

EISCAT トロムソサイトにおける Na 共鳴散乱ライダーと EISCAT レーダーの連携観測

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

津田 卓雄^{1*}, 野澤 悟徳², 松浦 延夫², 堤 雅基¹, 小川 泰信¹, 大山 伸一郎², 高橋 透², 川原 琢也³, 川端 哲也², 斎藤 徳人⁴, 和田 智之⁴, 中村 卓司¹, 藤井 良一²

Takuo Tsuda^{1*}, Satonori Nozawa², Nobuo Matuura², Masaki Tsutsumi¹, Yasunobu Ogawa¹, Shin-ichiro Oyama², Toru Takahashi², Taku D Kawahara³, Tetsuya Kawabata², Norihito Saito⁴, Satoshi Wada⁴, Takuji Nakamura¹, Ryoichi Fujii²

¹ 国立極地研究所, ² 名古屋大学太陽地球環境研究所, ³ 信州大学工学部, ⁴ 理化学研究所

¹National Institute of Polar Research, ²Solar-Terrestrial Environment Laboratory, Nagoya University, ³Faculty of Engineering, Shinshu University, ⁴RIKEN

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