Seminar über Microwave Physics and Atmospheric Physics

Referent/in: Roland Albers, IAP, University of Bern

Titel: Antenna simulations and radiometric calibration of the Arctic Weather Satellite

The Arctic Weather Satellite (AWS) is an ESA funded prototype mission for an meteorological constellation of six smallsats. The smallsat hosts a single crosstrack scanning radiometer operating in four frequency bands: 54, 89, 183 and 325 GHz with 19 channels total. The constellation, called EPS-Sterna, intended to be used in conjunction with the European, American and Chinese meteorological missions called EPS, JPSS and FY-3, respectively. The added measurements from EPS-Sterna will improve global numerical weather prediction as well as provide nowcasting capability in the high latitudes. AWS is scheduled to launch in summer 2024. The Institute of Applied Physics (IAP) designed and built three onground calibration targets (ambient, variable and cold), as well as the onboard calibration target acting as the hot calibration point in orbit. Furthermore, IAP performed detailed physical optics and method of moments simulations of the AWS optics with TICRA Tools to refine the design of the radiometer and mitigate scan dependent performance variations. In this talk the design of the different calibration targets and the results of the antenna simulations will be presented.

Zeit: Friday 05.04.2024, 10:15 Uhr

Ort: Room A97
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Meeting ID: 970 8132 5603
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