

CALLISTO status report/news letter #48

1st light with LWA and Callisto in New Mexico

Stan Nelson in New Mexico recently installed a Long Wavelength Antenna (LWA). One polarization of the dual polarization antenna was connected to a Callisto spectrometer. The background noise is quite clean and the system seems to be sensitive. The type III burst shown below has a Y-factor of 7.7 dB at 47.063 MHz and even 8.9 dB at 52.5 MHz. Congratulations Stan to this great achievement! This observation proves that redundancy in location and frequency range is fundamental for the e-Callisto network. Nobody else in the e-Callisto network observed this burst. It would be useful to a few more stations in the American/Pacific region.

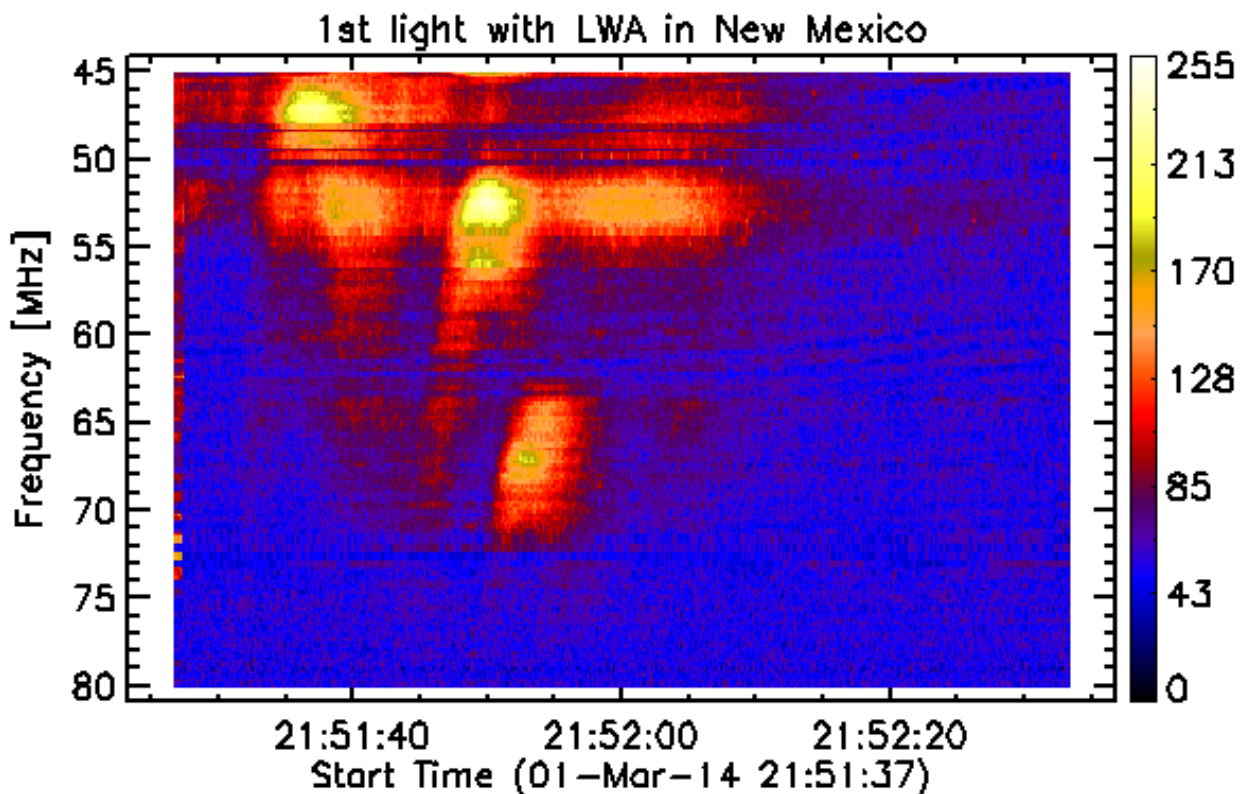


Figure 1: 1st light LWA in New Mexico, a type III burst reported by NOAA as 2151/2152/SAG/C/RSP/025-076/III/1. The x-axis is observation time in UT, y-axis frequency in MHz and z-axis (color-bar) is expressed in digits as sampled by the ADC at the output of a logarithmic detector AD8703. With a up-converter between antenna and Callisto it would be possible to observe ~10 MHz to ~80 MHz.

An article (W. Reeve) about schematics and modeling of the LWA can be found here:
http://www.reeve.com/Documents/Long%20Wavelength%20Array/Reeve_LWA-Model.pdf

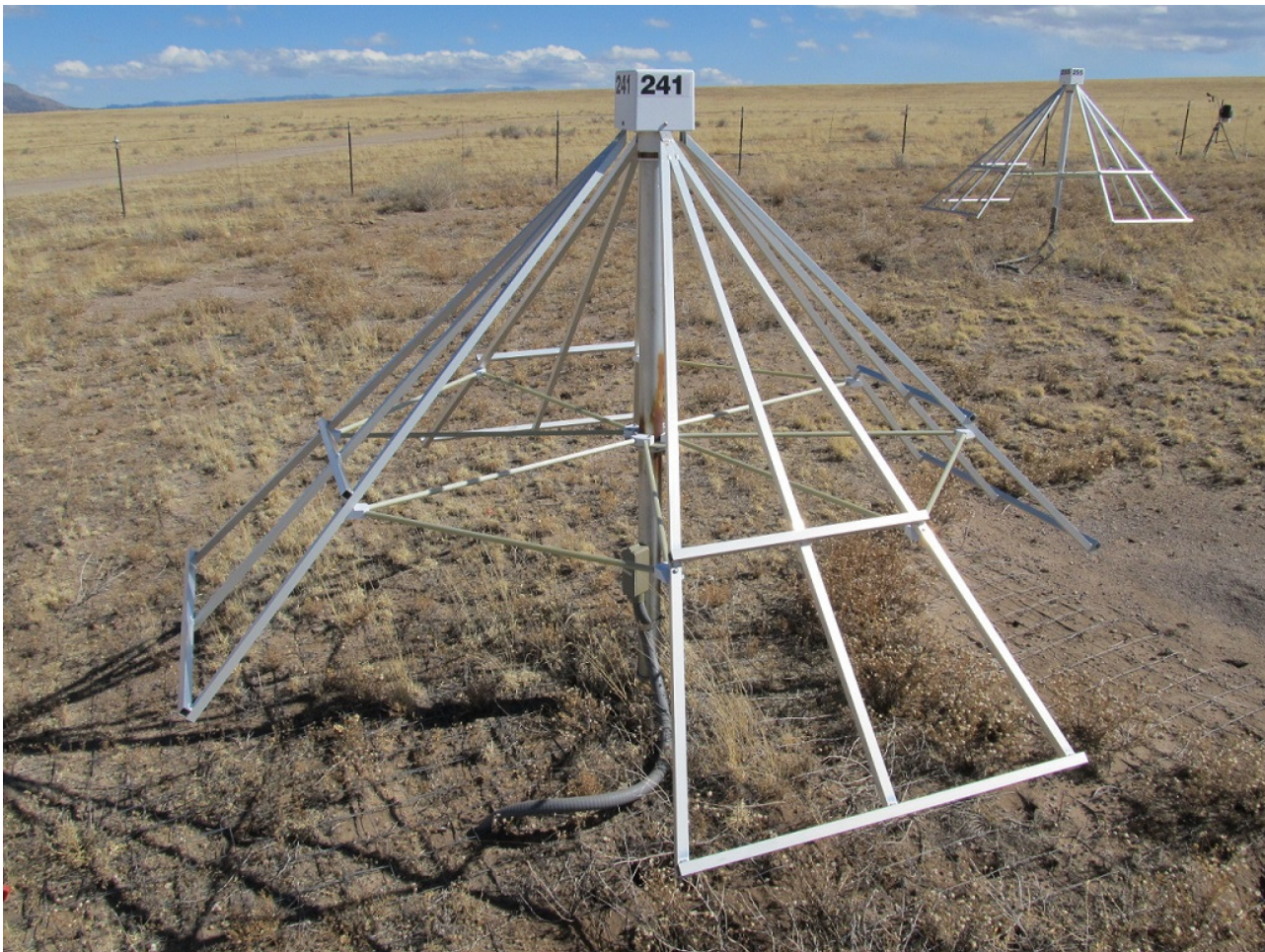


Figure 2: LWA1 antenna in New Mexico. Image: Courtesy Witham D. Reeve, Anchorage.

LWA kits are available through W. Reeve, Anchorage Alaska here:

<http://www.reeve.com/RadioScience/Antennas/ActiveCrossed-Dipole/ActiveBalunOrderInfo.htm>

Here you can find ordering and shipping details as well as prizes.

AOB:

- The domain of the current FTP-server <ftpexchange.imvs.technik.fhnw.ch> at university of applied sciences in Brugg/Windisch will be taken out of service soon within the next few months. Those of you who actively send their FITS-files via FTP-Watchdog or with their own tool to this server, they should **now change** the name of the server to the new address <ftpexchange.cs.technik.fhnw.ch>
- 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 Astronomy, ETH Zurich.
- There is a new free tool available to plot Spectral Overview files (OVS*). The tool has been updated such, that you can also plot spectra captured with a heterodyne-converter. Three options are available.
 - a) $RF = IF + LO$ (normal down-converter)
 - b) $RF = IF - LO$ (low frequency up-converter)
 - c) $RF = LO - IF$ (reverse down-converter)Tool-link: <http://e-callisto.org/Software/M9703APlotter.zip>
- .

Please do **not** respond to the email-address of the list-server, respond instead directly to me (address below). If you do not want to receive this news-letter please send me an email and I'll take your address out of the data base.

On the other hand if you think someone else might be interested in this kind of info, please let me know his/her email-address to be added to the data base.

Christian Monstein, Institute for Astronomy, ETH Zurich, Switzerland. email: monstein@astro.phys.ethz.ch