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Seminar über Microwave Physics and Atmospheric Physics

Referent/in: Dmitry Pokhotelov, Institute for Solar-Terrestrial Physics,
German Aerospace Centre (DLR), Neustrelitz, Germany

Titel: Ionospheric plasma transport across polar cap

Large-scale ionospheric plasma anomalies appear at high latitudes, extending across the polar cap as a tongue of ionisation and polar patches. Physical mechanisms responsible for the plasma uplifts and transport are investigated using global ionospheric circulation models driven by parameterised highlatitude plasma convection models. Various convection models are considered, including the models based on satellite data, radar data, and data assimilation models. Contributions from electrodynamic plasma transport and neutral wind forcing are assessed. Mechanisms responsible for the energy dissipation, including frictional heating and Joule dissipation, are investigated. The numerical simulations are compared with plasma density measurements by positioning GNSS satellites and ground radar observations. The results are discussed in the context of space weather modelling and GNSS signal scintillation modelling at polar latitudes.

Zeit: Freitag, 18. März 2022, 10:15 Uhr

Ort: Raum A97, ExWi, Sidlerstrasse 5, 3012 Bern
<https://unibe-ch.zoom.us/j/97081325603?pwd=d0ozME5xOS9pQVNxallLem81VHQyZz09>
Meeting ID: 970 8132 5603
Passcode: iapmw