

Detailed Scientific Program

Monday, July 29th

9:00-9:30	Welcome and Information	
9:30-10:00	Axel Steuwer	<i>EISCAT Scientific Association</i>
Invited	EISCAT and EISCAT_3D – The Status Quo	

10:30-12:00	Magnetosphere-Ionosphere-Thermosphere Coupling 1	
10:30-10:55	Mark Conde	<i>University of Alaska Fairbanks</i>
Invited	New Instrumentation for ground-based tristatic observations of Earth's thermosphere and ionosphere in support of EISCAT-3D	
10:55-11:20	Lindsay Victoria Goodwin	<i>New Jersey Institute of Technology</i>
Invited	Using ISRs to resolve plasma density spatial-scale variations due to magnetosphere-ionosphere coupling	
11:20-11:35	Anita Aikio	<i>University of Oulu, Finland</i>
	Effects of geomagnetic storms on the ionosphere	
11:35-12:00	Roger Varney	<i>University of California Los Angeles</i>
Invited	AMISR Investigations of E-region Farley Buneman Heating	

13:00-15:00	Imager and Aurora Studies 1	
13:00-13:25	Katie Herlingshaw	<i>The University Centre in Svalbard</i>
Invited	Unmasking Aurora Imposters	
13:25-13:40	Srimoyee Samaddar	<i>University of Southampton</i>
	Estimation of molecular constants for modelling the O ₂ ⁺ (1N) emission in aurora	
13:40-13:55	Keisuke Hosokawa	<i>University of Electro-Communications</i>
	Exceptionally gigantic aurora in Earth's polar cap on a day when the solar wind almost disappeared	
13:55-14:10	Nicholas Brindley	<i>University of Southampton</i>
	A statistical survey of selected fine-scale aurora types, and consistency with a non-linear dispersive Alfvén wave acceleration mechanism	

14:10-14:35	Allison Jaynes	<i>University of Iowa</i>
<i>Invited</i>	Investigating Pulsating Aurora with Ground-based Imagers and ISR Observations	
14:35-15:00	Barthelemy Mathieu	<i>IPAG (UGA-CNRS) and CSUG (UGA)</i>
<i>Invited</i>	Coupling modeling and optical observations to reconstruct the precipitating particle fluxes and the ionosphere dynamics.	

15:30-16:40	Imager and Aurora Studies 2	
15:30-15:55	Mizuki Fukizawa	<i>National Institute of Polar Research</i>
<i>Invited</i>	Three-dimensional ionospheric conductivity associated with pulsating auroral patches: reconstruction from ground-based optical observations	
15:55-16:10	Yuri Ito	<i>The Graduate University for Advanced Studies (SOKENDAI), National Institute of Polar Research (NIPR), Japan</i>
	Relationships between the pulsating auroral shape, the energy of precipitating electrons, and ducted chorus wave propagation: simultaneous observations by Arase satellite, EISCAT radar, and ground-based imagers	
16:10-16:25	Mykola Ivchenko	<i>KTH</i>
	SYSTER sounding rocket	
16:25-16:40	Cessateur Gaël	<i>BIRA-IASB</i>
	Latest news about the auroral emission polarisation	

16:40-17:50	Machine Learning in Space and Atmospheric Research	
16:40-17:05	Sota Nanjo	<i>The University of Electro-Communications</i>
<i>Invited</i>	Real-time notification service of auroras in Norway and Sweden for automated optical observations	
17:05-17:20	Noora Partamies	<i>University Centre in Svalbard</i>
	Auroral breakup detection in all-sky images by unsupervised learning	
17:20-17:35	Samson Moges	<i>Sodankylä Geophysical Observatory, University of Oulu, Sodankylä, Finland</i>
	Statistics of traveling ionospheric disturbances at high latitudes using a rapid-run Ionosonde	
17:35-17:50	Andreas Kvammen	<i>UiT - The Arctic University of Norway</i>
	Automatic ionogram classification and scaling with deep neural networks	

Tuesday, July 30th

9:00-10:00		Meteors & Space Debris 1
9:00-9:25	Maria Hajdukova	<i>Astronomical Institute of the Slovak Academy of Sciences</i>
Invited	Meteor Observations: Hyperbolic Orbits and Interstellar Meteoroids' Identification	
9:25-9:40	Kenneth Obenberger	<i>Air Force Research Laboratory</i>
	Comparing Passive LWA Observations of Meteor Radio Afterglows to SIMONe Meteor Radar Echoes	
9:40-10:05	Leonard Schulz	<i>Institute of Geophysics and Extraterrestrial Physics, Technische Universität Braunschweig</i>
Invited	Space Waste: On the atmospheric effects of re-entering spacecraft	

10:30-11:35		EISCAT 3D, EISCAT, and Complementary Instrumentation 1
10:30-10:55	Viktoria Mattsson	<i>Vetenskapsrådet</i>
Invited	On the EISCAT Organization Transition	
10:55-11:10	Thomas Ulich	<i>EISCAT Scientific Association</i>
	EISCAT_3D as part of the European Arctic Science Landscape	
11:10-11:35	Xinan Yue	<i>Institute of Geology and Geophysics, Chinese Academy of Sciences</i>
Invited	The status of Sanya Incoherent Scatter Radar Tristatic System	

11:35-12:00		Novel Signal Processing
11:35-12:00	William Longley	<i>New Jersey Institute of Technology</i>
Invited	The existence of density fluctuations at non-resonant frequencies and their detectability by Thomson scatter radars	

13:00-15:00 Modeling of Auroral and Magnetospheric processes	
13:00-13:25	Matthew Zettergren <i>Embry-Riddle Aeronautical University</i> Local Simulation of the High-latitude Ionospheric Dynamics: improving model resolution and drivers <i>Invited</i>
13:25-13:40	Michael Madelaire <i>UiB</i> Regional data assimilation and its challenges
13:40-13:55	Fasil Tesema <i>University of Bergen</i> Local mapping of polar ionospheric electrodynamics around EISCAT
13:55-14:10	Karl Laundal <i>University of Bergen</i> Volumetric reconstruction of ionospheric electric currents from tri-static incoherent scatter radar measurements
14:10-14:25	Habtam Wubie Tesfaw <i>University of Oulu</i> Estimating regional electric field from EISCAT_3D measurements
14:25-14:40	Venla Koikkalainen <i>University of Helsinki</i> Magnetospheric transition region phenomena in a global hybrid-Vlasov simulation
14:40-15:05	Johann Stamm <i>University of Tromsø</i> <i>Invited</i> Modelling neutral wind and electric field over a volume

15:35-17:45 Satellite, Rocket, and Multi-Instrument Studies	
15:35-16:00	Tima Sergienko <i>Swedish Institute of Space Physics, Kiruna, Sweden</i> <i>Invited</i> The Barium Radio and Optical Rocket (BROR) experiment.
16:00-16:15	Etienne Gavazzi <i>UiT</i> Time dependent electron transport calculations of small-scale dynamic precipitation
16:15-16:30	Meghan Burleigh <i>US Naval Research Laboratory</i> Impacts of spatiotemporal variability of ionospheric upflow driven by poleward moving auroral forms observed during the Rocket Experiment for Neutral Upwelling 2 (RENU2) sounding rocket campaign

16:30-16:45	Sophie J Maguire	<i>Space Environment and Radio Engineering (SERENE), University of Birmingham</i>
	Scales of Ionospheric Plasma Structuring (SIPS): A multi-instrument campaign observing the multi-scale ionosphere and its effects on trans-ionospheric radio signals	
16:45-17:00	Darren Wright	<i>University of Leicester</i>
	Combined radar experiments with HAIRS and EISCAT_3D	
17:00-17:15	Nina Kristine Eriksen	<i>The University Centre in Svalbard, The University of Bergen</i>
	Multi-Scale and Multi-Instrumental Observations of a Decaying Airglow Patch	
17:15-17:30	Meseret Mekuriaw	<i>University of Oulu</i>
	EISCAT and Swarm observations of summer-time cusp	
17:30-17:45	Heikki Vanhamäki	<i>University of Oulu, Finland</i>
	Observing ionospheric equivalent currents and mesospheric neutral winds with the Electrojet Zeeman Imaging Explorer (EZIE)	
17:45-18:00	Anja Strømme	<i>ESA</i>
	The ESA Swarm mission and EISCAT	

Wednesday, July 31st

9:00-10:00 D-region / Mesosphere / Airglow		
9:00-9:25	Linda Megner	<i>Stockholm University</i>
Invited	The MATS satellite mission update	
9:25-9:40	Björn Linder	<i>Stockholm University</i>
	The MATS satellite mission: MLT observations from spring 2023	
9:40-9:55	Neethal Thomas	<i>Sodankylä Geophysical Observatory, University of Oulu, Finland</i>
	Observations of negative ions in the D-region ionosphere using EISCAT VHF spectral width measurements	

10:30-12:00 Novel Optical Instrumentation		
10:30-10:45	John Meriwether	<i>Center for Solar-Terrestrial Research New Jersey Institute of Technology</i>
	Application of a Short Wave Infrared Imager as an Auroral Temperature Imager and He Nightglow Monitor	
10:45-11:00	Daniel Whiter	<i>University of Southampton, UK</i>
	Embla: A new optical instrument to measure auroral precipitation, neutral temperature and electric fields at high resolution	
11:00-11:15	Lamy Hervé	<i>Royal Belgian Institute for Space Aeronomy</i>
	Optical auroral spectra obtained at the Skibotn Observatory	
11:15-11:30	Logan Cordonnier	<i>University of New Mexico</i>
	Connections between Meteor Persistent Trains and Ozone Content in the MLT	
11:30-11:45	Fred Sigernes	<i>UNIS</i>
	A Near Infra-Red Hyper Spectral Imager	
11:45-12:00	Nicolas Martinez	<i>UNIS, Luleå Tekniska Universitet (LTU)</i>
	The New Meridian Imaging Svalbard Spectrograph no. 2: Towards Improved Capacities	

Thursday, August 1st

9:00-10:00		Active Ionospheric Experiments 1
9:00-9:15	Jun Wu	<i>National Key Laboratory of Electromagnetic Environment, China Research Institute of Radio Wave Propagation</i> Altitude descent and intensity overshoot of HFPL and HFIL observed by EISCAT-UHF-ISR
9:15-9:30	Antti Kero	<i>University of Oulu/Sodankylä Geophysical Observatory</i> Non-linearity of the HF heating waves observed by the SUOMI 100 satellite
9:30-9:45	Hiroatsu Sato	<i>DLR Institute for Solar-Terrestrial Physics</i> Simultaneous observation of GNSS scintillation and UHF radar enhanced ion shoulder during EISCAT HF experiment
9:45-10:00	Björn Gustavsson	<i>UiT, the Arctic University of Norway</i> Ionospheric HF-heating to the North!

9:00-10:00		Meteors and Space Debris 2
9:00-9:15	Daniel Kastinen	<i>Swedish Institute of Space Physics</i> Digging for debris: generalized matched filtering and discrete polynomial-phase transforms
9:15-9:30	Hervé Lamy	<i>Royal Belgian Institute for Space Aeronomy</i> Meteoroid speed and trajectory determination using BRAMS data
9:30-9:45	Juha Vierinen	<i>UiT</i> MAARSY Observations of the Geminids Meteor Shower
9:45-10:00	Devin Ray Huyghebaert	<i>UiT The Arctic University of Norway</i> EISCAT VHF Meteor Head Echo Analysis for 2015-2020

10:30-12:00		Active Ionospheric Experiments 2
10:30-10:55	Ingeborg Frøystein	<i>UiT The Arctic University of Norway</i> Experimental observations and modelling of ionospheric electron heating during frequency sweeps through the third double resonance
10:55-11:20	Bengt Eliasson	<i>University of Strathclyde</i>

Parallel Sessions

Invited	Full-wave simulations of Satellite-plasma interaction during active ionospheric experiments	
11:20-11:45	Paul Bernhardt	<i>Geophysical Institute University of Alaska</i>
Invited	High Power HF Experiments to Improve the Longevity of Satellites in Low Earth Orbit	
11:45-11:50	Erik Varberg	<i>EISCAT, UiT</i>
	Current status of the EISCAT Heating facility	
11:50-12:00	Theresa Rexer	
	Discussion - Present and Future of Heating with EISCAT	

13:00-15:00	Space Weather	
13:00-13:25	Andrew Kavanagh	<i>British Antarctic Survey</i>
Invited	EISCAT contributions to Space Weather research	
13:25-13:40	Ding Feng	<i>Institute of Geology and Geophysics, Chinese Academy of Sciences</i>
	Vertical features of the ionospheric holes during rocket launches observed by the Sanya Incoherent Scattering Radar	
13:40-13:55	Yasunobu Ogawa	<i>National Institute of Polar Research</i>
	Study of long-term ionospheric variations based on Tromsø Ionosonde and EISCAT radar data	
13:55-14:20	Norah Kaggwa Kwagala	<i>University of Bergen, Norway</i>
Invited	EISCAT 3D space weather product concept development and feasibility study	
14:20-14:35	Shin-ichiro Oyama	<i>ISEE, Nagoya Univ.</i>
	Largest thermospheric wind ever observed with a Fabry-Perot interferometer in Tromsø, Norway since 2009 during the March 2023 storm	
14:35-14:50	Mahith Madhanakumar	<i>UiT The Arctic University of Norway</i>
	The progress and decay of GNSS scintillation during a weak geomagnetic storm: A case study	
14:50-15:05	Hilde Nesse	<i>University of Bergen</i>
	The High-Energy Tail of Energetic Electron Precipitation	

Friday, August 2nd

9:00-10:00 Magnetosphere-Ionosphere-Thermosphere Coupling 2	
9:00-9:15	Jaroslav Urbar <i>IAP CAS</i> Plans for deployment of ionospheric hf doppler system in northern scandinavia, monitoring infrasound and 3-d parameters of gravity waves
9:15-9:30	Shin-ichiro Oyama <i>ISEE, Nagoya Univ.</i> Geomagnetic activity and IMF By dependence of thermospheric winds: statistical analysis of Fabry-Perot interferometer measurements in Tromsø, Norway
9:30-9:45	Lei Cai <i>Space Physics and Astronomy, University of Oulu, Finland</i> Multiscale temporal variabilities of the upper thermospheric wind at high latitudes
9:45-10:00	Ingeborg Frøystein <i>UiT The Arctic University of Norway</i> Identification and characterization of the dayside ionospheric low energy precipitation region based on ISR measurements

9:00-10:00 Novel Radar and Signal Processing Techniques 1	
9:00-9:15	Ilkka Virtanen <i>University of Oulu</i> F region ion composition in Svalbard during the IPY
9:15-9:30	Juha Vierinen <i>UiT</i> Adaptive Methods for Processing Incoherent Scatter Radar Data at Millstone Hill
9:30-9:45	Ning Zhang <i>Institute of Geology and Geophysics, Chinese Academy of Sciences</i> Study of neutral wind inversion based on SYISR tri-system
9:45-10:00	Fabiano Rodrigues <i>UT Dallas</i> Incoherent scatter radar observations using a 14-panel version of AMISR

Parallel Sessions

10:30-10:55 Active Ionospheric Experiments Special Edition		
10:30-10:55	Michael Rietveld	<i>EISCAT Scientific Association and UiT, The Arctic University of Norway</i>
Invited	Heating after 45 years: highlights, questions and the future with EISCAT_3D	

10:55-11:55 Magnetosphere-Ionosphere-Thermosphere Coupling 2b		
10:55-11:10	Nada Ellahouny	<i>University of Oulu</i>
	Statistical characteristics of electron precipitation during storms analysed using EISCAT measurements at Tromsø	
11:10-11:25	Pelin Iochem	<i>DLR - German Aerospace Center</i>
	Ionospheric response at Tromsø location to the persistent solar wind forcing	
11:25-11:40	Lindis Merete Bjoland	<i>National Institute of Polar Research</i>
	Characteristics of the ambipolar electric field for a selection of ion upflow events measured by ESR	

13:00-13:30 Magnetosphere-Ionosphere-Thermosphere Coupling 3		
13:00-13:15	Charlotte van Hazendonk	<i>UNIS, UiB</i>
	Energy dissipation of ULF waves in the polar ionosphere observed using the EISCAT radar, a case study	
13:15-13:30	Magnus Fagernes Ivarsen	<i>University of Oslo</i>
	The Bulk Motions of the Radar Aurora: Automatic Tracking of Turbulent Structures	

13:30-15:05 Novel Radar and Signal Processing Techniques 2		
13:30-13:55	Juan Miguel Urco Cordero	<i>Leibniz Institut of Atmospheric Physics</i>
Invited	High-resolution radar imaging of dynamic targets for upper atmospheric research	

13:55-14:10	Florian Günzkofer	<i>Institute for Solar-Terrestrial Physics, German Aerospace Center (DLR)</i>
	Application of dual-frequency EISCAT measurements to determine ion-neutral collision frequencies with the difference spectrum method	
14:10-14:25	Theresa Rexer	<i>UiT</i>
	Improving the magic constant	
14:25-14:50	Lindsay Victoria Goodwin	<i>New Jersey Institute of Technology</i>
<i>Invited</i>	Probing ion temperature anisotropy using ISRs	
14:50-15:05	Oliver Stalder	<i>University of Tromsø</i>
	Effect of Ionospheric Variability on the Electron Energy Spectrum produced from Incoherent Scatter Radar Measurements	

15:30-16:40	EISCAT 3D, EISCAT, and Complementary Instrumentation 2	
15:30-15:45	Calum Lonie	<i>Luleå University of Technology (LTU) and the Swedish Institute of Space Physics (IRF)</i>
	RAIN - A communication network for sending messages between research instruments in the Nordics	
15:45-16:00	Lasse Clausen	<i>University of Oslo</i>
	The Polar Geospace Observatory – a new facility on Svalbard?	
16:00-16:15	Ilkka Virtanen	<i>University of Oulu</i>
	Plasma parameter error modeling for EISCAT3D	
16:15-16:40	Devin Ray Huyghebaert	<i>UiT The Arctic University of Norway</i>
<i>Invited</i>	Interferometric Imaging of the Ion-Line with EISCAT 3D	