

Seminar über Microwave Physics and Atmospheric Physics

Referent/in: Dr. Mathias Palm, Institute for Environmental Physics, University of Bremen

Titel: Measurements of mesospheric CO with ground-based millimeterwave spectrometry and their interpretation.

The polar region are susceptible for charged particles originating outside the earth's atmosphere, because the magnetic shield is open above the poles. Hence charged particles may penetrate in the atmosphere and change chemistry and composition of the atmosphere.

In order to understand the influence of particle precipitation in the middle atmosphere, e.g. natural ozone depletion, it is crucial to understand the vertical and meridional transport.

A tool to do so is the observation of tracers, which allow to follow the movement of air. Mesospheric CO is used as such a tracer in the polar winter atmosphere.

Measurements of mesospheric CO in Kiruna, Sweden and from a novel instrument in Ny Alesund, Spitsbergen, are presented. Properties of the retrieval and the new instrument in Ny Alesund instrument will be discussed.

While CO is longlived in the polar winter atmosphere, the mixing of mid-latitudinal air into the polar vortex complicates its usability to derive vertical air movements from the measurements.

Zeit: Freitag, 20.09.2019, 10:15 Uhr

Ort: **Hörsaal A97**, Gebäude Exakte Wissenschaften, Sidlerstrasse 5, Bern, Schweiz