Ground based experiments in Andoya during the DELTA Campaign.

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The 'Dynamics and Energetics of the Lower Thermosphere in Aurora' (DELTA) rocket campaign was successfully conducted in Andoya Rocket Range on December 13, 2004. During this campaign, various optical and radar instruments on the ground were coordinated to make a remote observation of the polar lower thermosphere in and around the launch site so that those can provide information on the auroral activity and its spatial distribution, neutral wind, and atmospheric heating in the longer time scale.

The ALOMAR observatory at Andoya Rocket range comprises a unique set of ground-based scientific instruments that can be used to monitor the conditions in the middle atmosphere and the ionosphere. In the User Science Operation Centre (USOC) the data are displayed in real time and thus it is possible for the Principal Investigator to determine the optimum scientific launch conditions for a sounding rocket. The monitoring also includes off-site instrumentation, such as the EISCAT radars and observatories in Skibotn and a number of arctic stations. During the DELTA, the following instruments were of particular importance: The Fabry interferometer, the all-sky camera, the magnetometer and riometers as well as the Weber Sodium Lidar. The results of these experiments will be reviewed.

This campaign was conducted as an international cooperation project that included DELTA members from Japan, EISCAT Scientific Association in Europe, Lancaster University in UK, Colorado State University in the US as well as Andoya Rocket Range.