

Summary of the EISCAT observations during the DELTA campaign

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We summarize the observational results obtained from the EISCAT UHF radar observations at Tromsø made in concert with the Delta rocket measurements. We conducted the EISCAT radar observations on December 5 and from December 8 to December 13, 2004 with a beam-scanning mode (i.e., CP2 mode). Except for December 8 (2 hr operation), we operated the EISCAT UHF radar for 12 hours everyday to make it possible to derive semidiurnal amplitudes and phases. The EISCAT operations went well without any serious data gaps. By analyzing the EISCAT data, we have calculated ion velocity vectors in the E-region and F-region as well as the electric field vectors. Using the ion velocity vectors and the electric field vectors together with model atmospheric densities and collision frequencies, we have derived neutral wind velocity vectors in the lower thermosphere (95 - 120 km). Thus, we have derived semidiurnal tidal amplitude and phase values based on the EISCAT data during the DELTA campaign. We will report these observations. In particular, we will talk about the semidiurnal amplitudes and phases and those variability. Furthermore, the MF radar co-located at the EISCAT Tromsø site obtained the mesospheric wind data (70-91 km) during the campaign as well, and we also report MF radar observational results.