMOS (Chair E Turunen)

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|-------|------------|--|
| 13:30 | P Verronen | Ozone impact from solar energetic particles cools the polar stratosphere |
| 13:45 | J Jia | Energetic particle precipitation signal found in the bromine acid observation |
| 14:00 | A Kero | Ground based validation of the particle forcing used in CMIP climate models |
| 14:15 | K Nilsen | Satellite-Borne Observations of Ozone Impact by the November 2001 Solar Proton Event |

14:30 **DISCUSSION**

15:00 **COFFEE**

Session 7 – Science Results (Chair H Silvennoinen)

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|-------|----------------|---|
| 15:30 | A Kozlovsky | On the orientation of auroral arcs |
| 15:45 | M Yamauchi | Mysterious geomagnetic response to minor solar wind disturbance: Observations |
| 16:00 | G Geethakumari | Temporal and Spatial Variations of Total Electron Content during an HSS/CIR driven storm at high and middle latitudes |
| 16:15 | M N Pedersen | Comparison of field-aligned currents responses to geomagnetic storms |

16:45 **DISCUSSION**

17:00 End of Session

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



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Session 8 – GCR (Chair S Koldobskiy)

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|-------|-------------|--|
| 08:30 | I Usoskin | Update of the cosmic-ray station operation through 2022 |
| 08:45 | S Poluianov | Sub-GLE event candidates found in archive data of the South Pole and Vostok neutron monitors |
| 09:00 | A Mishev | Study of space weather effects under worst case scenario during extreme SEP |
| 09:15 | S Poluianov | Raspberry Pi computers in remotely controlled neutron monitors DOMC/DOMB in Antarctica |

09:45 **DISCUSSION**

10:00 **COFFEE**

Session 9 – Space Climate (Chair S Poluianov)

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|-------|--------------|---|
| 10:30 | K Mursula | Hale cycle in solar hemispheric radio flux: Evidence for a relic magnetic field oriented opposite to solar rotation |
| 10:45 | N Larsen | Investigating Radiation at Flight Altitudes Using Modern Techniques and Tools |
| 11:00 | S Koldobskiy | Multiproxy reconstructions of integral energy spectra for extreme solar particle events of 7176 BCE, 660 BCE, 775 CE and 994 CE |
| 11:15 | S Vainio | The BIOSPACE: Resilience control via atmospheric integration of space and biophysics by the biome level Pico/nanobiointeractome signalling mechanism? |

11:30 **DISCUSSION AND CONCLUSION**

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

