

## Observational results with the Tromsø sodium LIDAR from September 2011 to March 2012

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On October 1, 2010, the new sodium LIDAR installed at Ramjordmoen, Tromsø (69.6N, 19.2E), where the EISCAT radars, MF radar, meteor radar (NIPR), FPI, aurora imagers have been operated, started observations of neutral temperature in Mesosphere-Lower Thermosphere (MLT) region (80-110 km). During the 1st season from October 2010 to March 2011, the LIDAR provided neutral temperature data with time resolution of 10 min - 20 min in total about 255 hours. For September and October, 2011, we upgraded the LIDAR system. They are (1) higher laser power output (about 2.7W), (2) reduction of loss of power in the laser system, (3) easy monitor of field-of-view of the telescopes, and (4) improvement of operation programs.

This talk will give an overview of results obtained with the sodium LIDAR over about 6 months (September 2011 - March 2012) for the second season of the LIDAR observation at Tromsø. We operated the sodium LIDAR with five beam modes from September 21 to October 5, 2011 and October 22-26, 2011. On the other hand, vertical (1-beam) mode from November 9, 2011 to March 13, 2012 (planned) is used. Between November 7, 2011 and March 13, 2012, at least one of operates run the LIDAR every night-basis. During the second season, we made simultaneous observations with EISCAT radars for about 20 nights. By February 16, 2012, we have obtained about 760 hrs of temperature data. Time resolution is 6 min.

We will summarize observational results between September 2011 and March 2012. In particular, we focus on wave variabilities and simultaneous observational results with the EISCAT radars.

Keywords: sodium LIDAR, polar mesosphere and lower thermosphere, EISCAT, atmospheric wave