

Talk 1: The e-CALLISTO network

A low cost solar radio spectrometer, CALLISTO and the network e-Callisto, are presented. CALLISTO is a frequency-agile receiver based on cheap, commercially available consumer electronics. Its major characteristic is the low price for hardware and software, and the short assembly time, two or more orders of magnitude below existing spectrometers. The instrument is sensitive at the physical limit and extremely stable. The native frequency range is 45 MHz up to 870 MHz, and the width of individual channels is 300 kHz. A total of up to 800 measurements can be made per second. The output of the spectrometer is stored in FIT-files, one per 15 minutes of observation. All files from all observatory sites are archived at a central data-server a FHNW in Switzerland and everyone has full access to all data back to 2002. The spectrometer is well suited for solar low-frequency radio observations pertinent for space weather research, radio monitoring and outreach. More than 120 instruments of the type were constructed until now and put into operation at 67 sites, distributed over the whole planet. Several copies of CALLISTO were put into operation in view of IHY and ISWI. A few representative antenna setups and recent observations, made at different locations are presented.

Detailed information and data access here: <http://e-callisto.org/>

For the planned workshop, I plan to setup and configure an instrument to demonstrate how simple it is to get operational with Callisto. It is also planned to demonstrate how to perform data analysis in Python, optionally in SSWIDL.

Talk 2: Spectrometer types

Short presentation (7 slides) about different types of radio spectrometers

Talk 3: Antennas

Presentation of typical antennas for Callisto (45 slides)

Christian Monstein
ETH Zurich
Institute for Astronomy, HIT J13.2
Wolfgang-Pauli-Strasse 27
Tel. +41 44 632 42 24
monstein@astro.phys.ethz.ch