

Name of research institute or organization:

Institute for Atmospheric and Climate Science, ETH Zürich

Title of project:

Assessment of high altitude aerosol and cloud characteristics, cirrus climatology

Project leader and team:

Prof. Thomas Peter, project leader
Dr. Ulrich Krieger, senior scientist
Uwe Weers, Engineer
Marco Vecellio, Technician

Project description:

Our project aims at gaining a better understanding on the properties of cirrus clouds, their formation and lifetime.

We operate a Leosphere ALS 450 Lidar in combination with a Vaisala CI31 ceilometer to measure attenuated backscatter in two polarizations at 355 nm. Using these data we retrieve extinction and optical density of cirrus clouds and analyze those using meteorological parameters from the COSMO-2 weather model analysis.

Unfortunately, the Lidar had a series of failures after the end of February 2015 with a number of repair attempts not yielding stable operation. Hence we brought the system back to Zurich at the end of 2015 for a fundamental revision.

In 2016 due to staffing shortages we were not able to pursue the revision of the Lidar system and did not take any measurements.

Key words:

Lidar, cirrus, climatology

Collaborating partners/networks:

Paul Scherrer Institute

Scientific publications and public outreach 2016:

Refereed journal articles and their internet access

Kienast-Sjögren, E., C. Rolf, P. Seifert, U.K. Krieger, B.P. Luo, M. Krämer, and T. Peter, Climatological and radiative properties of midlatitude cirrus clouds derived by automatic evaluation of lidar measurements, *Atmos. Chem. Phys.*, **16**, 7605-7621, doi:10.5194/acp-16-7605-2016, 2016.
<http://www.atmos-chem-phys.net/16/7605/2016/>

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