CONVENERS

Dr. Anita Aikio, University of Oulu, Oulu, Finland
Prof. Alan Aylward, University College, London, UK
Dr. Stephan Buchert, Swedish Institute of Space Physics, Uppsala, Sweden
Dr. Francois Forme, Centre d’Etude des Environnements Terrestre et Planétaires, Vélizy, France
Prof. Ryoichi Fujii, Nagoya University, Nagoya, Japan
Prof. Sheila Kirkwood, Swedish Institute of Space Physics, Kiruna, Sweden
Prof. Jøran Moen, University of Oslo, Oslo, Norway
Dr. Asta Pellinen-Wannberg, Swedish Institute of Space Physics, Kiruna, Sweden
Dr. Mike Rietveld, EISCAT Scientific Association, Ramfjordmoen, Norway
Dr. Anja Stromme, EISCAT Scientific Association, Longyearbyen, Norway
Dr. Gudmund Wannberg, EISCAT Scientific Association, Kiruna, Sweden

LOCAL ORGANISING COMMITTEE

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PROGRAMME

All sessions will take place in the Aula at the Swedish Institute of Space Physics. Posters will be located along the Sky Walk.

Monday, August 29
09.00 – 17.15

Session 1: Mesosphere and D-Region Studies (09.00 – 11.05)
Convener: Sheila Kirkwood

1. 09.00 – 09.15 Qian Wu: Mesospheric and thermospheric neutral wind measurements from Resolute, Canada: An overview
2. 09.15 – 09.30 Ralph Latteck: D-region electron densities obtained with a 3-MHz Doppler radar
3. 09.30 – 09.45 Esa Turunen: The atmospheric effect of highly relativistic electron events at high latitudes
4. 09.45 – 10.00 Mathew Beharrell: D-region solar flare effects
5. 10.00 – 10.15 Peter Dalin: On the nature of polar mesosphere winter echoes: Experimental data and modelling

COFFEE BREAK

6. 10.35 – 10.50 Jonas Ekeberg: Negative ions during a solar proton/PMWE event
7. 10.50 – 11.05 Sheila Kirkwood: The nature of VHF radar echoes from the mesosphere

Session 2: Related Instruments and Capabilities (11.10 – 15.10)
Convener: Anja Strømme

1. 11.10 – 11.40 Mark Lester: The Super Dual Auroral Radar Network (SuperDARN) and its contribution to EISCAT Science (Invited)
2. 11.40 – 12.10 Kirsti Kauristie: Solar-terrestrial research with combined EISCAT and MIRACLE observations (Invited)

LUNCH

3. 13.10 – 13.40 Urban Brändström: ALIS, a powerful instrument for ionospheric studies together with EISCAT (Invited)
4. 13.40 – 14.10 Chantal Lathuillère: The CDPP data base: a tool for the EISCAT community (Invited)
5. 14.10 – 14.25 Jürgen Watermann: Greenland as a platform for high-latitude atmospheric, ionospheric and magnetospheric research
Session 3: Recent Technical Developments in Ground-Based Space Research Radar  
Convener: Gudmund Wannberg  
(15.30 – 17.15)

1. **15.30 – 16.00**  
   Craig Heinselman: (Invited)

2. **16.00 – 16.15**  
   Jürgen Röttger: Interferometry, imaging and digital beam forming in MST radar applications

3. **16.15 – 16.30**  
   Tom Grydeland: Radar interferometric imaging for the EISCAT Svalbard Radar

4. **16.30 – 16.45**  
   Anja Strømme: Plasma line calibration of the electron density measured with the ESR, and the effect of snow

5. **16.45 – 17.00**  
   Ingemar Häggström: Decoding of alternating codes using fast Fourier transforms

6. **17.00 – 17.15**  
   Markku Lehtinen: Applications of new radar methods to other space radars

Icebreaking party

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**Tuesday, August 30**  
08.15 – 11.50

Session 4: Deep Space Studies with Large Aperture Radars  
(08.15 – 10.15)  
Convener: Asta Pellinen-Wannberg

1. **08.15 – 08.45**  
   Andy Breen: Probing the solar wind: Long-baseline interplanetary scintillation measurements using EISCAT and MERLIN (Invited)

2. **08.45 – 09.15**  
   Ronald Woodman: Meteor head studies at Jicamarca (Invited)

3. **09.15 – 09.30**  
   Jussi Markkanen: Space debris measurements with EISCAT

4. **09.30 – 09.45**  
   Andy Breen: An unusual gigahertz-frequency radio transient 20° from the Sun observed by EISCAT and MERLIN

5. **09.45 – 10.00**  
   Asta Pellinen-Wannberg: How HPLA radar observations can contribute to meteor science

6. **10.00 – 10.15**  
   Johan Kero: EISCAT observations of meteoric fragmentation

COFFEE BREAK
Session 5: Modelling and Data Assimilation
Convener: Alan Aylward

1. 11.05 – 11.20  George Millward: Investigating the largest magnetic storms using global ionosphere-thermosphere models
2. 11.20 – 11.35  Mihail Codrescu: An ensemble type Kalman filter for neutral thermospheric composition
3. 11.35 – 11.50  Erdal Yigit: Atmospheric gravity wave parameterisation in the context of current modelling studies: Realistic simulation of dynamics in the MLT

12.00 – Excursion to Esrange

Wednesday, August 31
08.30 – 16.15

Session 6: Substorms, Storms and Space Weather
Convener: Anita Aikio

2. 08.30 – 09.00  Betty Lanchester: The ionospheric effects of proton precipitation observed from Svalbard (Invited)
3. 09.00 – 09.15  Kari Kaila: Characteristics of an auroral arc from EISCAT and optical measurements
4. 09.15 – 09.30  Vladimir Safargaleev: Combined optical, EISCAT and magnetic observations of the omega bands/Ps6 pulsations and an auroral torch in the late morning hours: a case study

COFFEE BREAK

Session 7: Magnetosphere-Ionosphere-Atmosphere Coupling
Convener: Ryoichi Fujii

1. 10.15 – 10.45  Olaf Amm: Substorm topology in the ionosphere and magnetosphere during a flux rope event in the magnetotail (Invited)
2. 10.45 – 11.00  Ryoichi Fujii: Electrodynamics of the poleward moving auroral form
3. 11.00 – 11.15  Jean-Pierre St-Maurice: Electrodynamical modelling of auroral arcs
4. 11.15 – 11.30  Jøran Moen: On the relationship between ion upflow events and cusp auroral transients
5. 11.30 – 11.45 Yasunobu Ogawa: Solar activity dependence of ion upflow in the polar ionosphere

LUNCH

6. 13.00 – 13.15 Jean-Pierre St-Maurice: The role played by high frequency turbulence in auroral ionospheric ion outflows

7. 13.15 – 13.30 Sawako Maeda: F-region ion temperature distribution over the auroral region and the polar cap

Session 8: Cluster, Double Star and Other Space Mission Coordinations
Convener: Stephan Buchert (13.35 – 16.15)

1. 13.35 – 14.05 James Wild: Coordinated Cluster/ground-based science: the past, present and future from an EISCAT perspective (Invited)

2. 14.05 – 14.20 Anita Aikio: Response of polar cap boundary and convection to the changes of IMF

3. 14.20 – 14.35 Matthias Förster: Cross-polar magnetospheric plasma drift as observed by Cluster (EDI) compared with ground-based radar observations in magnetically conjugate positions

COFFEE BREAK

4. 15.00 – 15.15 Lisa Rosenqvist: Magnetotail dynamics and energy budget during huge geomagnetic activity

5. 15.15 – 15.30 Alexey Maulini: Analysis of Cluster’s electric and magnetic field data obtained during 2003-2004 EISCAT-Heating experiments

6. 15.30 – 16.00 Hermann J. Opgenoorth: Future opportunities for EISCAT research in coordination with European space missions in the magnetosphere and ionosphere (Invited)

7. 16.00 – 16.15 Andy Breen: The International Polar year and International Heliophysical Year 2007-08: Opportunities for EISCAT

19.30 – Workshop banquet at Kiruna City Hall

Thursday, September 1
08.30 – 19.30

Session 9: Structures and Dynamics of the Polar Ionosphere (08.30 – 10.15)
Convener: Jøran Moen

1. 08.30 – 09.00 Herbert C. Carlson: Patches tracked from the subauroral reservoir, through the cusp into the Polar Cap (Invited)

2. 09.00 – 09.30 Eleri Pryse: Large-scale polar-cap ionospheric structure: EISCAT and radiotomography observations (Invited)
3. 09.30 – 09.45  **Hans Nilsson**: Multi-instrument study of pre-noon double arc systems

4. 09.45 – 10.00  **Alexander Kozlovsky**: The east-west plasma flows in the vicinity of pre-noon auroral arcs

5. 10.00 – 10.15  **Jørn Moen**: Observations of dayside sub-auroral patches in the Svalbard sector

**COFFEE BREAK**

**Session 10: Ionospheric Modification**  
*10.35 – 16.05*

Convener: Mike Rietveld

1. 10.35 – 11.05  **Tim Yeoman**: SPEAR: current and future capabilities and first results (Invited)

2. 11.05 – 11.20  **Ranvir Dhillon**: ESR and CUTLASS observations of SPEAR-enhanced scatter

3. 11.20 – 11.35  **Harmaninder Shergill**: A statistical study of artificial plasma irregularities produced by RF heating

4. 11.35 – 11.50  **Andrew Senior**: Multi-frequency HF radar measurements of artificial F-region irregularities

**LUNCH**

5. 13.00 – 13.15  **Mina Ashrafi**: Spatio-temporal evolution of HF-induced artificial aurora near the fourth electron gyro-harmonic, observed at Tromso

6. 13.15 – 13.30  **Nataly Blagoveshchenskaya**: Probing of medium-scale travelling ionospheric disturbances using HF-induced scatter targets

7. 13.30 – 13.45  **Björn Gustavsson**: Asymmetry in HF-pump enhanced 4278 Å emissions around electron gyroharmonics

8. 13.45 – 14.00  **Mike Rietveld**: Directional features of the downshifted peak observed in HF-induced stimulated electromagnetic emission spectra obtained using an interferometer

**COFFEE BREAK**

9. 14.20 – 14.50  **Nataly Blagoveshchenskaya**: An influence of powerful HF radio waves on the coupled ionosphere-magnetosphere system (Invited)

10. 14.50 – 15.05  **Tima Sergienko**: Auroral arc triggering by powerful HF ionosphere heating

11. 15.05 – 15.20  **Anatoly Pashin**: Influence of neutral spices on the artificial magnetic pulsations excitation

12. 15.20 – 15.35  **Carl-Fredrik Enell**: Active modification of the negative ion region (AMORE)

13. 15.35 – 15.50  **Mohd Tarmizi Ali**: The analysis GPS data of the JUPEM network for earthquake prediction base on TEC measurements
14. 15.50 – 16.05  **Mike Rietveld:** HF pump effects in the ionospheric E-region: simultaneous observations of stimulated electromagnetic emissions and 1-m irregularities

**Session 11: Poster session**  *(16.05 – 19.30)*

**Ralph Latteck:** Wind measurements at altitudes between 80 to 120 km using meteor radars on 3 MHz and 32.5 MHz

**Alvin Brattli:** Rocket observations of positive ions during polar mesosphere winter echo conditions at Andenes in January 2005

**Csilla Szasz:** Radar measurements of sporadic meteors

**Cyril Simon:** Prediction and modelling of doubly-charged ions in the ionosphere

**Cyril Simon:** A ESR/Cluster coordinated event during January, 18th 2005’s substorm

**Elaina Ford:** Optical observations of gravity waves in the upper high latitude thermosphere

**Elaina Ford:** Combined ground-based optical support for the aurora (Delta) sounding rocket campaign

**Takuo Tsuda:** A study of the lower thermospheric wind in the polar cap using ESR CP-2 data obtained in summer

**Stephan Buchert:** Does field-aligned ion upflow play a role for thermospheric upwelling?

**Alexey Maulini:** Analysis of Cluster’s electric and magnetic field data obtained during 2003-2004 EISCAT-Heating experiments

**Yasuhide Hobara:** Cluster observations of high altitude oxygen outflow burst and associated wave activities

**Joanna Sullivan:** Naturally enhanced ESR spectra and their relation to observed auroral features

**Mirela Voiculescu:** IMF effect on the behaviour of sporadic E within the polar cap

**Alan Wood:** Evolution of a boundary blob from the polar Tongue-of-Ionisation

**Mirela Voiculescu:** Observations of the F region trough

**Andrey Kotikov:** The evidence of the heating transmitter influence on riometric absorption

**Antti Kero:** Cosmic radio noise absorption modified by the RF heating in the D region

**Mårten Blixt:** Multi-instrument observations of naturally enhanced ion-acoustic lines

17.30  *Bus leaving for LKAB Mine Tour*

19.30  *Bus leaving to Kiruna (for those not participating in the mine tour)*
**Friday, September 2**  
**08.30 – 14.45**

*Special Session 12: EISCAT – Past and Future*  
(08.30 – 12.00)

08.30 – 09.00  **Bengt Hultqvist:** The Start of EISCAT  
09.00 – 12.00  Presentations given by the future EISCAT 3D study group

*LUNCH*

*Session 13: Scattering Processes in Plasmas*  
(13.30 – 14.45)

Convener: Francois Forme

1. 13.30 – 14.00  **Jean-Pierre St-Maurice:** Radar studies of E region irregularities and their effects (Invited)

2. 14.00 – 14.15  **Farideh Honary:** A first comparison of irregularity and ion drift velocity measurements in the E region

3. 14.15 – 14.30  **Anja Strømme:** Langmuir turbulence in the auroral ionosphere observed with the ESR

4. 14.30 – 14.45  **Geraldine Garcia:** Runaway electrons as current carriers in the ionosphere?