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CALLISTO status report/newsletter #93

New instrument at Egypt Space Agency EgSA in Cairo

A new Callisto system has been installed at Egypt Space Agency in Cairo early 2022 to perform solar radio burst observations.



Fig. 1: Final test of equipment which was delivered to EgSA. 1=notebook, 2=Callisto, 3=Bias-Tee, 4=dc-cable, 5=coaxial cable and 6=LNA2000 with lightning protection.



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Fig. 2: Installation of LPDA on top of the building. Box contains low noise amplifier

Contact at EgSA:

Amira Hamdy Hussein.

Head of Space Environment Studies and Tests Department at Egyptian Space Agency.

Address: Kilo 6 Middle Ring Road, 5th settlement, in front of Al-Fattah, Al-Alim Mosque, behind Madinaty, Cairo.

P.O. Box: Egyptian Space Agency130

EgSa-FIT-files unfortunately cannot be found on the central archive yet.
FTP-upload has not been enabled yet for automatic file transfer.



New instrument and 1st light MEXICO-LANCE-A/B

A new station has been installed and set into operation in Melia 19°38'49.0" N, 101°13'38.0" W
Host: Laboratorio Nacional de ClimaEspacial: (LANCE)



Fig. 3: Installation of LWA in Mexico. (From left to right: Marco Medina-del-Angel (student); Oscar Godines-Torres (student); Ernesto Andrade-Mascote (head of technical staff at MEXART))



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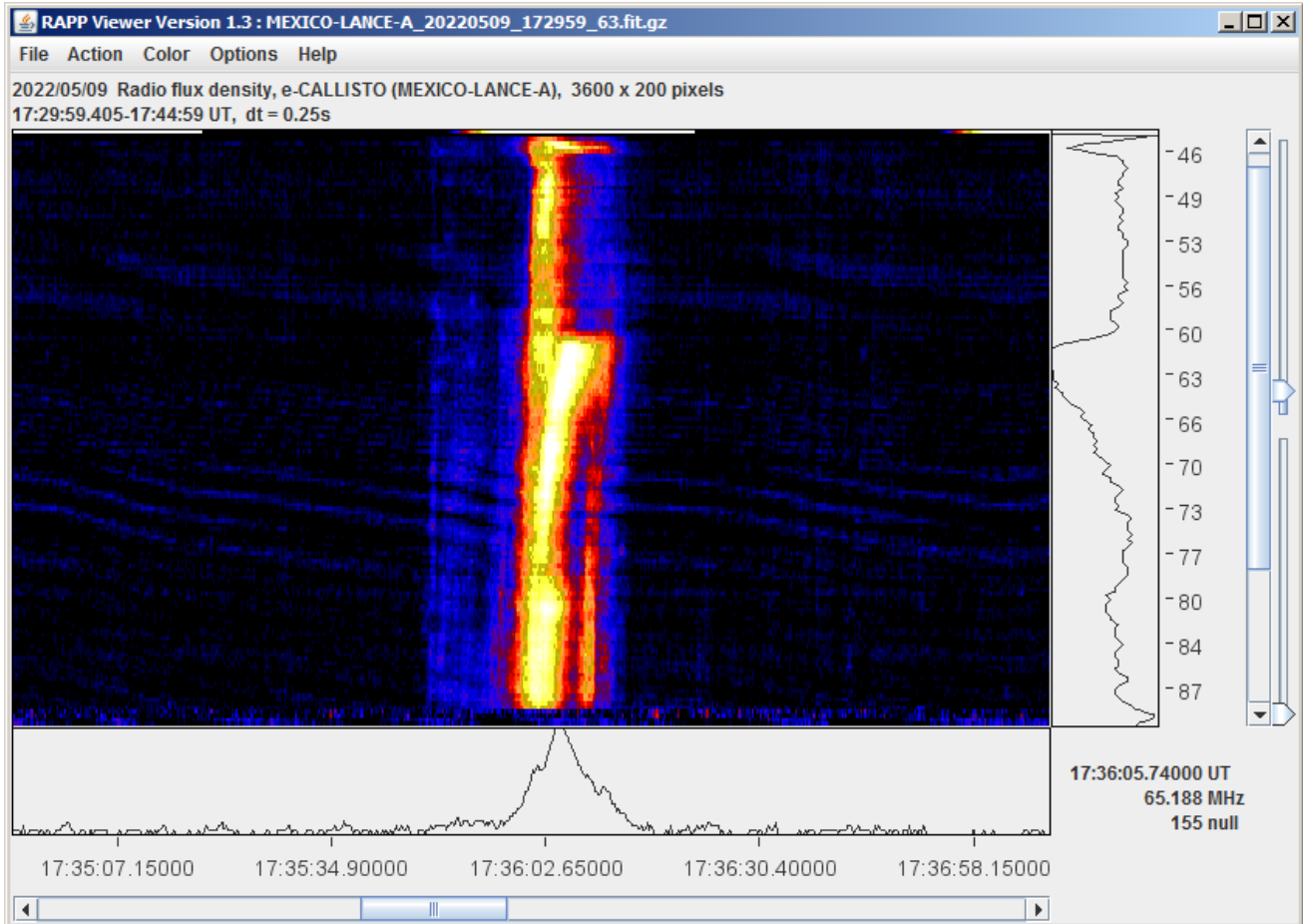


Fig. 4: Type III burst as one of the 1st lights from LANCE in Mexico.



1st light ERAU, Arizona

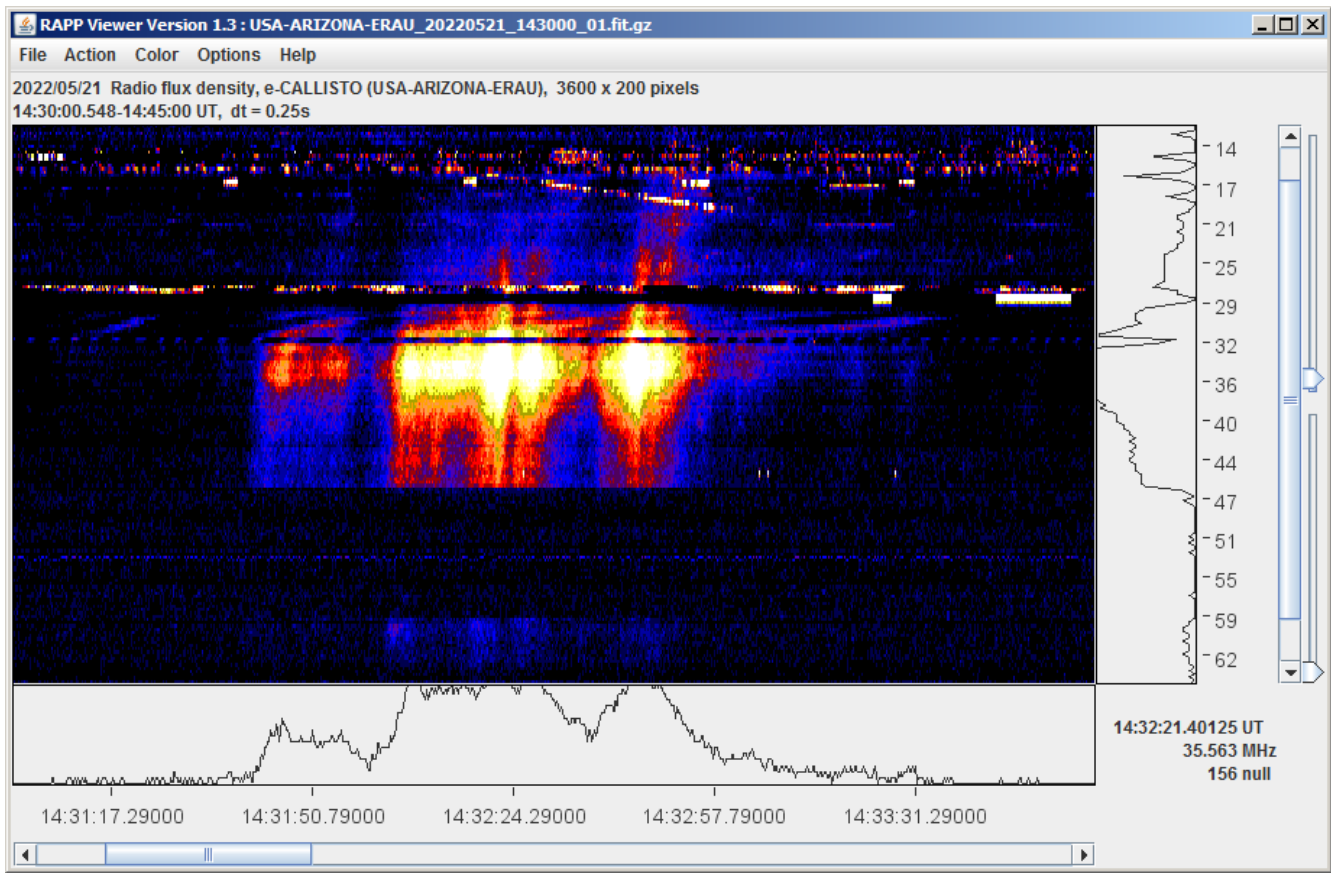


Fig. 5: ERAI in Arizona got some 1st lights with CALLISTO

Contacts:

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EMBRY-RIDDLE AERONAUTICAL UNIVERSITY,
RADIO ASTRONOMY - DEPT. OF PHYSICS,
3700 WILLOW CREEK RD,
PRESCOTT AZ 86301-3721



Other 1st lights from different stations

- Callisto Romania 2022-05-21 at 03:50UT
- Callisto Paraguay 2022-05-28 at 13:47-13:48UT
- Aalesund Norway 2022-06-13 at 04:08-04:35UT

Nice observation from ASSA (Australia)

2022/01/30 Radio flux density, e-CALLISTO (Australia-ASSA)

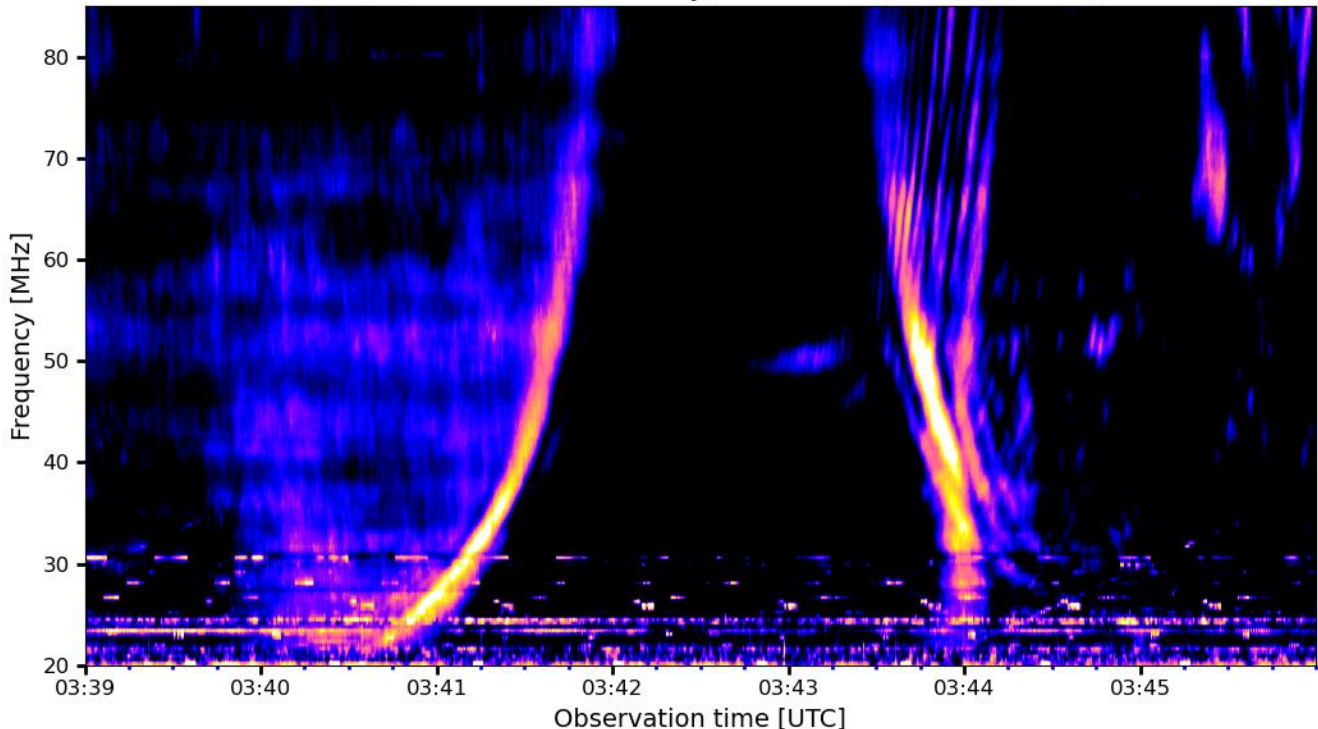


Fig. 6: Very nice observation of spectral caustics at ASSA. Instrument = LWA + heterodyne up-converter + CALLISTO. The ionosphere acts like a lens for electro-magnetic waves (here a solar noise storm) and concentrates on a specific location on Earth.

A paper with related information can be found here:

https://www.academia.edu/46999307/Direct_Observations_of_Traveling_Ionospheric_Disturbances_as_Focusers_of_Solar_Radiation_Spectral_Caustics



Recent Papers

<https://link.springer.com/article/10.1007/s11207-021-01916-z>

<https://aaltodoc.aalto.fi/bitstream/handle/123456789/114154/isbn9789526407951.pdf?sequence=1&isAllowed=y>

e-Callisto burst statistics June 2022

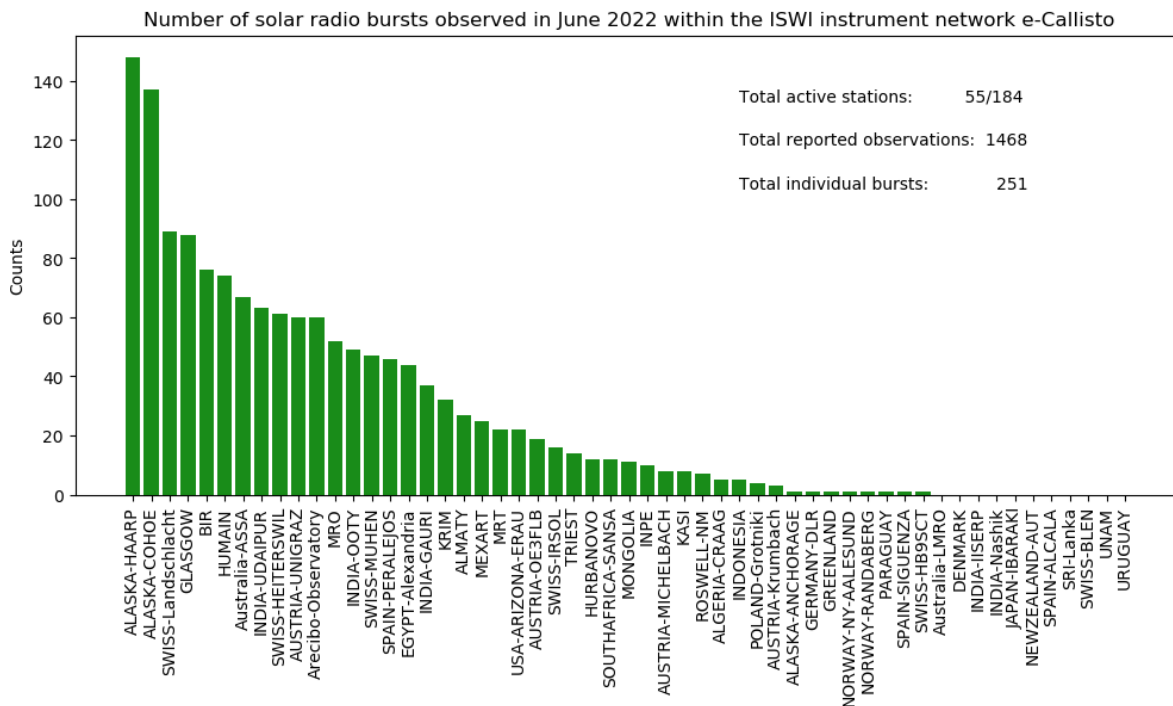


Fig. 7: Compilation of all visually detected bursts from all Callisto-stations which provide data to the e-Callisto network. There is a clear winner of the ‘competition’, Alaska at HAARP-site and in COHOE; congratulations!

Too bad: Most of the stations do not provide data to the central archive and there are many reasons such as: Broken instrument (LNA, cables, connectors, antenna tec.), no electrical power and/or no internet access and even loss of motivation ...



CESRA NEWS

Radio Probing of Solar Wind Sources in Coronal Magnetic Fields

by A. Koval et al.*

<https://www.astro.gla.ac.uk/users/eduard/cesra/?p=3192>

A new CESRA nugget is online

Signatures of Type III Solar Radio Bursts from Nanoflares: Modeling

by Sherry Chhabra et al.*

<https://www.astro.gla.ac.uk/users/eduard/cesra/?p=3203>

Harvest of scientific results by Solar Orbiter Radio and Plasma Waves instrument

by Milan Maksimovic

<https://www.astro.gla.ac.uk/users/eduard/cesra/?p=3215>

Spectral Analysis of Solar Radio Type III Bursts from 20 kHz to 410 MHz

by K. Sasikumar Raja et al.*

<https://www.astro.gla.ac.uk/users/eduard/cesra/?p=3221>

New results from the spectral observations of solar coronal type II radio bursts

by R. Ramesh et al.*

<https://www.astro.gla.ac.uk/users/eduard/cesra/?p=3231>

Fundamental electromagnetic emissions by a weak electron beam in solar wind plasmas with density fluctuations

by C. Krafft and P. Savoini

<https://www.astro.gla.ac.uk/users/eduard/cesra/?p=3239>

LOFAR size and shape measurements of solar metric radio burst sources

by Gordovskyy et al

<https://www.astro.gla.ac.uk/users/eduard/cesra/?p=3260>

Langmuir-Slow Extraordinary Mode Magnetic Signature Observations with Parker Solar Probe

by A. Larosa et al

<https://www.astro.gla.ac.uk/users/eduard/cesra/?p=3267>

Density Turbulence and the Angular Broadening of Outer Heliospheric Radio Sources at High Latitudes and in the Ecliptic Plane

by S. Tasnim et al.*

<https://www.astro.gla.ac.uk/users/eduard/cesra/?p=3278>



Subarcsecond imaging of a solar active region filament with ALMA and IRIS
by da Silva Santos et al.*
<https://www.astro.gla.ac.uk/users/eduard/cesra/?p=3325>

Trieste CALLISTO Station Setup and Observations of Solar Radio Bursts
by A. Marassi and C. Monstein
<https://www.astro.gla.ac.uk/users/eduard/cesra/?p=3339>

Solar radio bursts associated with in situ detected energetic electrons in solar cycles 23 and 24
by R. Miteva et al.*
<https://www.astro.gla.ac.uk/users/eduard/cesra/?p=3350>

AOB

- IRSOL is meant as the new core-station of the e-Callisto network
- To avoid strange issues with Windows computers, disable disc caching. Otherwise configurations files might not be updated in Callisto with the latest information
- Another access to Callisto data here: <https://vwo.nasa.gov/>
- CALLISTO or Callisto denotes to the spectrometer itself while e-Callisto denotes to the worldwide network.
- E-Callisto website has been upgraded and updated and uses now SSL. You may need to press reload-button to get latest information.
- General information and data access here: <http://e-callisto.org/>
- Burst catalogue has been updated, see here: <https://e-callisto.org/GeneralDocuments/BurstCatalog.pdf>
- e-Callisto data are hosted at University of Applied Sciences, Institute for Data Science FHNW in Brugg/Windisch, Switzerland. Additionally, data are available at ESA site here:





SSA Space Weather Portal (<http://swe.ssa.esa.int/>).

- 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.
- Several presentations/workshops have been given via ZOOM:
 - British Astronomical Association, Radio Astronomy Section: e-Callisto a Radio eye for Solar Activity
 - Pakistan ICASE 2021: Callisto instrumentation I and II
 - Iberian Space Science Summer School (i4s 2022): Low-cost instrumentation

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