

**INTERNATIONAL MEASUREMENT CAMPAIGN
WITH A VIEW
THE CLOUD DROPLET ANALYZER IN METEOROLOGICAL
RESEARCH FACILITIES**

How do clouds form? What happens physically and chemically in a cloud? When and why exactly does rain and snow occur? These are just a few of the questions being investigated at the Sonnblick Observatory. In a two-week ACTRIS measurement campaign, 24 measuring instruments and 38 scientists from nine nations are in action.

Among them: the **CLOUD DROPLET ANALYZER** from Palas GmbH. The precise aerosol spectrometer measures the size of dust particles and, under appropriate conditions, also fog droplets and determines the water content of the air. This information is very important for weather and climate research.

The setup at the Sonnblick Observatory in Austria was a challenge. At 3105 m altitude in sub-zero temperatures, darkness, snow and winds of up to 100 km/h, Sergej Sel, head of the Optics and Sensor Systems Department, put the instrument into operation. But it's worth it. Researchers around the world are obtaining a high-quality data set from this and subsequent

campaigns. This will help in researching clouds, creating and optimizing weather forecasts and climate models, and answering questions about interactions between warming and cooling of the atmosphere.

In addition to the measurement campaign, the **CLOUD DROPLET ANALYZER** also measures the distribution of Saharan dust, which is transported from the desert across the Alps to Central Europe.

At the same location, an **ENVI-CPC** for measuring ultrafine particles and a **Promo® 3000** have been in use here for years. In particular, the **Promo® 3000** with two sensors - one for indoor air, one for outdoor air - provides an excellent comparison between moist and dried aerosols. These results are made available, among others, as part of the Global Atmosphere Watch (GAW) for the evaluation of climate studies worldwide.

>Sonnblick Observatory: <https://www.sonnblick.net/en/>



Abb. 1: Installation at Sonnblick ©ZAMG



Abb. 2: Sonnblick Observatory ©ZAMG



<https://www.palas.de/en/product/cda>