

## **ISSI International Team #23-580**

### **“Meteors and phenomena at the boundary between Earth's atmosphere and outer space”**

Third meeting 10 – 13 June 2025

#### **Participants on-site:**

Maria HAJDUKOVA  
Alexander KOZLOVSKY  
Alan LIU  
Renata LUKIANOVA  
Gunter STOBBER

#### **Remotely:**

Mark LESTER  
Veerle STERKEN  
Jie ZENG (early-career scientist)

#### **ECS, not included on original team list:**

Ruslan Sherstyukov (SGO, U Oulu, remotely)  
Samson Moges (SGO, U Oulu, remotely)  
Guochun Shi (University of Bern)  
Loretta Pearl Poku (University of Bern)

As a rule, the participants give presentations on selected topics with no certain time limits. The presentations are followed by free discussions.

## **Agenda**

### Monday 9 June

Arrival: Hotel Kreuz

### Tuesday 10 June

10:00 – Welcome, introduction, and practical issues – Alexander  
10:30 – “Orientation of auroral arcs and atmospheric circulation” – Alexander  
11:15 – “From meteor phenomena to the body's origin” – Maria  
12:00 – Lunch  
13:30 – “Characteristics of atmospheric gravity waves and medium scale traveling ionospheric disturbances derived from EISCAT measurements” – Samson Moges (SGO, U Oulu, remotely)  
14:15 – “Gravity and planetary waves in the atmospheric electric field. Antarctica” – Renata  
15:00 – Coffee break  
15:30 – “Sodankylä ionosonde: AI ionograms’ scaling and recent results” – Ruslan Sherstyukov (SGO, U Oulu, remotely)  
16:15 – “Mesospheric temperature trend in the Sodankylä meteor radar data” – Alexander  
17:00 – End of sessions

### Wednesday 11 June

09:30 – “Update of meteor radar retrievals” – Gunter  
11:20 – “What else we can do with MRs” – Gunter  
12:00 – Lunch

13:30 – “Impact of the May 2024 geomagnetic storm on interhemispheric circulation and asymmetry in the upper atmospheric neutral mass density” – Renata  
14:30 – “Medium-scale TID dependence on the solar activity” – Alexander  
15:00 – Coffee break  
15:30 – “Dust/aerosols in the atmosphere” – Renata  
17:00 – End of sessions

#### Thursday 12 June

09:30 – Free discussions  
11:00 – “High-frequency GWs identified by CONDOR” – Alan  
12:00 – Lunch  
13:30 – “New insights into the polar ozone and water vapor, radiative effects, and their connection to the tides in the mesosphere-lower thermosphere during major Sudden Stratospheric Warming events” – Guochun  
14:15 – “Comparison of Volume Velocity Processing (VVP) and 3DVAR+DIV Retrieval Algorithms of 3D Wind Fields in the Mesosphere and Lower Thermosphere with Meteor Radar Observations” – Loretta  
15:00 – Coffee break  
15:30 – Plan for future studies and collaboration

1. Separating h-tau distributions for GEM and Daytime Sextantids; other showers (Maria, Alexander, Gunter)
2. Mesospheric temperature estimates during Perseids: atmosphere heating? (Renata, Alexander)
3. CONDOR: Wind with 10-min resolution for medium-scale AGW (Gunter, Alan, Alexander)
4. Interaction between AGW and diurnal/semi-diurnal tides (Alan, Gunter)
5. Long-term changes for Nordic Cluster, comparison with CONDOR (Alexander, Gunter, Alan, Renata)

17:00 – End of sessions

#### Friday 22 Nov

09:30 – “Water vapor measurements from ground to space, Hunga Tonga volcano eruption effect” – Gunter  
10:30 – Free discussion  
12:30 – End of the meeting