

## Coordinated observations with Na resonance scattering lidar and EISCAT radar at the EISCAT Tromsø site

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We have been operating a sodium (Na) resonance scattering lidar at the EISCAT Tromsø site (69.6N, 19.2E) since 2010, in cooperation with the EISCAT radar. The Na resonance scattering lidar is capable to measure neutral temperature, neutral wind velocity, and sodium density. On the other hand, as a well-known fact, the EISCAT radar is a powerful tool for ionospheric measurements. Thus coordinated observations with the Na resonance scattering lidar and EISCAT radar will be an important key to resolve the atmosphere-ionosphere coupling process. In this presentation, we introduce the Na resonance scattering lidar observations at the EISCAT Tromsø site, and then report some recent results, such as sporadic Na/E-layer event which is an aspect of ion-neutral dynamical and chemical interactions. Hopefully these results would be good examples to discuss possibilities of further collaborative observations using the Na resonance scattering lidar and the EISCAT/EISCAT 3D.

Keywords: Na resonance scattering lidar, EISCAT/EISCAT\_3D, Tromsø, Sporadic Na layer, Sporadic E layer