ETH
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CALLISTO status report/newsletter #71

New Callisto station at Ibaraki University, Japan

Finally the Callisto spectrometer, donated during an ISWI-workshop in Fukuoka was installed and configured at Ibaraki University in Ibaraki, Japan. The project was supported by Dr. George Maeda Kyushu University of Technology and Prof. Satoru Ueno, Hida Observatory, Kyoto University, Japan

Fig. 1: Dr. Satoshi Nozawa, Natsuki Tsuda and Susumu Tamaoki from left to right.

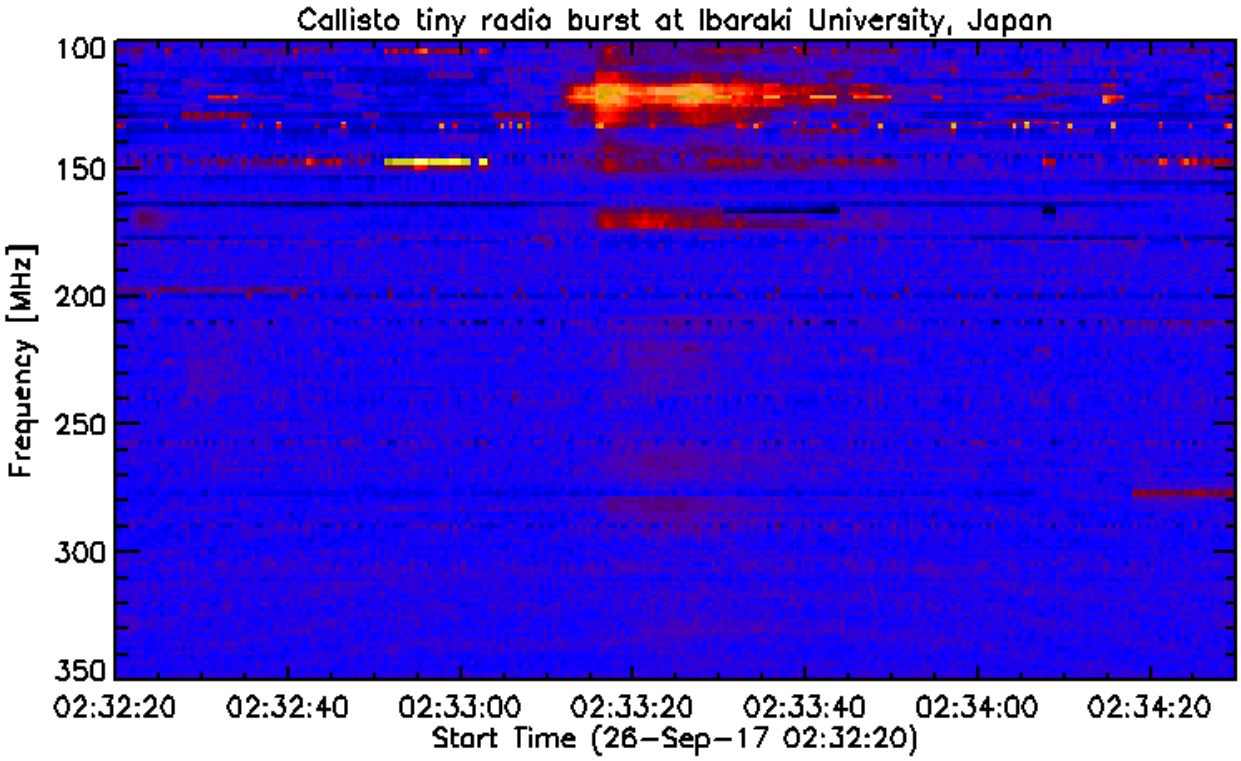

Fig.2: Although the sun is very quiet, Ibaraki got a few tiny bursts in September 2017

Callisto Mongolia repaired and back on-line

After a lightning stroke in Juli 2017, the instrument and LNA were sent back to the Institute of Astronomy ETH Zurich for repair and checking. After replacement of a few integrated circuits and providing new LNA, the instrument was sent back to Mongolia. During August the instrument was set back into operation and the software was installed with the new installer-tool. Now, we get regularly data from Mongolia, see figure 5.

Fig. 3: New antenna at observatory of RCAG in Ulaan Bataar, Mongolia. In front D. Munkhmanlai, image taken by Damdin Batmunkh.

Fig. 4: B.Tuvshinjargal and D.Munkhmanlai at observatory of Institute of Astronomy & Geophysics, Mongolian Academy of Sciences, Ulaan Baatar, Mongolia

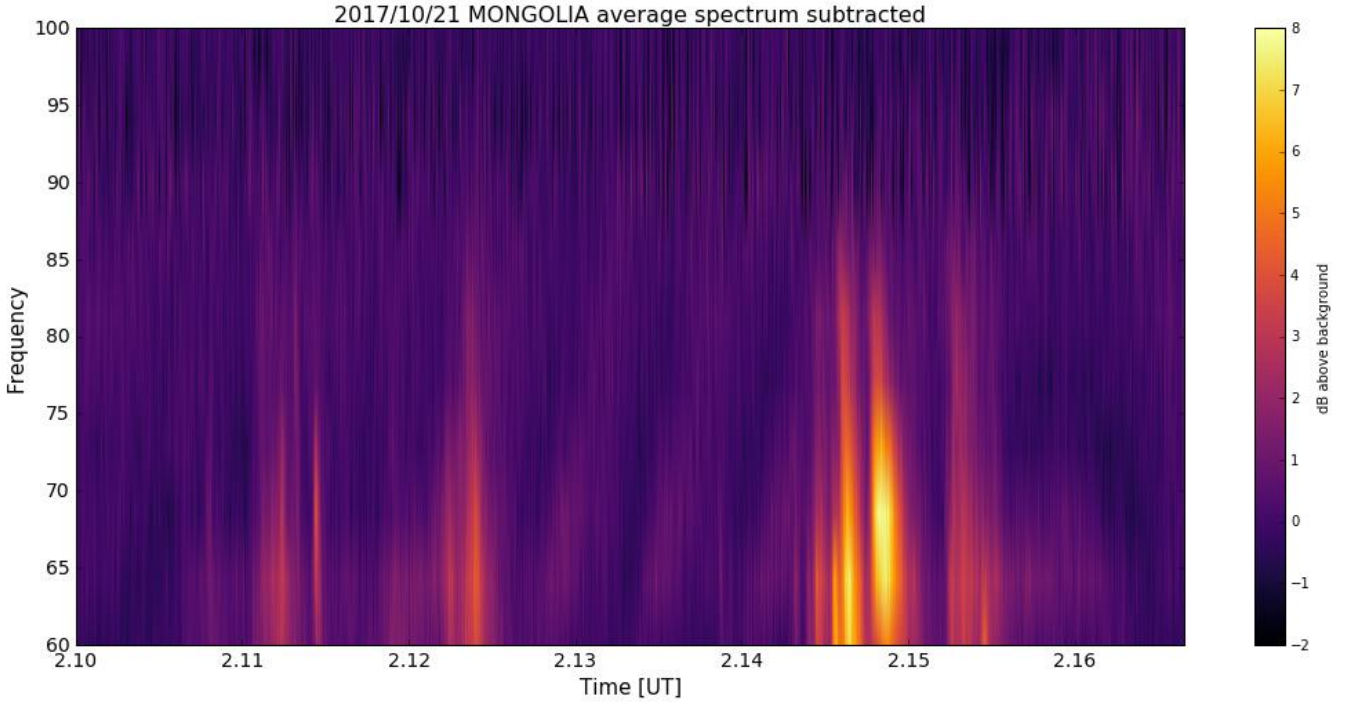

Fig. 5: First light of new Callisto hardware and software at RCAG, Ulaan Baatar, Mongolia.

WSPR, a new potential source of rfi

S. Nelson Roswell New Mexico reported about a new source of rfi, generated by a 1 watt transmitter. WSPR stands for "Weak Signal Propagation Reporter". The idea is to transmit low power signals around the world with small and simple equipment. In this case the 1 watt transmission saturated the radio spectrometer Callisto, making solar burst observations impossible.

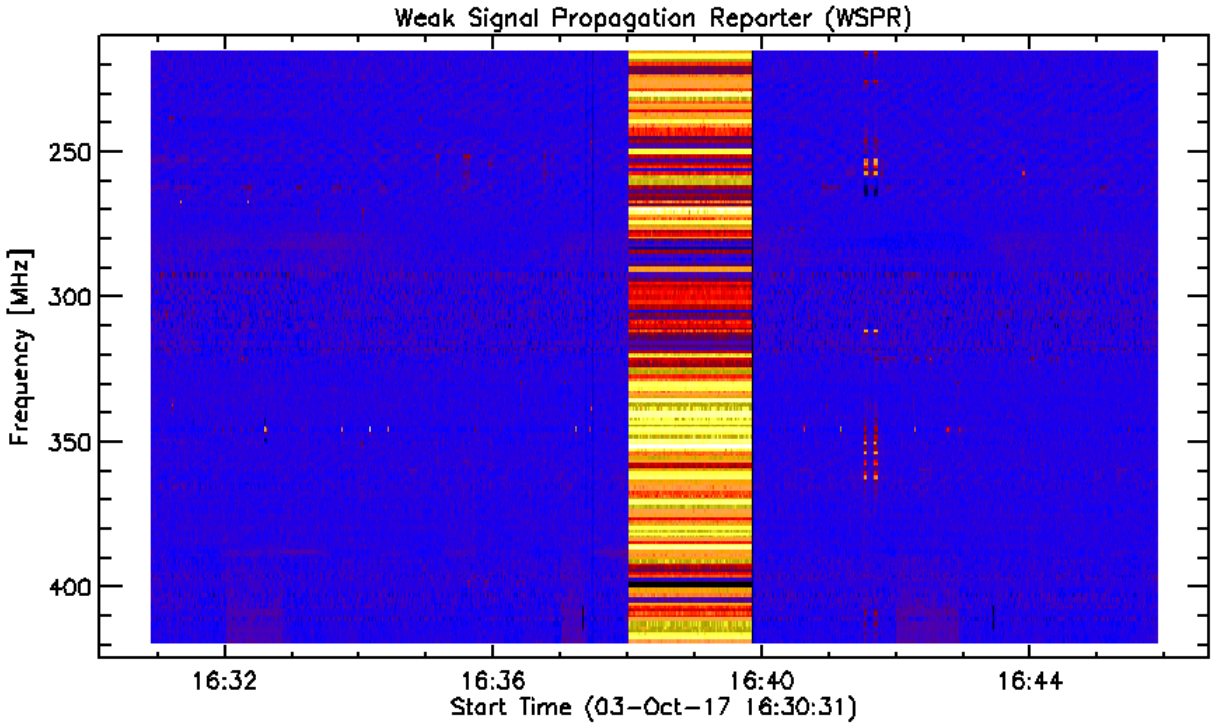

Fig. 6: Broadband rfi from nearby WSPR transmitter.

New Callisto software installation tool

Given all the different tools, applications, configurations and parameters, an installation tool was created to simplify the installation and configuration process. After filling in a few parameter one need to press a few buttons to complete everything. This helps very much to reduce potential configuration mistakes. Also a check-tool is integrated to automatically find Callisto instrument.

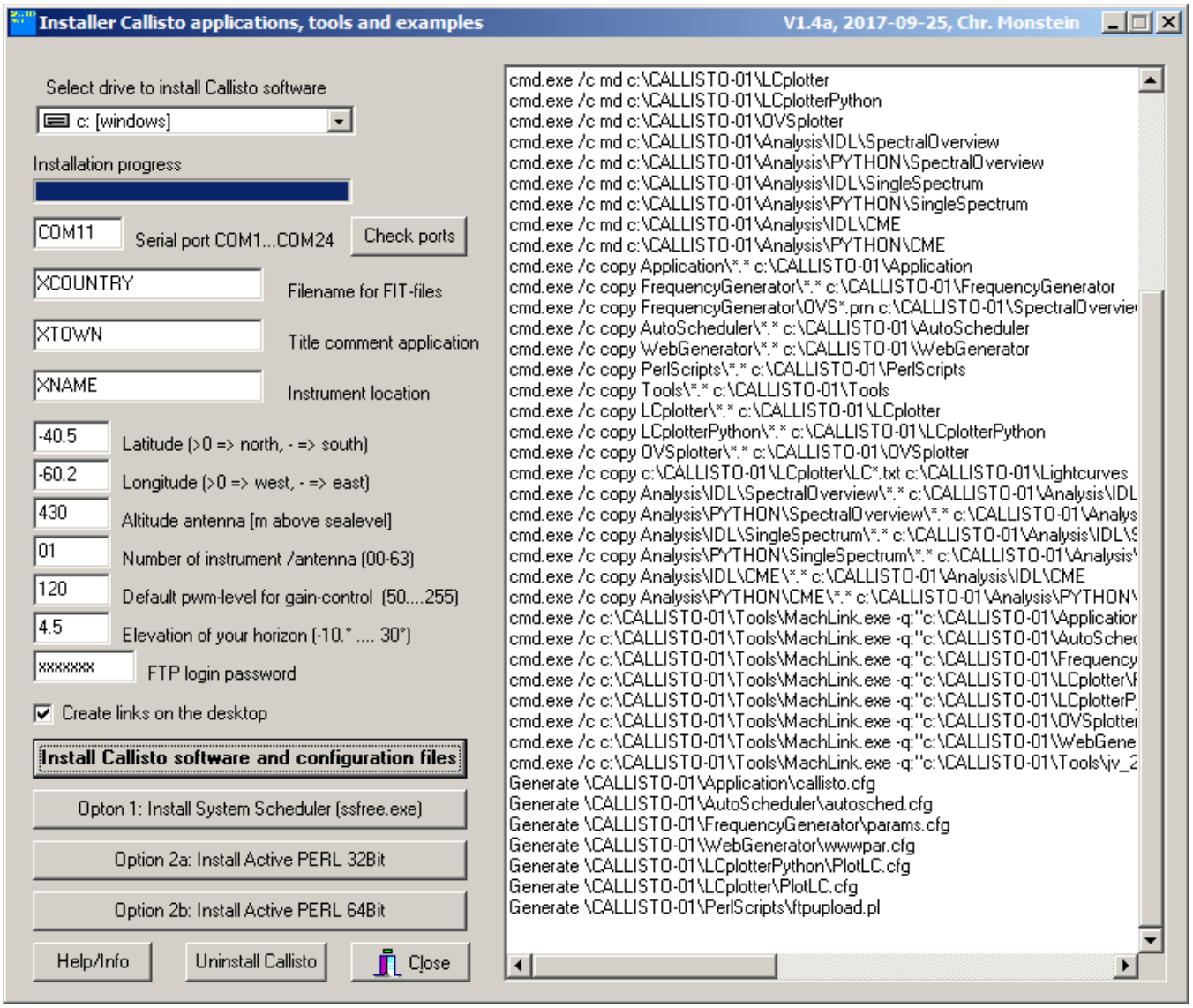

Fig. 7 Installation and configuration tool running on Windows 95, 98, XP, Vista, 2000, 7 and 10. This installation tool is available on the instrument website here: http://www.e-callisto.org/Software/Callisto-Software.html

In case of problems, the PI is able and willing to help remotely via TeamViewer (TV) by providing login data.

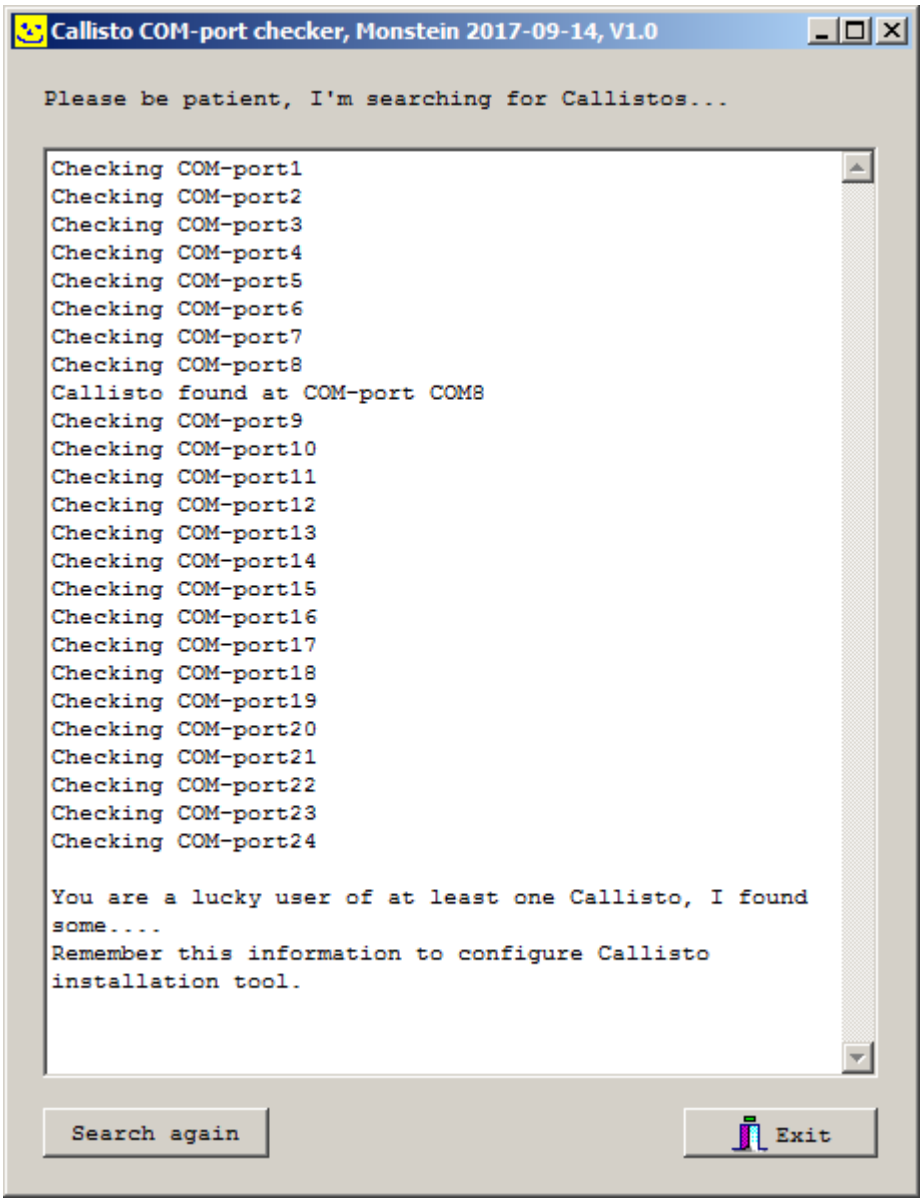

Fig.8 Callisto finder searches for Callisto on COM-port 1....24. In this case an instrument was found at port numer 8.

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:

Oscillations in the 45-5000 MHz Radio Spectrum of the 18 April 2014 Flare
by M. Karlicky et al.*
http://cesra.net/?p=1494

EUV-invisible reservoir of solar energetic particles
by G. Fleishman et al.*
http://cesra.net/?p=1499

Solar plasma radio emission and inertial Alfven turbulence
by O. Lyubchyk et al.*
http://cesra.net/?p=1525

Exploring the potential of microwave diagnostics in SEP forecasting
by P. Zucca et al.*
http://cesra.net/?p=1540

Predicting Flares and Solar Energetic Particle Events: The FORSPEF Tool
by A. Anastasiadis et al.*
http://cesra.net/?p=1551

Observations of a radio-quiet solar preflare
by A. Benz et al.*
http://cesra.net/?p=1562

AOB

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- ESA Space Situational Awareness: http://swe.ssa.esa.int/
- http://swe.ssa.esa.int/web/guest/GEN_lst
- You need to register first, then you can login for data retrieving
- http://swe.ssa.esa.int/web/guest/request-for-registration
- ---

- 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 Particle Physics and Astrophysics (IPA)*, ETH Zurich.

- Data management plan of Callisto has been updated, see here: http://www.e-callisto.org/ISWI%20Instrument%20Data%20management%20plan_CALLISTO_V02.pdf

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