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Injection seeding technique for the new Na lidar system in Tromso

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We developed an all solid-state, water-free, high-power Na wind/temperature lidar for measurements at EISCAT radar site in Tromso (69N), Norway. The lidar has an absolute laser frequency monitoring system at 589 nm using Doppler-free saturated absorption technique with a heated Na cell. Fast and accurate laser frequency switch can be done with an acousto-optic frequency shifter. All these systems concerning laser frequency control are called as an injection seeding technique and vital for the temperature/wind observation. In the presentation, we discuss the results of the injection seeding experiments for the system validation.

Keywords: lidar, sodium, Nd:YAG laser, injection seeding