



CALLISTO status report/newsletter #81

Here, an extended status report is presented with information about all known instrument host sites. We still hope that one or the other host can be convinced to operate their instrument(s) in a continuous mode and providing data to the central server. Host sites are presented in alphabetical order below.

AFRICAN Continent 9 instruments

EGYPT (SWMC Cairo): Not operational, spectrometer and/or PC broken. Should be sent to the PI for checking and repair

ETHIOPIA (AAU Addis Ababa University): Not operational, reason unknown

ETHIOPIA (MU Mekelle University): Partially operational, often timing error. Send data either from the past or from the future. Should replace clock battery and synchronize clock to internet time server

KENYA (University of Nairobi): Not operational, reason unknown

RWANDA (University of Kigali): Not operational, reason unknown

SOUTHAFRICA (SANSA, Sutherland): Operational and providing data on regular basis

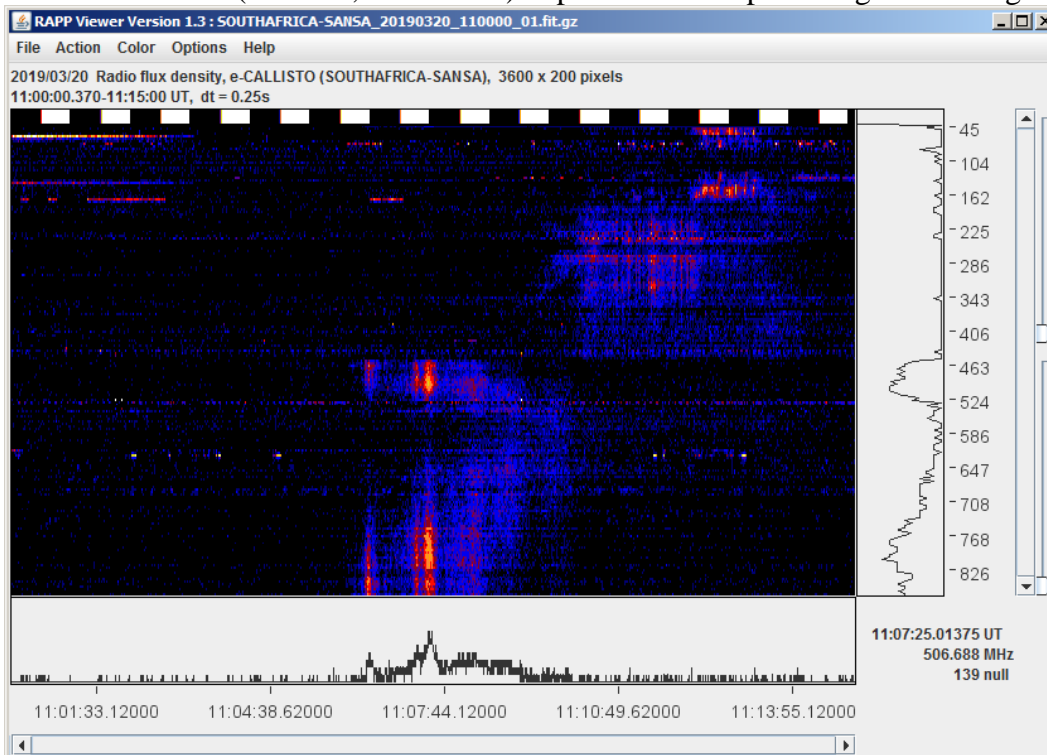


Fig. 1: 1st light from Callisto SANSA at Sutherland, South Africa.

MAURITIUS (University of M.): 3/3 instruments operational and providing data on regular basis
Instrument MRT2 was repaired and sent back for operation.

ALGERIA: instrument delivered, installation&configuration is under discussion



AUSTRIA 6 instruments

OE3FLB (Fritz Lensch): 2/2 instruments operational and providing data on regular basis

MICHELBAACH: Sometimes operational, suffering from weather conditions

KRUMBACH: Operational and providing data on regular basis

University of Graz: 1 instrument providing data on regular basis, Nr. 2 not sensitive enough

Australia 3 instruments

LMRO: operational and providing data on +/- regular basis



Fig.2: Antenna (LPDA) and mounting at LMRO.

People: David (the host), Blair Lade and Peter Gray.

More info about LMRO:

https://asv.org.au/lmro_home

ASSA: operational and providing data on +/- regular basis, details here: <https://www.assa.org.au/>



BELGIUM 1 instrument

HUMAIN Royal observatory of Belgium: operational and providing data on regular basis. Increasing level of rfi

BRASIL 2 instruments

INPE: operational and providing data on +/- regular basis

BULGARIA 1 instrument

StARTER: Not operational, reason unknown

CZECH-REPUBLIC 1 instrument

OSRA (Ondrejov): Not operational, antenna (7m dish) is used for another experiment

CHINA 2 instruments

CHASHAN: Not operational, reason unknown

TAIWAN: Not operational, reason unknown

COSTA RICA 1 instrument

CINESPA: Not operational after lightning stroke. Should be sent to PI for free checking and repair

DENMARK 4 instruments

Brorfelde: Not operational; under discussion on how to proceed with LWA and Callisto

GREENLAND (Kangerlussuaq): 2 instruments operational and providing super quality data on regular basis

FINLAND 4 instruments

Metsähovi (MRO): 4/4 instruments operational and providing data on regular basis. Strong rfi...

GERMANY 2 instruments

ESSEN: Instrument operational and providing data on regular basis

HILDESHEIM: Instrument operational and providing data on regular basis. Impressions, see below.



Fig. 3-4: Instrument shed and equipment at Hildesheim observatory, Germany

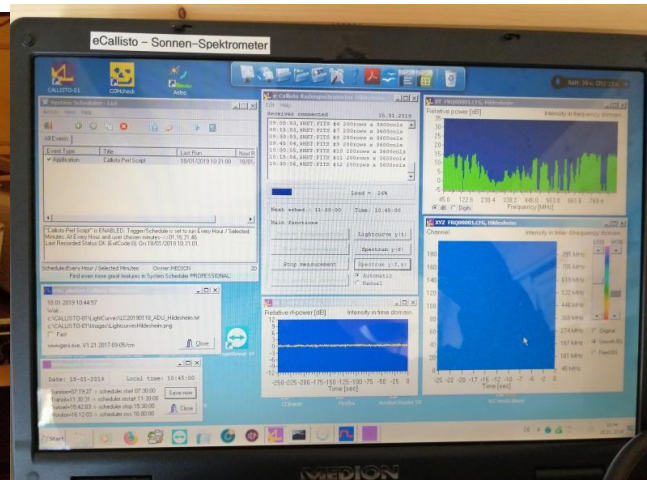


Fig. 5-6: Callisto and notebook at Hildesheim observatory, Germany

Antenna: 32-Element Log-Periodic-Antenna covering 40...862 MHz,
Gain: VHF 7,5..8,5 dB, UHF 10..12 dB

Contact: Fred Espey, DG8OV, Hildesheim, Germany



Fig. 7-8: LPDA and mounting at Hildesheim observatory, Germany

INDIA 8 Instruments

AHMEDABAD: Not operational, reason unknown

GAURIBIDANUR: Instrument operational and providing data on regular basis

IISERP (Pune): Instrument operational and +/- providing data on regular basis

Nashik: Not operational, reason unknown

OOTY: 2/2 instruments operational and providing data on regular basis

SANGLI: Not operational, antenna broken

UDAIPUR: Instrument operational and providing data on regular basis

INDONESIA 3 instruments

SUMEDANG: Instrument operational and +/- providing data on regular basis

BIAK: Instrument operational and +/- providing data on regular basis

TOMOHOHN: Instrument operational and +/- providing data on regular basis

Sometimes timing issue, sending data from the future!

IRELAND 5 instruments

BIR (Bir castle): 1/5 instruments operational and providing data on regular basis

ITALY 1 instrument

TURIN_IT: Sometimes providing data



JAPAN 1 instrument

IBARAKI University: Instrument operational and providing data on regular basis

KAZAKHSTAN 2 instruments

ALMATY: 2/2 instruments operational and providing data on regular basis

MEXICO 2 instruments

MEXART: 1 instrument operational and providing data on regular basis

UNAM: 1 instrument operational and sometimes providing data

MONGOLIA 2 instruments

Ulaan Baatar: instrument operational and providing data on regular basis

Gobi desert: instrument operational and sometimes providing data

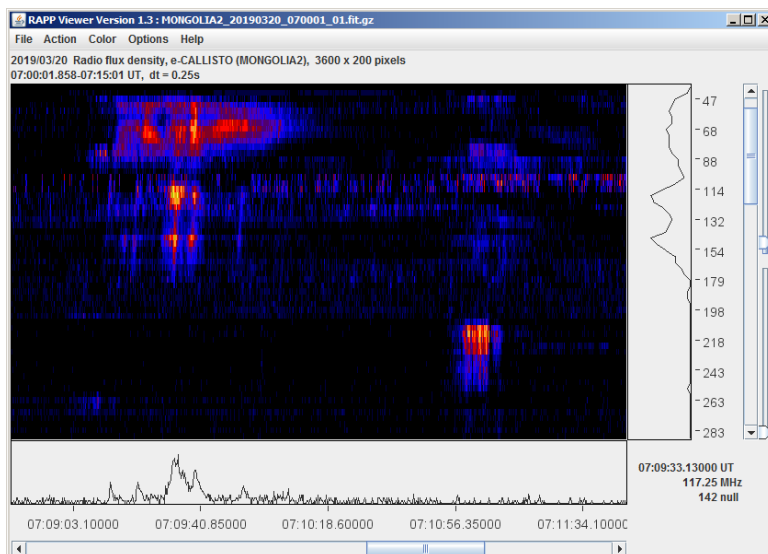


Fig. 9: 1st light from Callisto Gobi-desert.

NEPAL 1 instrument

POKHARA University: Hardly providing data. Main issue: electrical power and internet-connection

NEWZEALAND 1 instrument

Auckland: Instrument operational and providing data on regular basis

NORWAY 2 instruments

RANDABERG: Instrument operational and providing data on regular basis

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Norsk Romsenter // Norwegian Space Centre

Drammensvn 165, P.O. Box 113 Skøyen, N-0212 Oslo, Norway



Fig. 10: Observatory Randaberg, Norway



Fig. 11: Antenna (small LPDA) with protection cover and antenna mounting.

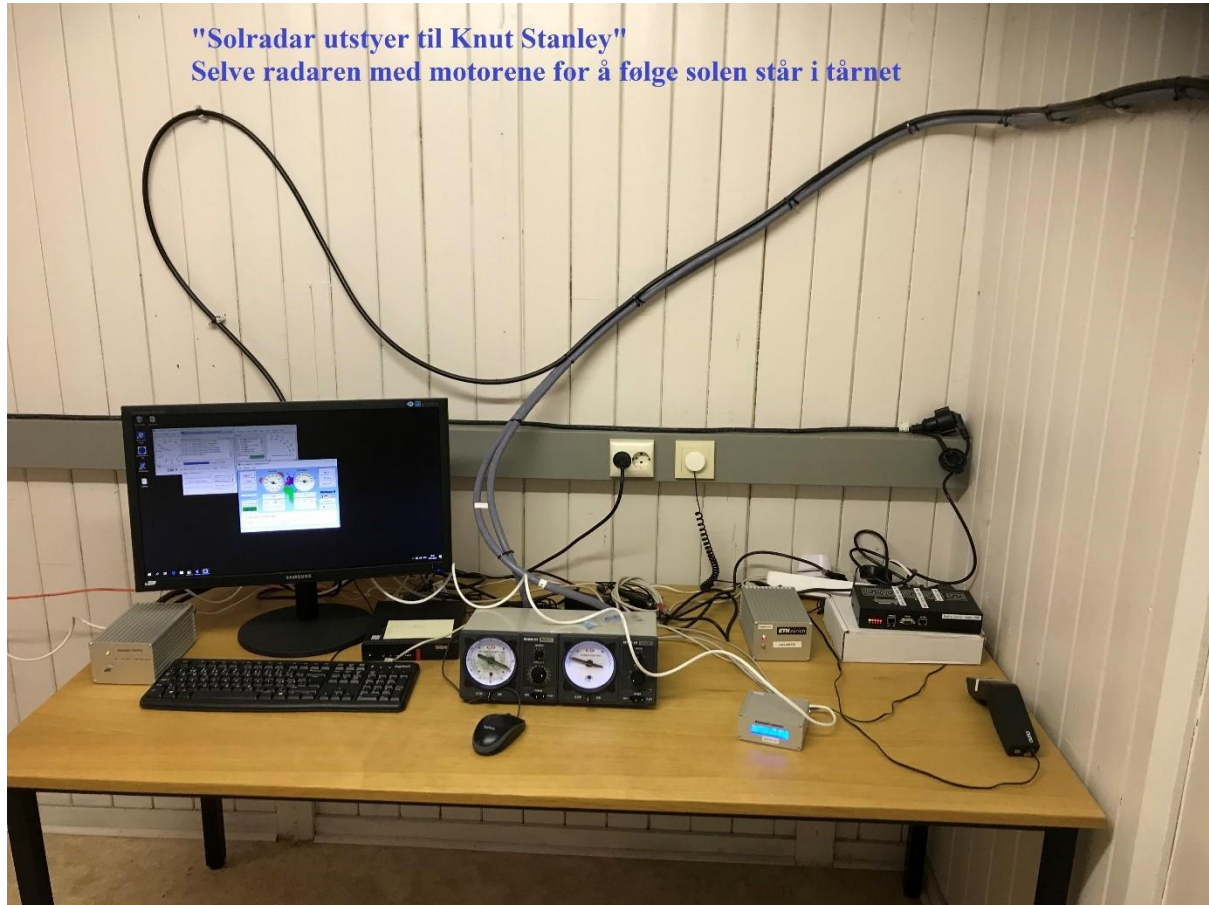


Fig. 12: PC, antenna control and Callisto at Randaberg, Norway.

ÅLESUND (Spitzbergen): Instrument operational and providing data on regular basis
Images below, copyright by Bjørn Erik Bue, Seniorrådgiver - Romforskning, Space Science,
Norsk Romsenter
Drammensvn 165, P.O. Box 113 Skøyen, N-0212 Oslo, Norway

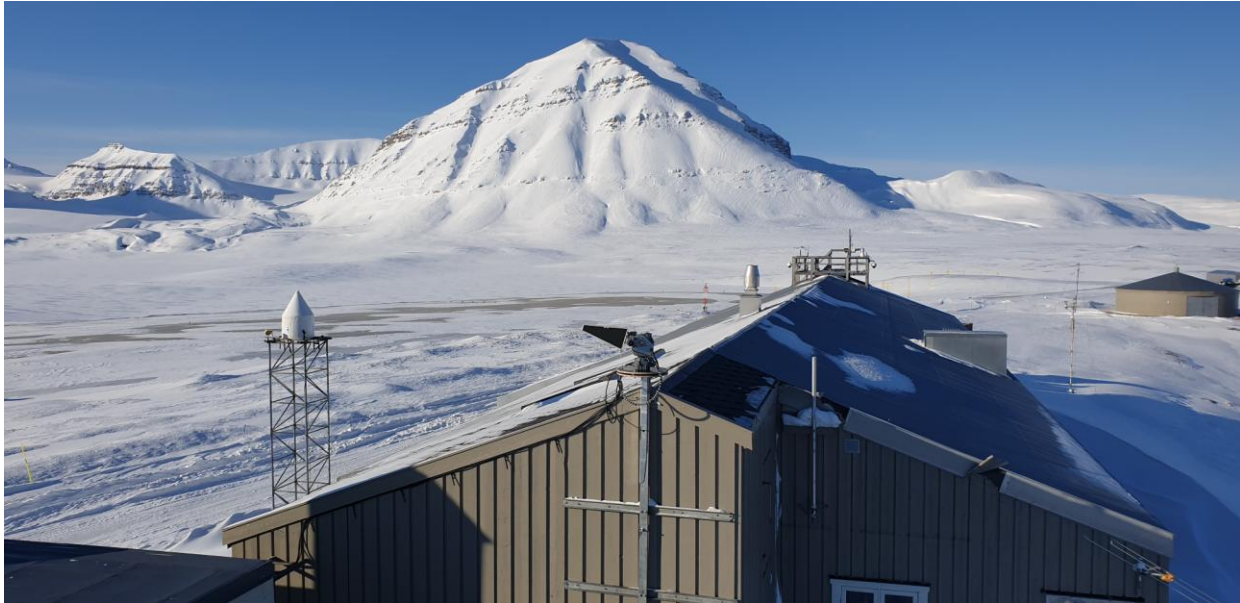


Fig. 13: Location of the most northern Callisto in NyÅlesund, Norway (Spitzbergen).



Fig. 14: LPDA on top of the mounting system.



Fig. 15: PC, antenna control and Callisto with heterodyne down-converter in NyÅlesund, Norway.



Fig. 16: Panorama of NyÅlesund, Norway.

PAKISTAN 1 instrument

Karachi: Not operational, reason unknown

PERU 1 instrument

LIMA: Not operational, power and internet issues

PUERTORICO 2 instruments

ARECIBO: Instruments operational and providing data on regular basis

Images below copyright by the PI and B. Monstein.

**Welcome ARECIBO on the e-Callisto network,
an ISWI instrument array!**



Fig. 17: Full metal shed containing ionosonde and 2 Callisto



Fig. 18: LWA, Myself, Alessandra and Alfredo in Arcibo, Puerto Rico



Fig. 19: Two Callisto and two heterodyne up-converter for dual circular polarization spectrometer.

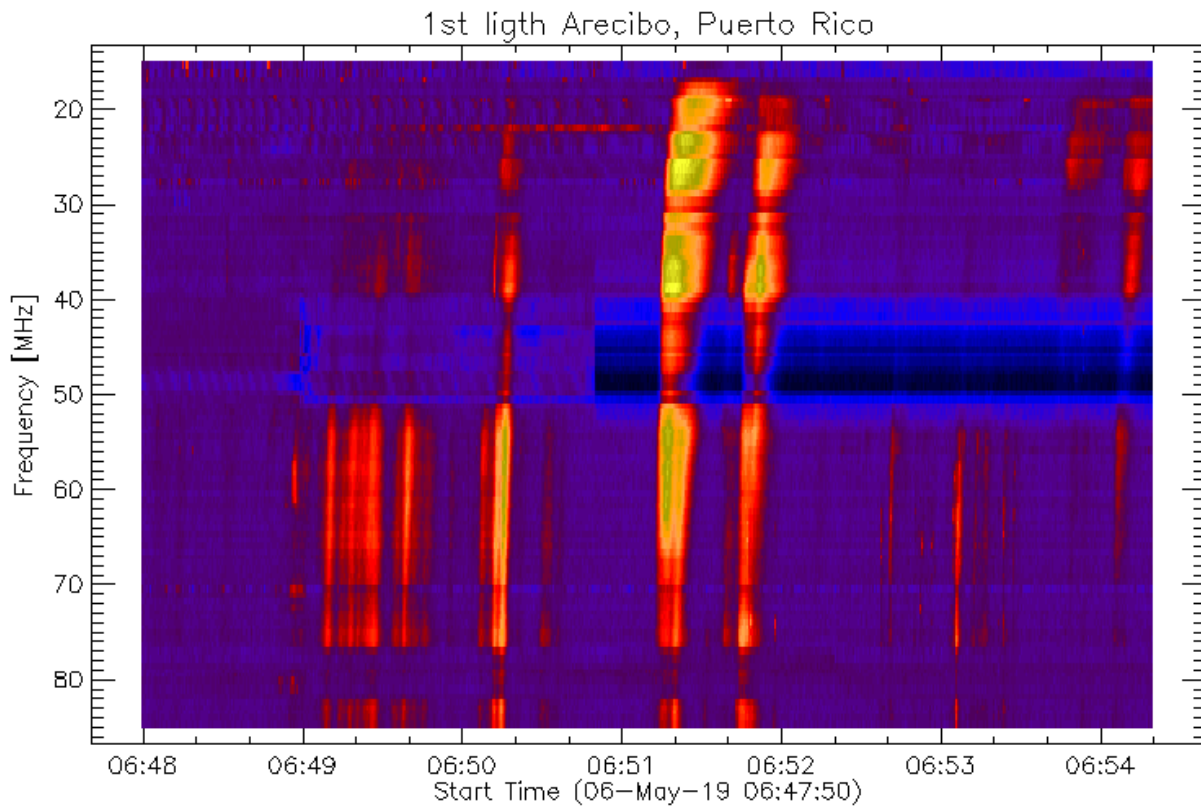


Fig. 20: First light Callisto Arecibo, Puerto Rico. A small group of type III solar radio bursts.



RUSSIA 1 instrument

SSRT (Irkutsk): Instrument operational and providing data on regular basis

SLOVAKIA 2 instruments

HURBANOVO: Instrument operational and providing data on regular basis

ROZTOKY: Not operational, reason unknown

SLOVENIA 2 instruments

TRIESTE: Both instruments operational and providing data on regular basis

SOUTHKOREA 1 instrument

KASI (Dajeon): Instrument operational and +/- providing data on regular basis

SPAIN 5 instruments

Cartagena: Not operational, reason unknown

PERALEJOS: Instrument operational and providing data on regular basis



Fig. 21: Manuel Prieto Mateo and colleague repeating spectral measurements with Bicone and Callisto.

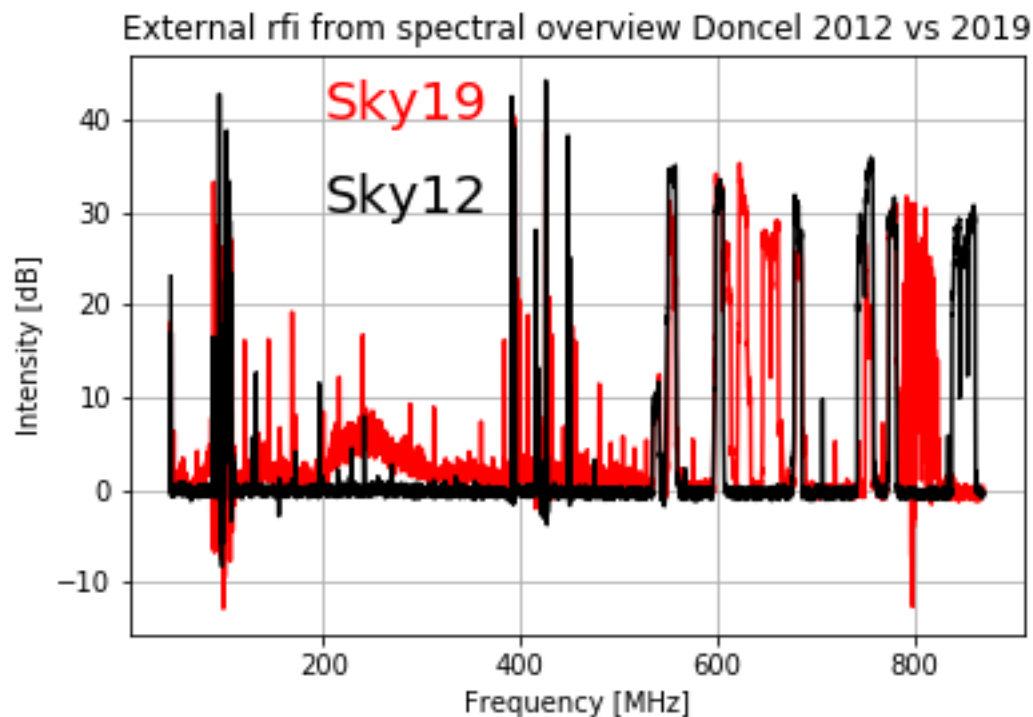


Fig. 22: Comparison radio spectrum from 2019 with 2012 at Casa DONCEL Siguenza, Spain.

SWITZERLAND 9 instruments

BLENS5M: Instrument operational and providing data on regular basis

BLENSW: 2/2 Instruments operational and providing data on regular basis

HB9SCT: 2/2 Instruments operational and providing data on regular basis

HEITERSWIL: Instrument operational and providing data on regular basis

MUHEN: 2/2 Instruments operational and providing data on regular basis

ZURICH: Instrument operational and providing data on regular basis

THAILAND 3 instruments

BANGKOK: Not operational, reason unknown

ChiangMai: Not operational, reason unknown

USA 12 instruments

ALASKA-ANCHORAGE: Instrument operational and providing data on regular basis

Preparations ongoing to install a new station at HAARP-location near Fairbanks, Alaska.

ALASKA-COHOE: 2/2 Instruments operational and providing data on regular basis

ARIZONA: Not operational, reason unknown

HAWAII: Not operational, reason unknown

NEWYORK: Not operational, reason unknown

ROSWELL-NM: 3/3 Instruments operational and providing data on regular basis



TEXAS: Not operational, reason unknown

MARYLAND: Not operational, reason unknown

HAARP-site near Fairbanks: instrument installation in progress

UK 2 instruments

CAMBRIDGE: Not operational, reason unknown

GLASGOW: Instrument operational and providing data on regular basis. High sensitivity!

UKRAINE 1 instrument

KRIM: Instrument operational and +/- providing data on regular basis

URUGUAY 1 instrument

MONTEVIDEO: Instrument operational and providing data on regular basis

Recent papers, based on Callisto data:

Paper: <https://arxiv.org/pdf/1904.09577.pdf>

Paper: <https://arxiv.org/pdf/1902.01140.pdf>

CESRA news:

Large area solar flare ribbons as the model to explain puzzling millimeter emission

by G.G. Motorina et al.*

<http://cesra.net/?p=2157>

Short-period Waves in Flare Loops: Possible Vehicle for Flare Energy

Transport

by Sijie Yu et al

<http://cesra.net/?p=2166>

Remote sensing the coronal magnetic field using solar S-bursts

B. Clarke et al.*

<http://cesra.net/?p=2177>

Variable Emission Mechanism of a Type IV Radio Burst

by D. Morosan et al.*

<http://cesra.net/?p=2183>



High-Frequency Communications Response to Solar Activity in September 2017
as Observed by Amateur Radio Networks
by Nathan A. Frissell
<http://cesra.net/?p=2198>

AOB

- The website <http://e-callisto.org/coverage/coverage.html> presenting your station with an image of the antenna and coverage time has been updated with a [link](#) to your station. Longitude and latitude have been read out of your FIT-files. Please check your link regarding correct Google map position. In case the link points to a wrong location, you will need to edit your longitude and latitude in the Callisto configuration file 'callisto.cfg' accordingly and please send me in addition the correct values by email. In case you have a better image of your antenna, please also send me a copy to keep the website up2date. If your station is not on the website at all, please send me the information and an image.
- There are still 2 used but refurbished Callisto instruments on stock for reduced prize of US250\$ plus shipping cost. For test data, see here: <http://e-callisto.org/Qualification/applidocs.htm>
- 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 University of Applied Sciences, Institute for Data Science FHNW in Brugg/Windisch, Switzerland. Additionally, data are hosted at ESA site here: SSA Space Weather Portal (<http://swe.ssa.esa.int/>).
Click ESC Solar Weather, then eCallisto
- In case you (as the responsible person for operating and maintenance of Callisto) are leaving the institute or, if you are retiring, please send me name and email address of the successor.

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