

Seminar über Microwavephysics and Atmospheric Physics

Referent: Dr. Axel Murk, Institute of Applied Physics, University of Bern

Titel: Characterization of low-loss reflectors for spaceborne microwave radiometers

Every reflector of a microwave radiometer will introduce a certain loss which affects the sensitivity and radiometric accuracy of the instrument. These losses depend on material properties of the reflector, the frequency, as well as on the incidence angle and polarization. An accurate measurement of the losses is required in order to select the optimum reflector coating and to correct the losses in the calibration process.

We characterized different reflector samples of the Ice Cloud Imager (ICI, 183-670 GHz) and Microwave Sounder (MWS, 23-230 GHz) instruments of the Meteorological Operational Satellite - Second Generation (MetOP-SG). In order to achieve the required measurement accuracy in the order of 0.1% in the different frequency bands we used a circular waveguide cavity and a free space resonator technique. The talk will give an introduction to the theory of reflector losses and the used resonators. After an overview of the test results it will discuss the consequences for the MetOP-SG instruments and for the ground based instruments of IAP.

Zeit: Freitag, 20.10.2017, 10:15 Uhr

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