

## Frequency locking experiment for sodium lidar observations using a sodium cell

# Takuya Kawahara[1]; Akira Oonishi[1]; Satonori Nozawa[2]; Tetsuya Kawabata[3]; Ryoichi Fujii[2]

[1] Faculty of Eng., Shinshu Univ.; [2] STEL, Nagoya Univ; [3] none

The new sodium lidar system will be deployed in Tromso (Norway) in 2010. The lidar consists of two laser diode pumped Nd:YAG lasers of 1064 and 1319 nm, and seed lasers for them. In this system, the cw 589 nm laser were generated from the seed lasers using sum frequency technique through periodically polarized LiNbO<sub>3</sub> crystal. The resonantly scattered light from a sodium cell using the cw 589 nm laser is used for the absolute frequency reference. In this presentation, we show the experimental setup and results of this spectrum.