

EISCAT simultaneous scanning observations of ionospheric parameters

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We compare ionospheric parameters along the same great circle observed by two radars. The two European incoherent scatter (EISCAT) radars are located at Tromso (67 MLAT) and Longyearbyen (75 MLAT). This observation was planned to inter-calibrate the two radars and then to study the latitudinal profiles of the ionospheric parameters including conductance. The radars scan the ionosphere along a great circle with the elevation angles larger than 23 and 30 deg for Tromso and Longyearbyen radars, respectively. The radars are separated by 996 km along a great circle, which is nearly meridian. The midpoint of the two radar sites is geodetic (lon, lat) = (18.0, 73.9) deg. The two radars observe the midpoint at 300 km altitude with the elevation angle of 30 deg. This operation was conducted between 11-19 UT (12-20 LT) on March 30, 2012, including 1625 UT when the solar zenith angle is the same at the two radar sites. We will discuss the results after additional operations planned in March 2013.

Keywords: ionospheric conductivity, ionosphere, EISCAT, incoherent scatter radar