

CALLISTO status report/newsletter #66

New Callisto installed at Mekelle University, Ethiopia

Last week we had a 5-day workshop with the title "Coronal and Interplanetary Shocks: Data Analysis from SOHO, Wind, and e-CALLISTO Data". During the weekend we assembled and installed all hardware and associated software to get a working solar-radio-spectrograph. The installation and commissioning phase was strongly supported by our Indian colleagues from Gandhinagar University.



Fig 1: Assembly of antenna in the observatory room Mekelle University on Saturday.



Fig. 2: Almost the whole group on the roof of Mekelle University in front of the erected antenna.



Fig. 3: Training of Dr. Tsega Kassa in operating the Callisto solar radio spectrometer. Data are already online here: <http://e-callisto.org/>

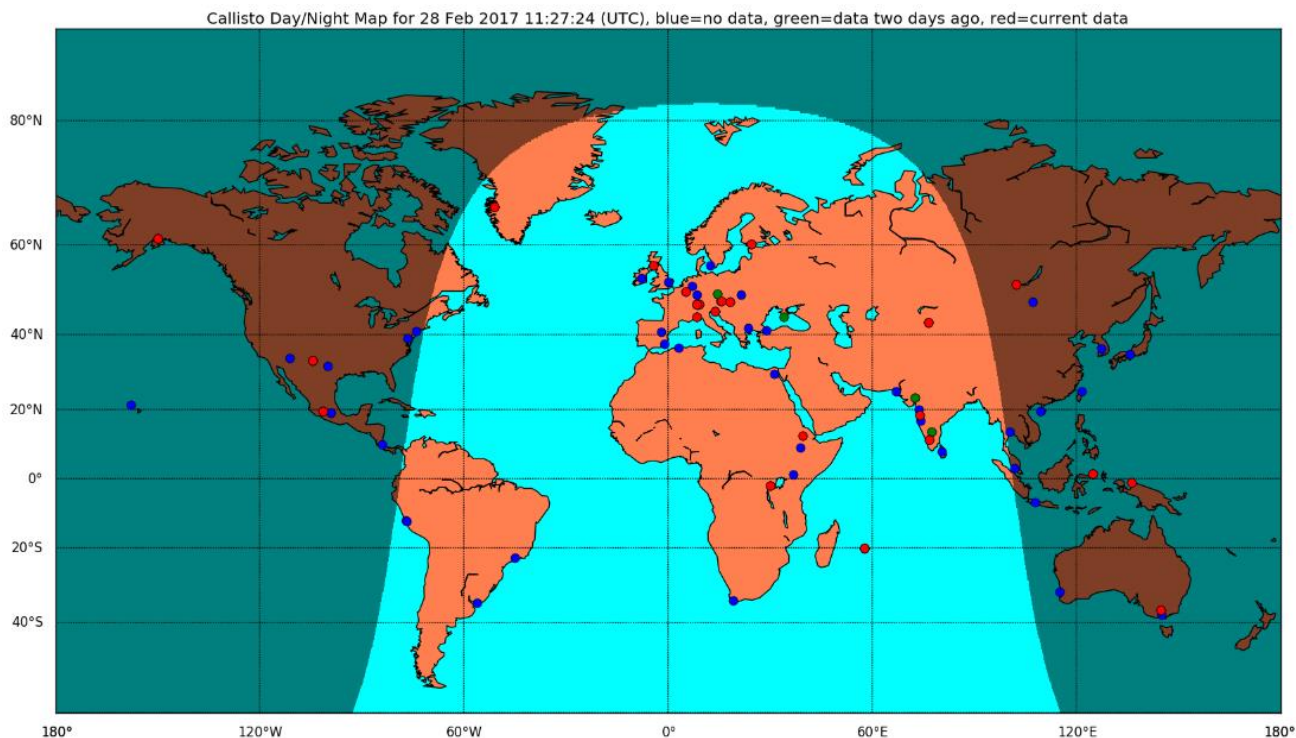


Fig. 4: Current distribution of CALLISTO, an instrument designed, manufactured and distributed by ETH Zurich. The red dot in Ethiopia proves that they provide data to the network. Blue dots indicate no data for several reasons, e.g. Addis Ababa unfortunately seems to be unable to install the instrument and to operate it. Green dots indicate that there were data available 2 days ago.

Instrument status

The Callisto instrument is working properly if electrical power is available. In worst case, Dr. Tsega Kassa and her colleagues need to restart PC after a power fail. This problem could easily be solved by installing an uninterruptable power supply (UPS). However, procuring procedure, even for small amount of money can take months to carry out.

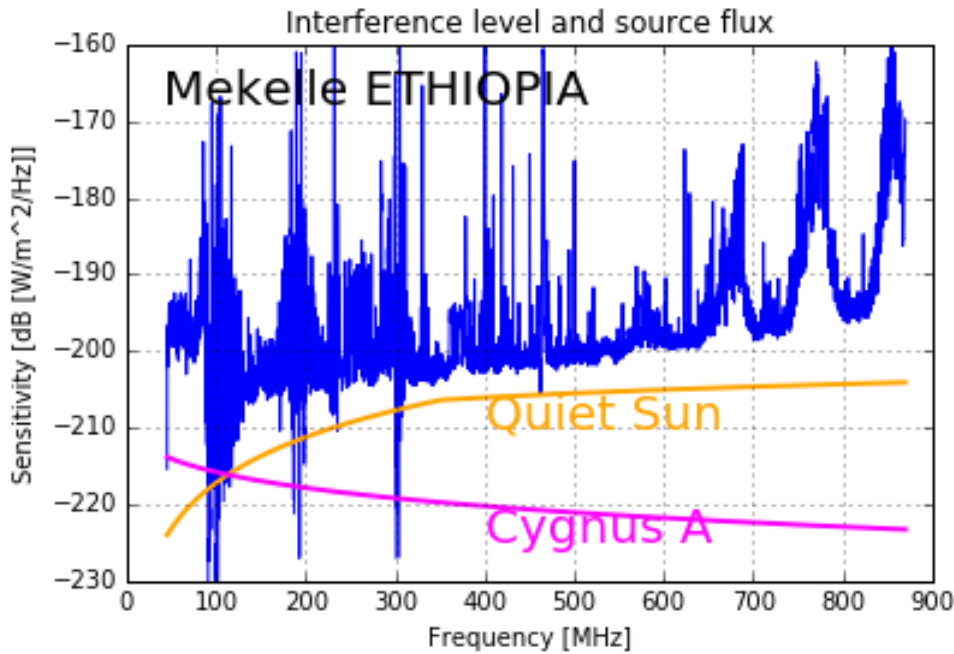


Fig. 5: Spectral sensitivity at the roof of Mekelle University. Lot of self-produced interference reduce the instrument sensitivity to observe solar radio bursts. Nevertheless, solar radio burst with at least 10 dB signal/background intensity will be observable.

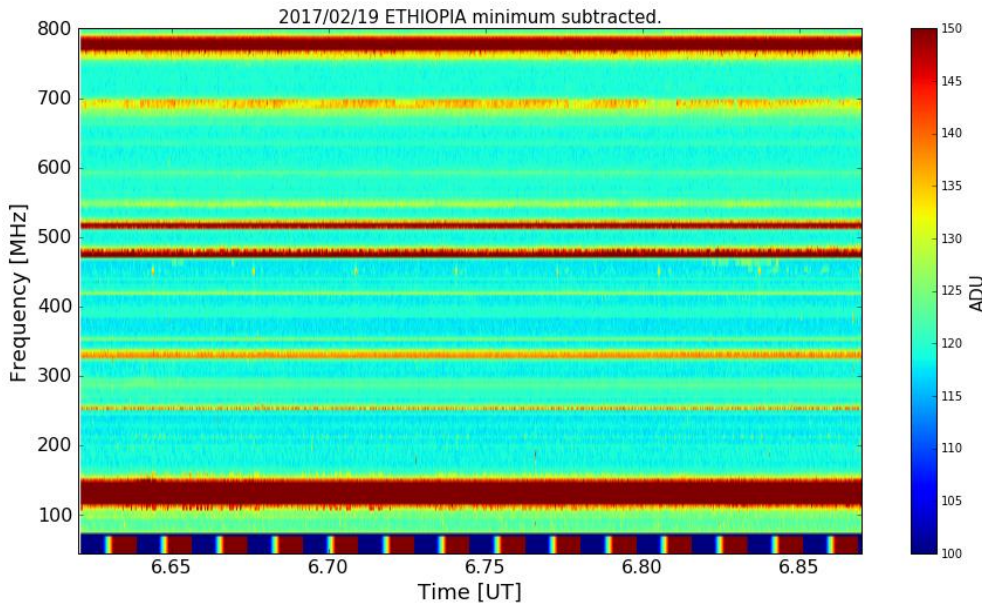


Fig. 6: A few minutes of continuous observations shows that most of the rfi is of stationary nature, therefore background can be subtracted to get out weak bursts, see figure 7.

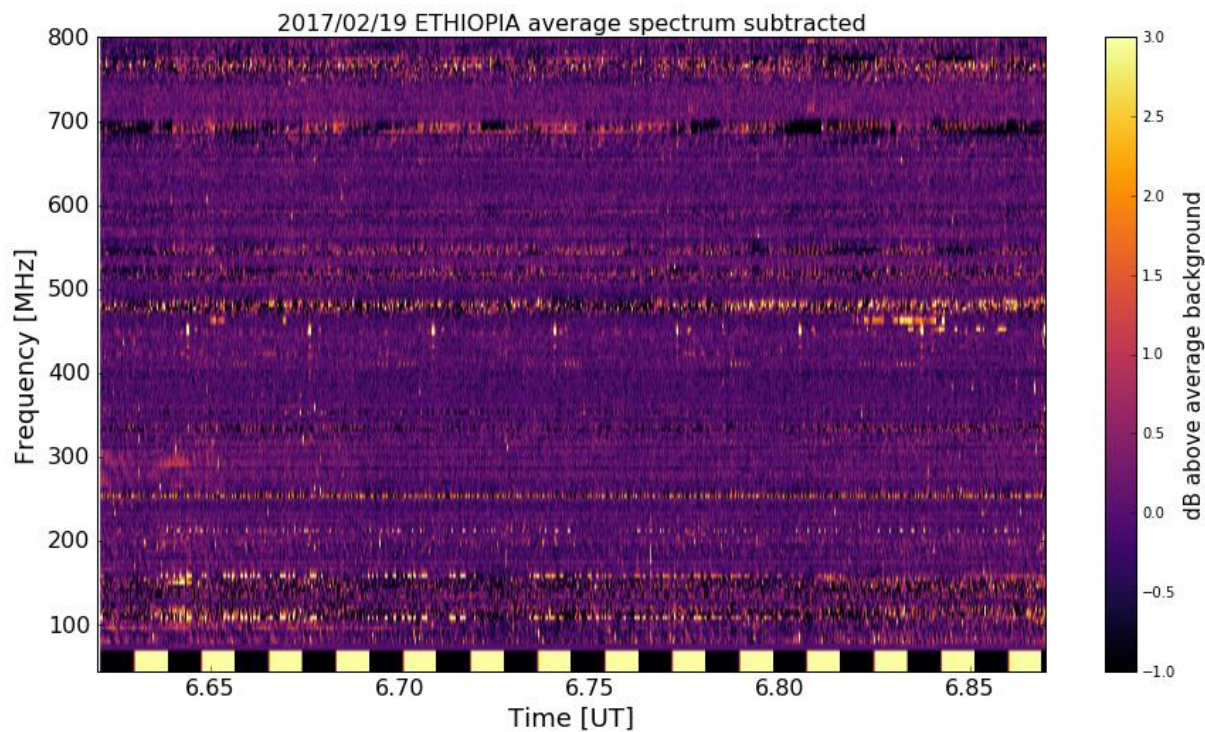


Fig. 7: Same data as in figure 6, here with background subtracted.



CESRA news

The Community of European Solar Radio Astronomers (*CESRA*), currently represented by Eduard Kontar of University of Glasgow provides highlights of the solar community, called 'nuggets'. Here a few recent examples:

Simultaneous Submillimeter and Hard X-Ray Intermittent Processes during Flares by Guillermo Giménez de Castro et al.* <http://cesra.net/?p=1013>

Acceleration of electrons in the solar wind by Langmuir waves produced by a decay cascade by Catherine Krafft and Alexander Volokitin <http://cesra.net/?p=1072>

<http://legacy-www.swpc.noaa.gov/ftplib/lists/radio/rad.txt>

<http://www.mu.edu.et/cncs/index.php/2/220-international-data-analysis-workshop-on-coronal-mass-ejections-ad-solar-radio-bursts-coronal-and-interplanetary-shocks>

Diagnosing the Source Region of a Solar Burst on 26 September 2011 by Using Microwave Type-III Pairs by Tan B. L. et al. <http://cesra.net/?p=1138>

Large-scale simulations of Langmuir Wave Distributions Induced by Electron Beams by H. Reid and E. Kontar <http://cesra.net/?p=1209>

Quasi-periodic acceleration of electrons in the flare on 2012 July 19 by Jing Huang et al.* <http://cesra.net/?p=1214>



AOB

- Status Callisto in Japan, Kenya, Costa Rica, Bulgaria, Malaysia unknown. Any information very welcome. It would be nice if these countries could provide solar data again to the network.
- Links for LPDA design:
 - <http://www.changpuak.ch/electronics/lpda.php>
 - <http://www.stroobandt.com/lpda/en/index.html>
- In case you plan to publish a paper based on e-Callisto data, please invite the observer and me as the PI of the network for co-authorship. This, according to the UN/ISWI resolution about data policy, addressed during the last UN/Japan workshop at Fukuoka University.
- 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.

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Christian Monstein, Institute for Astronomy, ETH Zurich, Switzerland. [monstein\(at\)astro.phys.ethz.ch](mailto:monstein(at)astro.phys.ethz.ch)