ISWI Instrument Array
e-CALLISTO
updates

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Instrument update

Callisto production 2006 - 2020:

Anchorage USA (Reeve engineering):	102 instruments
Zurich Switzerland (myself):	118 instruments
Amateur production:	~50 instruments
Total worldwide production:	270 instruments
We are in contact with hosts:	171 instruments
Hosts from 49 countries which provide data:	55 …. 65

Efficiency: ~35% of 171 or 22% of 270

Instrument update

New instrument at IRSOL,
Istituto Ricerche Solari Locarno (IRSOL)
Via Patocchi 57
6605 Locarno Monti,
Switzerland

Instrument update

Instrument upgrade at University of Rwanda in Kigali, connected with a 2-day Python workshop, dedicated to solar radio astronomy.

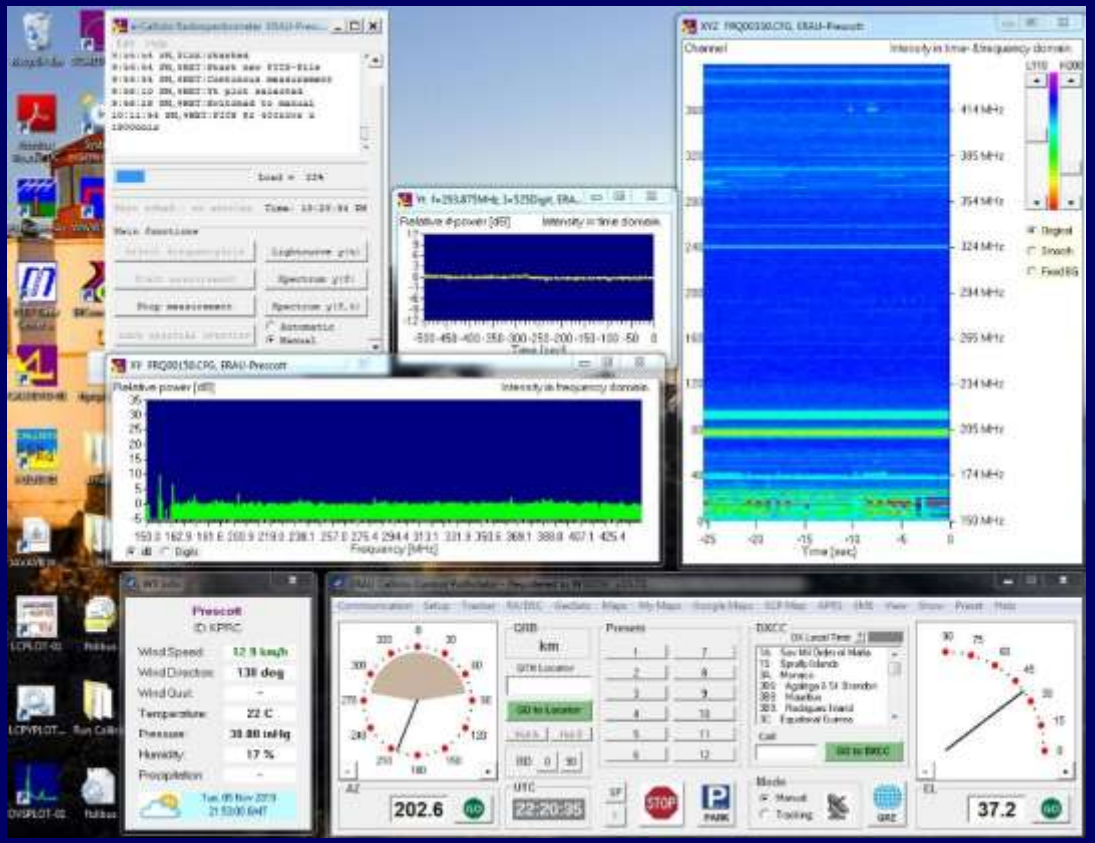
Instrument update

New instrument in Grotniki, Poland,
based on a long wire antenna
and Callisto is running under LINUX.

Instrument update

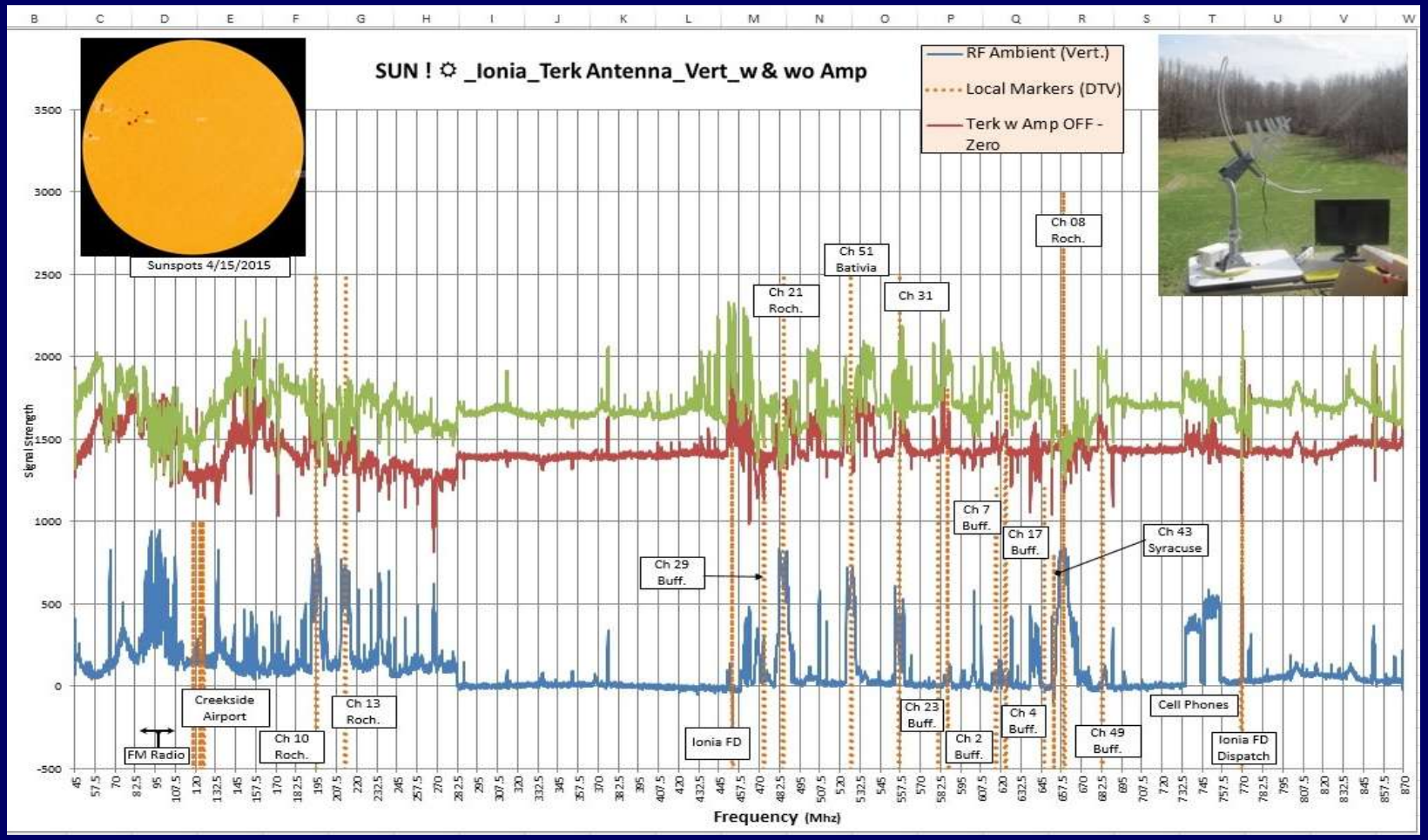
New Callisto spectro-polarimeter in Landschlacht, Switzerland.
Replaces instrument from Bleien observatory, a facility of ETH Zurich which will be closed due to retirement of the PI Chr. Monstein

Instrument update



New Callisto at Prescott Observatory of Embry-Riddle Aeronautical University (ERAU) in Arizona, USA

Instrument update



New Callisto at Rochester Institute of Technology (RIT).
It is an internationally known Engineering and Technology college, based in Rochester, New York, USA

Instrument update

New Callisto installed and configured at CRAAG facility in Boumerdes, Algeria.

And a 1-day Python workshop dedicated to solar radio astronomy at observatory in Algiers
Back: Bachir Taleb
Front: Khalil Daiffallah

Instrument update

During COSPAR 2020 workshop:
Configuration of spectro-polarimeter, based on Callisto at Kodiakanal Solar Observatory, India

Backend in Coronagraph building
waiting for 1st light ….

Instrument update

Janaka Adassuriya
Astronomy Division
Arthur C. Clarke Institute
Katubedda, Moratuwa
Sri Lanka (Ceylon)

Instrument update, AOB

2 new CALLISTO have been shipped to Sri Lanka
1st light observation by P. Hirt at MUHEN observatory, Switzerland
1st light observation by J. Ward at SANSA, Sutherland, South Africa
January 5-17: COSPAR 2020 workshop at Kodaikanal Solar Observatory
Upgrade of instrument website http://e-callisto.org/ by my daughter Claudia

Instrument update AOB

Status on African continent with 10 instruments:

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

ETHIOPIA (AAU Addis Ababa University): Not operational, reason = politics ☹

ETHIOPIA (MU Mekelle University): Partially operational, often timing error. ☹
Send data either from the past or from the future. Should replace clock battery

KENYA (University of Nairobi): Not operational, reason = lost motivation ☹

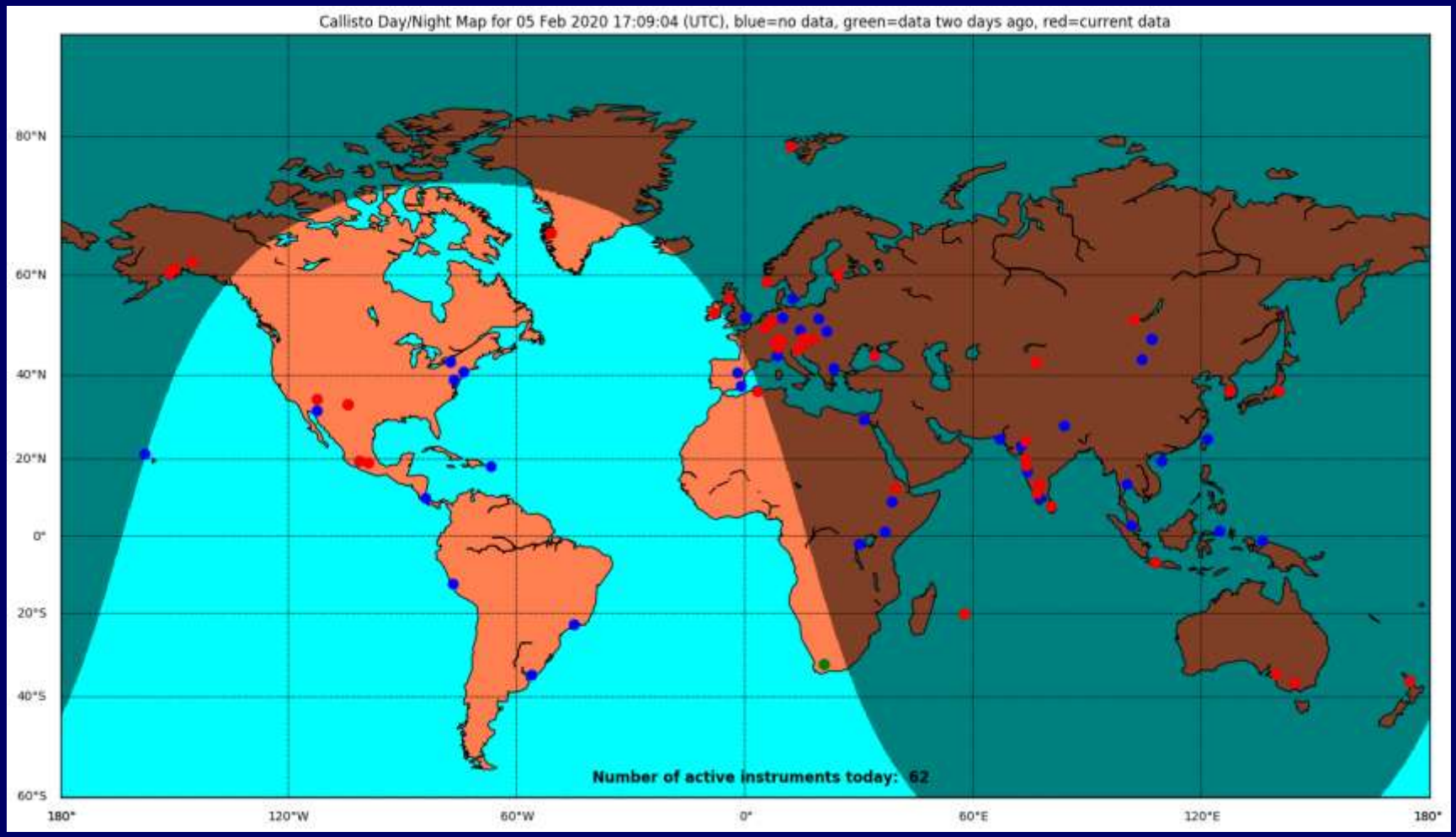
RWANDA (University of Kigali): Not operational, lightning stroke ☺

SOUTHAFRICA (SANSA, Sutherland): Operational ☹

MAURITIUS (University of M.): 3/3 instruments operational ☺ ☺ ☺

ALGERIA (CRAAG): instrument delivered, installed and configured, now operational ☺

Instrument update, coverage



Status Feb 2020: 171 instruments in 49 countries at 90 different locations worldwide.
Reached 100 % coverage all over the seasons in May 2013

Latest papers based on Callisto data

Automated Detection of Solar Radio Bursts using a Statistical Method
https://arxiv.org/pdf/1906.11780

Direct Observations Of Traveling Ionospheric Disturbances As Focusers Of Solar Radiation: Spectral Caustics
https://arxiv.org/pdf/1904.09577.pdf

Variable emission mechanism of a Type IV radio burst
https://arxiv.org/pdf/1902.01140.pdf

Fourier Power Spectra of Solar Noise Storm
https://link.springer.com/article/10.1007/s11207-018-1367-5

Extreme Kinematics of the 2017 September 10 Solar Eruption and the Spectral Characteristics of the Associated Energetic Particles
https://iopscience.iop.org/article/10.3847/2041-8213/aad86c/pdf

Conclusions

- Network is still growing, currently interest from: Côte d'Ivoire, Ecuador, Nigeria, Cuba, Oman, Azores, Tenerife, South Africa, Argentina, Deutsches Zentrum für Luft- und Raumfahrt DLR (German Aerospace Center) and, Ethiopia is still/again on the agenda (Bahir Dar).

- Geographical coverage should be improved, especially African and American/Pacific region

- Data quality is improving (learning process)

- rfi situation is getting worse worldwide

- More science could be done (educational problem)

- No funding available to further support instruments & training due to retirement of the PI Christian Monstein

Additional information:

http://e-callisto.org

We are also on FaceBook

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