Measurements with the IPM UHOH scanning rotational Raman lidar at Hornisgrinde during COPS

Marcus Radlach, Andreas Behrendt, Sandip Pal, Andrea Riede and Volker Wulfmeyer
Institute of Physics and Meteorology, University of Hohenheim, D-70593 Stuttgart, Germany
E-mail: radlach@uni-hohenheim.de

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Scanning temperature and aerosol measurements on 25 August 2007 at Supersite Hornisgrinde (1161 m ASL)

High resolved vertical temperature and aerosol measurements on 19 June 2007 at Supersite Hornisgrinde (1161 m ASL)

Acknowledgements
The authors are grateful to GKSS Research Center Geesthacht for donating the truck and for the supply of the Nd:YAG laser as well as to ITF, Leipzig, for the seeder, to VI COPS-TRACKS for supporting the development of the system, and to DFG for funding the measurements in the frame of COPS.

System Setup

TRANSMITTER
Type: Flash-lamp-pumped frequency-tripled Nd:YAG laser, Spectra Physics 290-50
Pulse energy: ~200 mJ at 355 nm
Repetition rate: 50 Hz
Pulse duration: 5-6 ns (355 nm)
Beam diameter: 9 mm (approx. 65 mm after beam expansion)

RECEIVER
Telescope: Ritchey-Chretien
Focal ratio: f/10
Focal length: 40 cm
Coating: Aluminum with quartz protection layer

SCANNER
Manufactured by the NCAR in Boulder, CO, USA
Mirror Coating: Protected silver enhanced at 355 nm
Scan speed: up to 10°/s

DETECTOR (PMT)
Type: Hamamatsu R14500-U02 (Elastic) and R1924P (RR1 and RR2)

DATA ACQUISITION SYSTEM
3-channel transient recorder by LICEL GmbH, Germany
Parallel data acquisition in analog and photon-counting mode with 3.75 m range resolution up to 30 km range and in photon-counting mode with 37.5 m range resolution up to 75 km range