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Seminar über Microwave Physics and Atmospheric Physics

Referent/in: Prof. Alexis Berne, Environmental Remote Sensing Laboratory, EPFL Lausanne

Titel: Cloud and weather radars to study snowfall

Snowfall is an important form of precipitation at high altitudes and high latitudes. In comparison to raindrops, ice crystals and snowflakes exhibit a much larger variability in size, shape, density depending on the temperature and humidity conditions encountered in the atmosphere during their formation and fall. In addition, snowflakes are more easily transported by the wind, so snowfall is challenging to monitor, both directly at the ground level or using remote sensing. In this presentation, we will focus on the study of snowfall in mountainous and polar regions, by means of cloud and weather radars. A new retrieval method based on dual-frequency spectral radar measurements (at vertical incidence) and deep-learning will be first described and evaluated using collocated radar and aircraft observations collected in the Swiss Jura in January 2021. A case study of the landfall of an atmospheric river on the Antarctic coast in the vicinity of the Davis station will then be investigated, by combining model simulation and radar measurements at different frequencies, to highlight the strong influence of processes at local scales on the amount of precipitation reaching the ground at Davis. Finally, a brief perspective on a new large project aiming to monitor clouds and precipitation using radars, along a transect from the coast to the interior of Antarctica will be presented.

Zeit: Freitag, 03. Juni 2022, 14:15 Uhr

Ort: Raum A97, ExWi, Sidlerstrasse 5, 3012 Bern
https://unibe-ch.zoom.us/j/97081325603?pwd=d0ozME5xOS9pQVNxallLem81VHQyZz09
Meeting ID: 970 8132 5603
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