

Long-term trends in ionospheric parameters measured by the EISCAT radars

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Incoherent scatter radar measurements are an important source for studies of ionospheric plasma parameters. Data from the EISCAT Svalbard Radar (ESR), which covers the polar cap and cusp, and the UHF and VHF radars, which cover the auroral zone, can be used to obtain information about the electron density, electron- and ion temperature, and line-of-sight plasma velocity from an altitude of about 50 and up to above 1600 kilometers. As the ESR radar has been operational since 1996 and the UHF and VHF radars since the early 1980s, the accumulated database covers more than one solar cycle in the polar cap and cusp and several solar cycles in the auroral zone.

Results from the study of long-term trends in the ionospheric parameters both from the ESR and UHF/VHF will be shown and a comparison with the IRI-model will be discussed.