

Seminar über Microwave Physics and Atmospheric Physics

Referent/in: Wenyue Wang, IAP, University of Bern

Titel: TROWARA Rain Rate Retrieval and Atmospheric Precursors of Rainfall

Because of its clear physical meaning, physical methods are more often used for space-borne microwave radiometers to retrieve the rain rate, but they are rarely used for ground-based microwave radiometers that are very sensitive to rainfall. An opacity physical retrieval method is implemented to retrieve the rain rate using ground-based microwave radiometer data (21.4 and 31.5 GHz) of the tropospheric water radiometer (TROWARA) at Bern, Switzerland from 2005 to 2019. These estimations are compared with the available simultaneous rain rate derived from rain gauge data and reanalysis data (ERA5).

In the second part of my talk, I will investigate the characteristics of atmospheric parameters before, during and after rainfall events at Bern. TROWARA data with a time resolution of 7 seconds and the composite analysis method are used to derive the temporal evolution of rainfall events and to identify possible precursors of rainfall during a 10-year period (1199 available rain events). A rainfall climatology is developed using parameters integrated water vapour (IWV), integrated liquid water (ILW), cloud-bottom infrared (IR), temperature, pressure, relative humidity, wind speed, and air density.

Zeit: Freitag, 5. November 2021, 10:15 Uhr

Ort: Raum A97, ExWi, Sidlerstrasse 5
<https://unibe-ch.zoom.us/j/97081325603?pwd=d0ozME5xOS9pQVNxallLem81VHQyZz09>
Meeting ID: 970 8132 5603
Passcode: iapmw