

Seminar über Microwavephysics and Atmospheric Physics

Referent: Karl Jacob, Institute of Applied Physics, University of Bern

Titel: Receiver Unit of SWI/JUICE: Design and first measurements of the Calibration Hot Load and optics

The Submillimetre Wave Instrument (SWI) is selected to be on-board the Jupiter Icy Moons Explorer (JUICE) satellite of the European Space Agency with a planned launch in 2022. SWI is a passive radiometer/spectrometer instrument, consisting of two orthogonally polarized heterodyne receivers. The two channels are independently tunable over a frequency range from 530GHz to 625GHz and 1080GHz to 1280GHz, respectively. Its main scientific objectives are the mapping of the chemical composition, temperatures and winds in the stratosphere of Jupiter and the exospheres of its Galilean satellites Callisto, Europa and Ganymede. The instrument is going to be calibrated with frequent cold space views and an integrated conical Calibration Hot Load (CHL). This talk will focus on the CHL development and present experimental results of first prototypes. In this context we will discuss important design aspects like the characterization of the absorber material, the selection of the coating parameters and the shape of the target. In addition to the CHL development we will give an overview of the SWI optics unit and show first beam pattern measurements of a receiver unit breadboard.

Zeit: Freitag, 05.05.2017, 10:15 Uhr

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