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Seminar über Microwave Physics and Atmospheric Physics

Referent/in: Dr. Axel Murk, IAP, Universität Bern

Titel: Calibration of Microwave Radiometers

Microwave radiometers for atmospheric remote sensing, radio astronomy or planetary sciences need to be calibrated accurately. This is often achieved using two blackbody calibration targets, usually one at liquid nitrogen (LN2) and one at ambient or elevated temperatures. For satellite instruments the LN2 target is usually replaced by a cold space view, while groundbased instruments can avoid it using a tipping calibration. Alternatively, internal calibration standards based on waveguide terminations, noise diodes or active cold loads can provide a more compact design and shorter calibration cycles.

I will start with an overview of the different calibration methods and the associated error sources, in particular for LN2 targets. Next will be some examples of blackbody targets which were developed at IAP for our groundbased instruments, as well as for the second generation of meteorological satellites, MetOp-SG, and the SWI instrument on the Jupiter Mission SWI/JUICE. To conclude I will give an outlook on two new ESA projects related to radiometric calibration which have just started at IAP.

Zeit: Freitag, 23 März 2021, 10:15 Uhr

Ort: Zoom Link: <https://unibe-ch.zoom.us/j/97081325603>
Meeting ID: 970 8132 5603
Passcode: iapmw