

Seminar über Microwave Physics and Atmospheric Physics

Referent/in: Tobias Riesen und Lars Eggimann

Titel: Presentation of two BSc Theses

Tobias Riesen: Building a Microwave Spectrometer with Redpitaya

The RedPitaya instrument is a small single board computer for data acquisition and digital signal processing. It has two input channels with a sampling rate of 125 MS/s and 14 bit resolution, as well as an FPGA processor for the data analysis. These features make it an interesting choice for realtime FFT spectrometers for remote sensing and radio astronomy.

This presentation gives an overview of its capabilities and limitations, and it shows the implementation of a realtime FFT on its FPGA for complex I/Q input data which was previously not available for this device. It also shows first measurement results with this spectrometer on the small radio telescope SRT for astronomical observations.

Lars Eggimann: Thermal Simulations of Calibration Targets for the Arctic Weather Satellite

After a short introduction to the Arctic Weather Satellite (AWS) the presentation will focus on thermal simulations of its on-board and variable on-ground calibration targets. It will discuss the underlying physical concepts and analytical models, as well as the results with the finite element software ANSYS for both targets under different boundary conditions. The analytical and numerical simulations will be also compared to the first cryogenic test results with a variable target prototype.

Zeit: Freitag, 26. Mai 2023, 10:15 Uhr

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