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CALLISTO status report/newsletter #75

New Callisto station in Switzerland operational

An astronomy enthusiast Peter H. from Muhen, Switzerland managed to manufacture an LWA himself in his own workshop. The design was taken from an example at Bleien observatory. He got all the necessary profiles from a nearby shop. Below a few images demonstrating the progress of antenna construction and assembly.

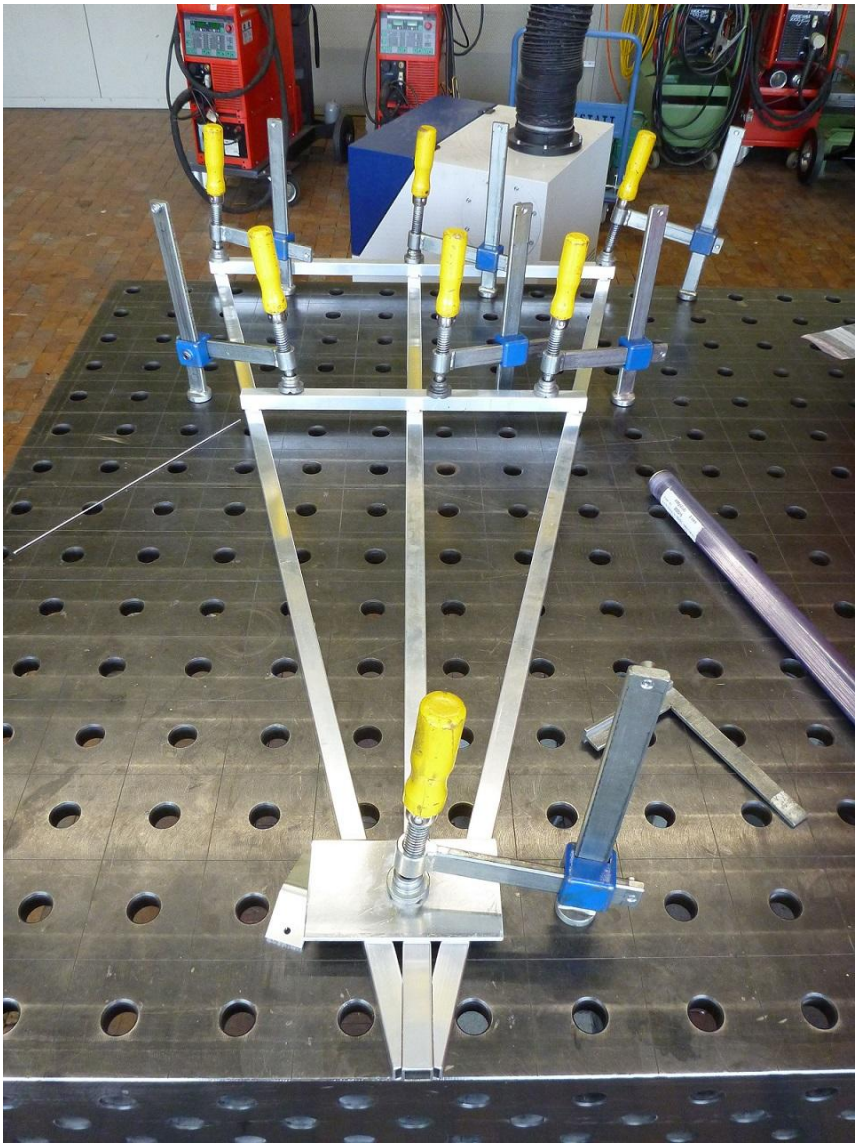

Fig. 1: Aluminium profiles on the workshop bench, ready for plasma welding.

Fig. 2: First half dipole ready welded. Four of this wings are required to get a full dual polarization LWA.

Fig. 3: Central mast made of steel, carrying the waterproof plastic box to host the low noise amplifier electronics (LWA-FEE).

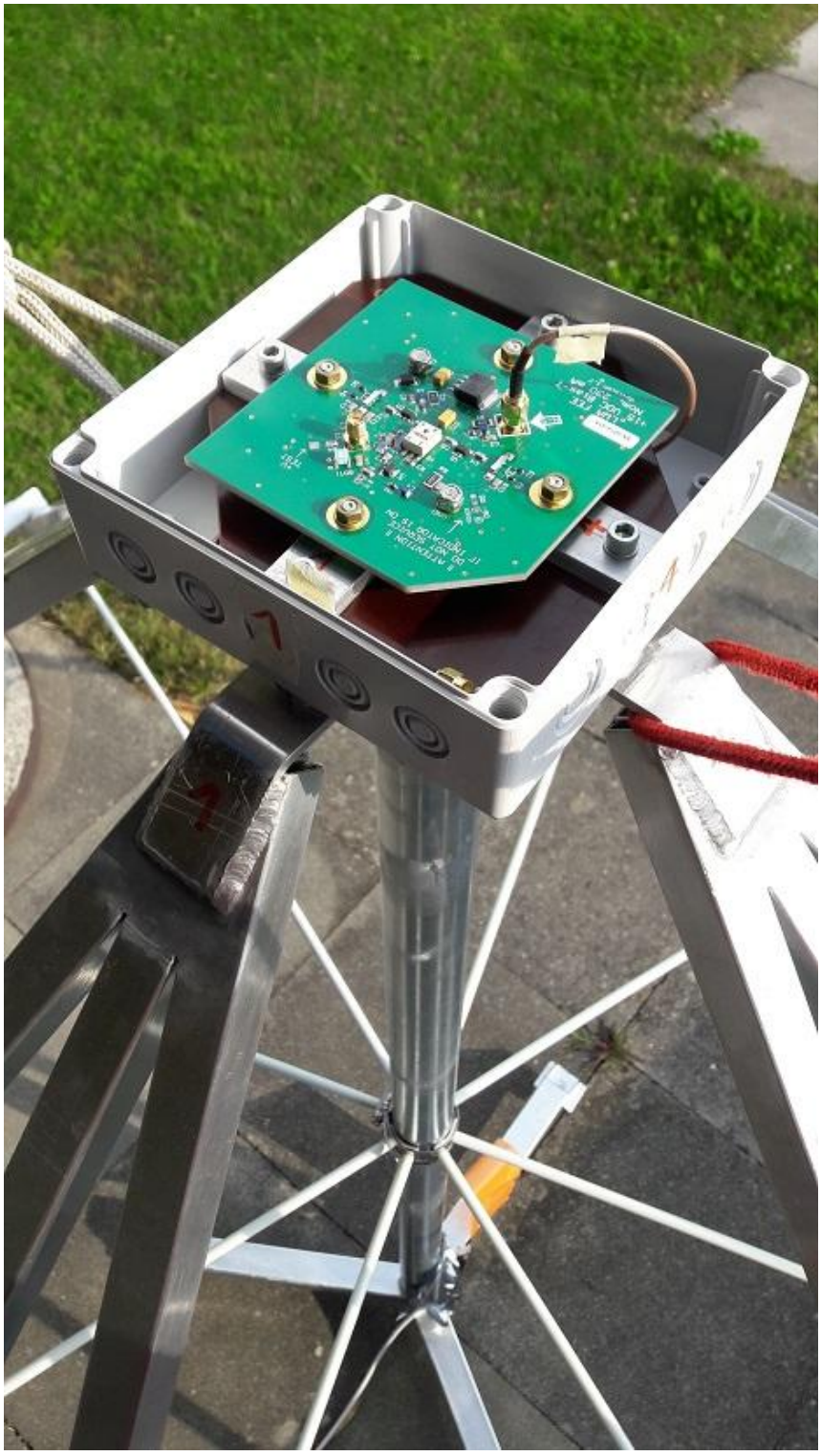

Fig. 4: Waterproof plastic box containing electronics (LWA-FEE from Reeve engineering Anchorage). 4 bolts provide electrical connection between printed circuit board and dipoles. Here only one SMA cable is connected for demonstration and testing.

Fig. 5: Plastic rods from a farmers shop used to fix the dipoles on the central rod.

Fig. 6: Assembled LWA in the garden of Peter H. Muhen.

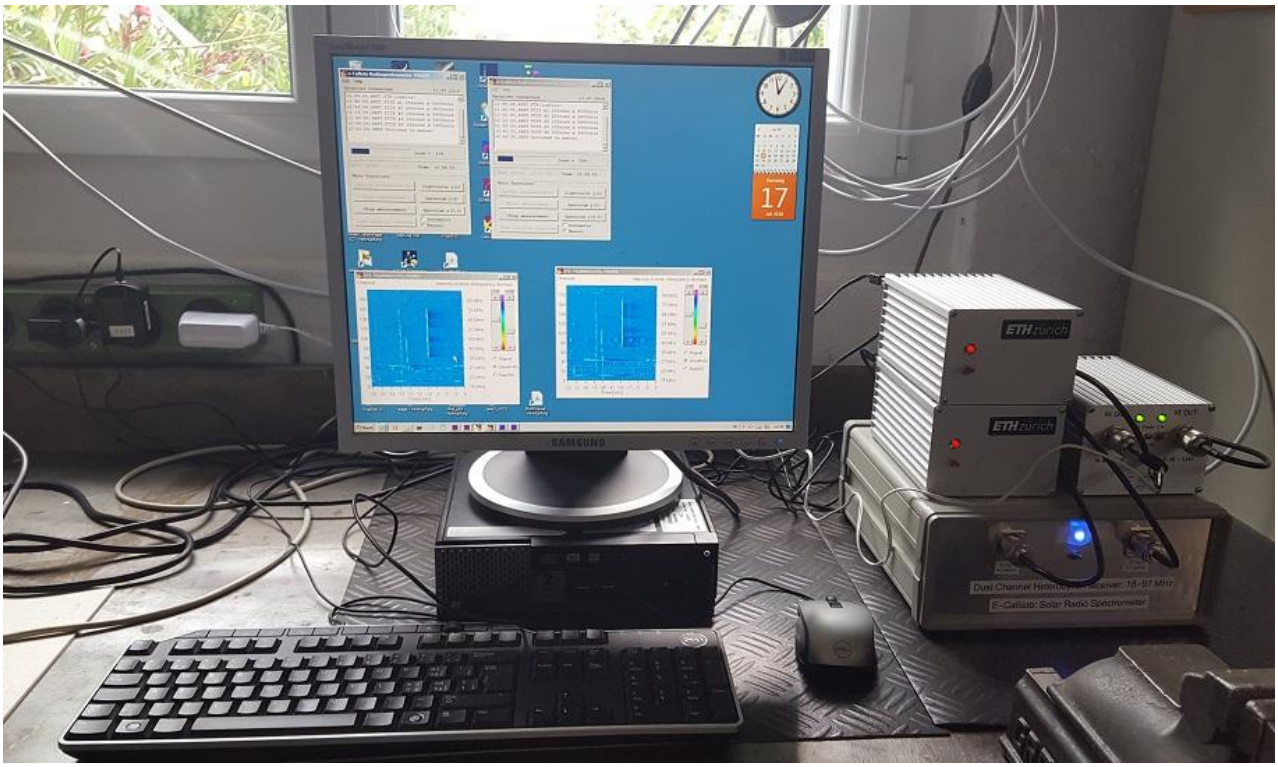

Fig. 7: Control PC, 2xCallisto, quadrature hybrid and power supply (LWAPC-Q from Reeve engineering Anchorage), below dual channel heterodyne converter, built by Peter H.

Current configuration is set for 15 MHz .... 87 MHz with 200 channels and 4 spectra per second. Data are already available on the central server here: http://soleil.i4ds.ch/solarradio/callistoQuicklooks/ Identifier is **SWISS-MUHEN**_date_time_fc.fit.gz. There are two files available in circular polarization LHCP and RHCP. Now we are awaiting first light from the radio sun.

Welcome Peter on the e-Callisto network, an ISWI instrument array.

If you are interested to build your own LWA, you may get into contact with Peter directly, his email is: prometheus21(at)bluewin.ch

CESRA news

Modeling of Solar Atmosphere Parameters Above Sunspots Using RATAN-600 Microwave Observations
by A.G. Stupishin et al.*
http://cesra.net/?p=1853

Properties of Decameter IIIb–III Pairs
by V. Melnik et al.*
http://cesra.net/?p=1875

Solar Radio Burst Associated with a Falling Bright EUV Blob
by M. Karlický et al.*
http://cesra.net/?p=1870

Statistical Analysis of Solar Events Associated with storm sudden commencements in the magnetosphere
by K. Bocchialini et al.*
http://www.astro.gla.ac.uk/users/eduard/cesra/?p=1895

Long-lasting injection of solar energetic electrons into the heliosphere
by N. Dresing et al.
http://cesra.net/?p=1916

AOB

- Links for LPDA design:
  - http://www.changpuak.ch/electronics/lpda.php
  - http://www.stroobandt.com/lpda/en/index.html

- CALLISTO or Callisto denotes to the spectrometer itself while e-Callisto denotes to the worldwide network.

- General information and data access here: http://e-callisto.org/

- e-Callisto data are hosted at Fachhochschule Nordwestschweiz (University of applied sciences FHNW) in Brugg/Windisch, Switzerland. Process control, user communication and scripts are conducted at *Institute for Particle Physics and Astrophysics (IPA)*, ETH Zurich.

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Christian Monstein, Institute for Particle Physics and Astrophysics (IPA), ETH Zurich, Switzerland.
monstein(at)astro.phys.ethz.ch