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差出人　George Maeda

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*   *
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* Editor-in-Chief: Mr. George Maeda, SERC (maeda[at]serc.kyushu-u.ac.jp)*
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Attachment(s):
(1) "status20110830_V0", 1.2 MB pdf, 13 pages.
(2) "poster_Rchwk", 800 KB pdf, one page.

:   Re:
:   CALLISTO status report #30
:   Zurich (30 August 2011)
:
:

Dear ISWI Participant:

Please find attached the most recent Callisto Status Report
from Christian Monstein in Zurich.

Also attached is a related item from the University of Mauritius.
If you wish more information about this item, please contact
Girish Beeharry <gkb@uom.ac.mu>, who contributed this item
after Christian sent out the latest Callisto report to his
stations.

If you are generating any data (using ground-based instrumentation)
that is a contribution towards space weather research, please
write it up and send it to me for general circulation.
----> This activity is the main purpose of this newsletter.

Share your space weather news with the ISWI community and
good things will follow.

Respectfully yours,
:   George Maeda
:   The Editor
:   ISWI Newsletter

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ETHZ Zürich, 8/30/2011

CALLISTO status report #30

To:

Arnold O. Benz A. Csillaghy Säm Krucker	ETHZ, Switzerland FHNW, Switzerland FHNW, Switzerland	benzΩastro.phys.ethz.ch andre.csillaghyΩfhnw.ch samuel.kruckerΩfhnw.ch
P. K. Manoharan D. Nandagopal R. Venkatasubramani	NCRA Ooty, India	manoΩwm.ncra.tifr.res.in dngΩmailhost.tifr.res.in rvsΩmailhost.tifr.res.in
R. Ramesh V. C. Kathiravan	IIA Gauribidanur, Bangalore, India	rameshΩiiap.res.in kathirΩiiap.res.in
Alexander Altyntsev Sergey Lesovoi	SSRT Badary/Irkutsk Russian Federation	altyntsevΩiszf.irk.ru lesovoiΩiszf.irk.ru
Francisco Frutos Jorge Paez Marco Paez	CINESPA, Costa Rica	frutosΩfisica.ucr.ac.cr paezjorge174@gmail.com cristalvitroΩice.co.cr
Alejandro Lara Gaudencio Paz Martinez Beatriz Argumedo Uribe	UNAM, Mexico	alaraΩgeofisica.unam.mx gaupazΩyahoo.es be.argumedoΩgmail.com
Kyungsuk Cho SuChang Bong	KASI, Daejeon, South Korea	kschoΩkasi.re.kr scbongΩkasi.re.kr
Christophe Marqué	ROB, Bruxelles Belgium	cmarqueΩoma.be
Hanumant Sawant Joaquim E. R. Costa Francisco C. R. Fernandes	INPE Sao José dos Campos Brazil	sawantΩdas.inpe.br jercostaΩdas.inpe.br gugaΩunivap.br
Girish Kumar Beeharry Rajasekhara Gauribidanur	MRT Bras d'Eau, Poste de Flacq, Mauritius	gkbΩuom.ac.mu rajagbdΩgmail.com
Usnikh Sukhbaatar S. Demberel D. Batmunkh	RCAG in Khurel Togoot near Ulaan Baatar, Mongolia	sukhbaatar_uΩyahoo.com demberelΩrcag.ac.mn batmunkhΩrcag.ac.mn
P. Gallagher Joe McCauley Pietro Zucca Eoin Carley	TCD/Birr castle, Ireland	GALLAGPTΩtcd.ie PMCCULEYΩtcd.ie pietrozucca83Ωgmail.com eoincarleyΩhotmail.com
Peter Wright	ERAC, Germany	ErachqΩaol.com
Mihai Dumitru EDRO	Melbourne, Australia	cmdumitruΩausec.net
Hans Michlmayr VK6ZT	Perth, Australia	hmichlmayrΩbigpond.com
Jim Sky KH6SKY	Ocean View, Hawaii	radioskyΩradiosky.com
Karel Jiricka	OSRA, Czech Republic	jirickaΩasu.cas.cz
Merja Tornikoski Silja Pohjolainen Juha Kallunki	Metsähovi Radio Observatory Finland	mttΩkurp.hut.fi silpohΩutu.fi kallunkiΩkurp.hut.fi
Ayman M. Mahrous Heba Salah	Helwan university Egypt	ayman.mahrousΩgmail.com galaxy2049Ωyahoo.com
Wolfgang Arnold	DJ3QD	arnoldwoΩaol.com
Whitham D. Reeve	Anchorage Alaska USA	whitreeveΩgmail.com

Radial Anvar	Malaysia	adi_astroΩyahoo.com
Zety Sharizat Hamidi	Malaysia	zsharizatΩyahoo.co.uk
Oleg Gontarev	Almaty Kazakhstan	gog2035Ωyandex.ru
Ericson Lopez	Ecuador	observaquitoΩgmail.com
Walter R. Guevara Day	Peru	walterΩconida.gob.pe
Paul Baki	Nairobi Kenya	paulbakiΩgmail.com
Alexander MacKinnon	Glasgow	a.mackinnonΩeduc.gla.ac.uk
Ivan Dorotovic	Slovakia	ivan.dorotovicΩsuh.sk
Janaka Adassuriya	Sri Lanka	adassuriyaΩaccmt.ac.lk
Rajmal Jain	Ahmedabad, India	rajmalΩprl.res.in
Subramaniam Ananthakr.	Pune, India	subra.ananΩgmail.com
Fritz Lensch OE3FLB	Austria	oe3flbΩgmx.at
Karl-Heinz DL6EBS	Germany	radioastronomieΩdl6ebs.de

Cc:

Peter Messmer	TXCORP, USA	messmerΩtxcorp.com
N. Gopalswamy	NASA/GSFC, USA	Nat.GopalswamyΩnasa.gov
David Webb	ISWI representative	david.webbΩbc.edu
K. Yumoto	ISWI representative	yumotoΩserc.kyushu-u.ac.jp
G. Maeda	Editor ISWI newsletter	maedaΩserc.kyushu-u.ac.jp
J. M. Davila	NASA/ISWI, USA	joseph.m.davilaΩnasa.gov
B. Thompson	NASA/GSFC, USA	Barbara.J.ThompsonΩnasa.gov
H. Haubold	UN Office of outer space affairs, Vienna	hans.hauboldΩunvienna.org

From:

Christian Monstein	ETH Zürich Switzerland	monsteinΩastro.phys.ethz.ch

Remark: replace Ω with @ in the email addresses above.

If you do not want to receiver this status-report just send me an email that I can take out your email of my list.
On the other hand, if you know of someone who might be interested just send me the email of that person.

Two new locations in Europe operational:

Two licensed radio amateurs built their own Callisto spectrometer based on our documentation. One is Karl-Heinz Gansel from Germany (DL6EBS) and the other one is Fritz Lensch from Austria (OE3FLB).

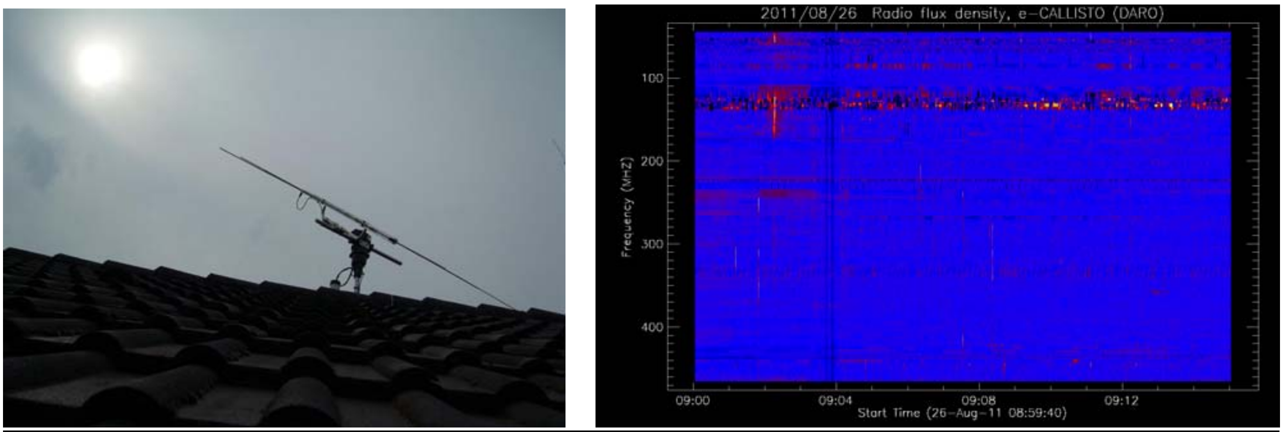


Fig. 1: Left: Logarithmic – periodic antenna on top of the roof tracking the sun with a YAESU G5500 Rotator. Right 1st light of a type III flare from 20110826 at 09:02. Station name DRAO, http://www.radio-astronomie.de/ra/

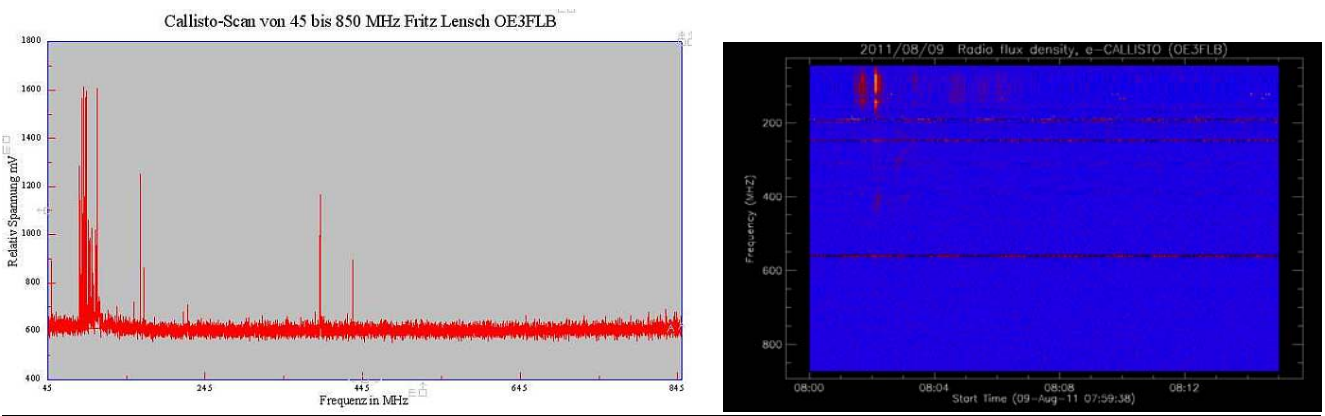


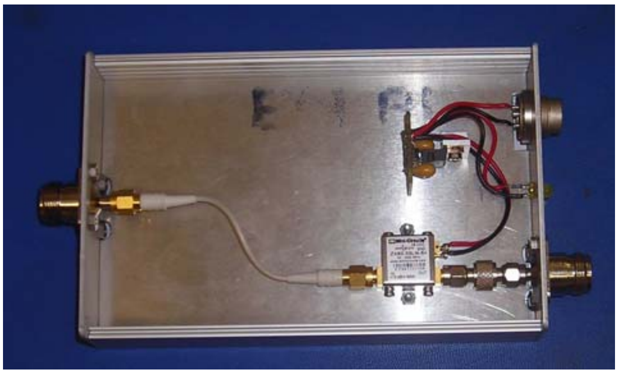
Fig. 2: Left: spectral overview at the location in Austria. Right: 1st light of OE3FLB, the X9.3 flare of August 9th, 2011 at 08:02. URL: http://turbo.at/antares/antares_ng/doku.php?id=radioastronomie

Data access:

Relevant links can be found here:
http://e-callisto.org/

Frontend SWMC ready

The frontend for SWMC (Space Weather Monitor Center) of University of Cairo has been finished, tested and will be installed beginning of October.



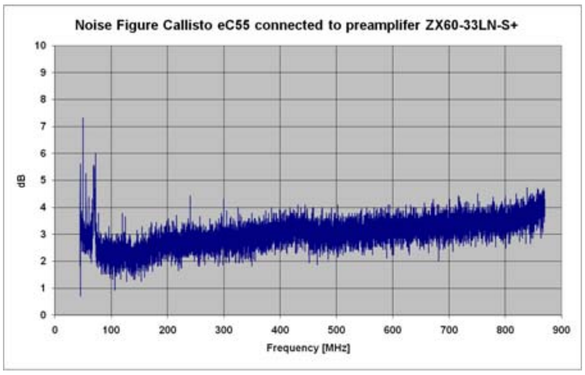


Fig. 3: Left: opened frontend with preamplifier. Right: Noise figure measured with a Callisto.

AOB

An installation workshop will be held at Cairo University in October 3rd – 7th this year.
Contact person: Dr. Ayman M. Mahrous, Helwan University, Egypt. ayman.mahrous(at)gmail.com

Plans for a Callisto-related workshop at ANGASKA in Malaysia from {tbd} till {tbd}
Contact person: Zety Sharizat Hamidi, zsharizat(at)yahoo.co.uk

And another, but similar workshop is planned in Pune/India from 23.11.2011 till 25.11.2011
Contact person: Subramaniam Ananthakrishnan, subra.anan(at)gmail.com

A 4th workshop will be held in Nairobi, Kenya in November, may be December this year.

A new series of 10 Callisto based on CD1316LS/IV-3 + CD1316L/IHP-3 + CD1316LK/GIH has been produced and tested. Final qualification will be done beginning of September.

A Callisto spectrometer has been sent to Crimean Astrophysical Observatory, Simpheropol.

A replacement has been sent to Badary. Their original instrument is down due to lightning stroke.

M9.3 flare observed with Callisto Network on August 4th, 2011

NOAA-list:

2550		0341	0357	0404	G15	5	XRA	1-8A	M9.3	5.4E-02	1261
2550		0344	0355	0505	LEA	3	FLA	N19W36	2B	PRB	1261
2550	+	0349	0353	0402	LEA	G	RBR	4995	1300	CastelliU	1261
2550	+	0349	0353	0402	LEA	G	RBR	8800	2400	CastelliU	1261
2550	+	0349	0351	0401	LEA	G	RBR	2695	720	CastelliU	1261
2550		0349	0353	0402	LEA	G	RBR	15400	2100	CastelliU	1261
2550	+	0349	0351	0400	LEA	G	RBR	1415	470	CastelliU	1261
2550	+	0350	////	0353	CUL	C	RSP	018-600	III/3		1261
2550	+	0350	0413	0423	LEA	G	RBR	410	2200	CastelliU	1261
2550	+	0351	0356	0422	LEA	G	RBR	610	4800	CastelliU	1261
2550	+	0351	0356	0423	LEA	G	RBR	245	13000	CastelliU	1261
2550	+	0354	////	0403	LEA	C	RSP	066-180	II/2	750	1261
2550	+	0358	////	0401	PAL	C	RSP	025-180	V/3		1261

Remark: green covers the frequency range of Callisto

Radio observations from 8 different locations worldwide are available.

Stations with observations are:

Anchorage/Alaska
Gauribidanur/India
Daejeon/South Korea
Metsähovi/Finland
Poste de Flacq/Mauritius
Ooty/India
Ulaan Baatar/Mongolia
Almaty/Kazakhstan

All locations have the same spectrometer but different antennas pointing into different sky-positions and different pre-amplifier. All are more less suffering from local rfi. All plots show the same frequency range. Some locations only observe part of the total spectrum of Callisto.
It might be a nice job for a PhD student to combine all observations from different locations with different frequency ranges into one single plot with reduced rfi and improved snr (signal to noise ratio).

All data available here:
http://soleil.i4ds.ch/solarradio/callistoQuicklooks/

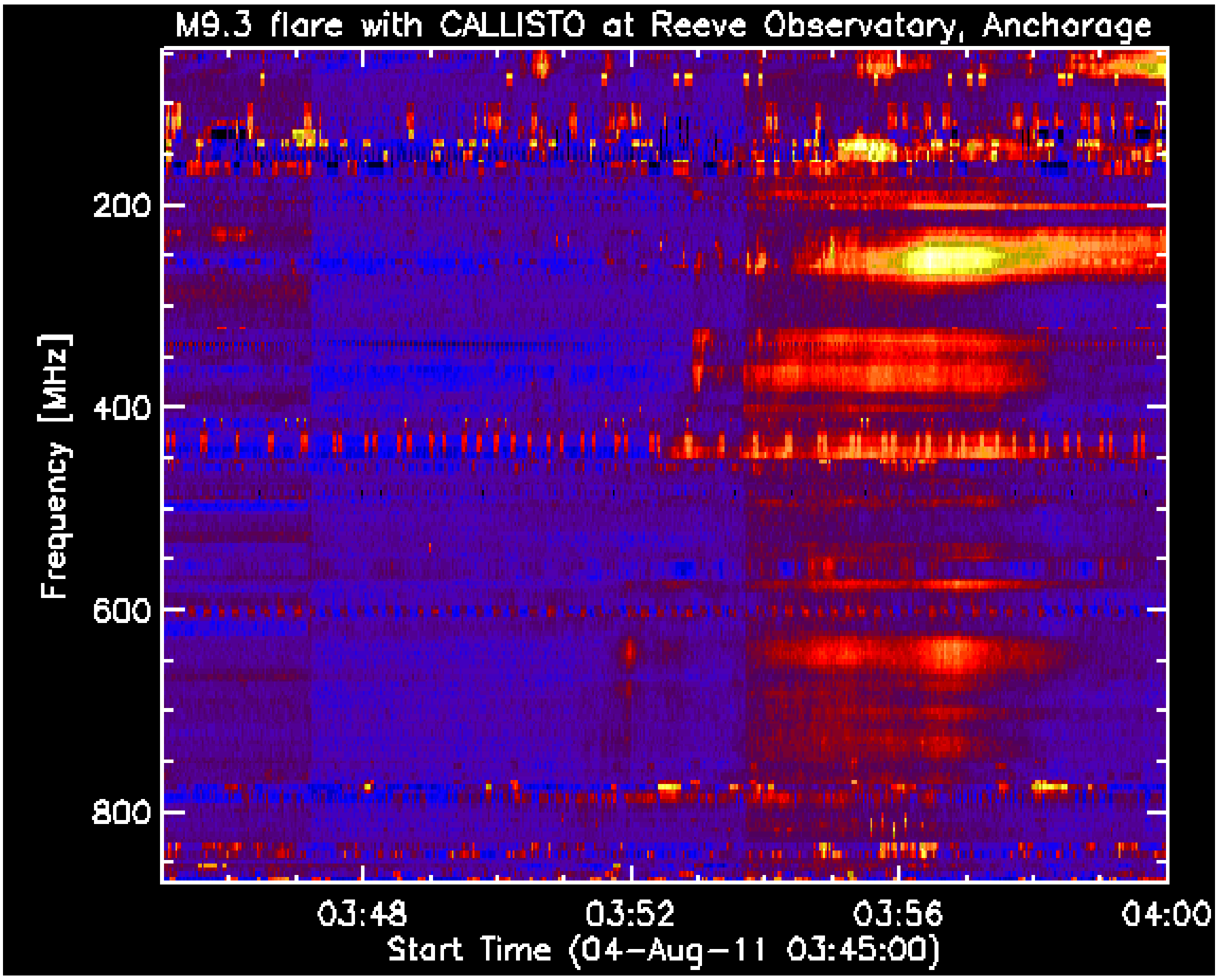

M9.3 flare with CALLISTO at Reeve Observatory, Anchorage
Frequency [MHz]
200
400
600
800
03:48
03:52
03:56
04:00
Start Time (04-Aug-11 03:45:00)

Fig. 4

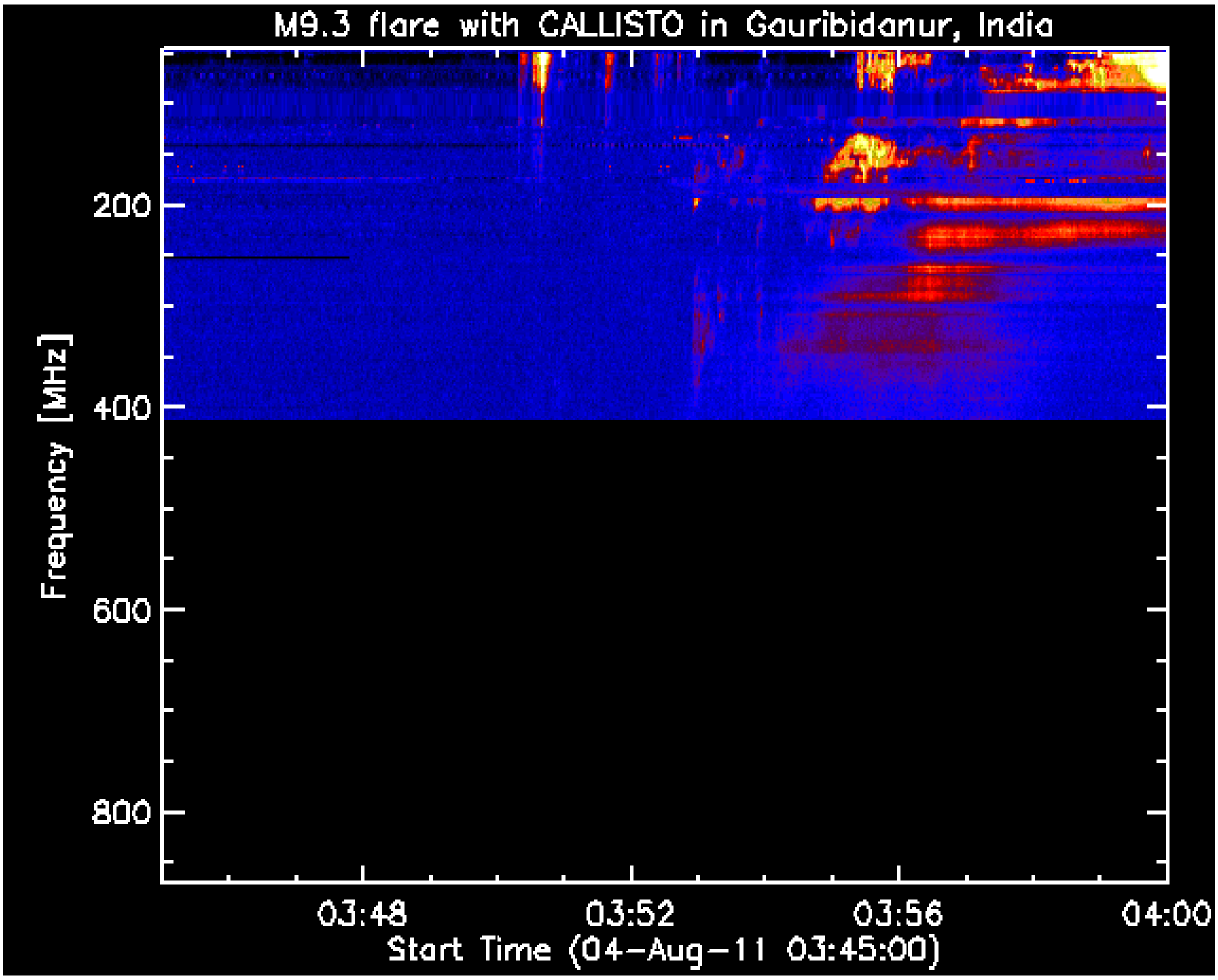

M9.3 flare with CALLISTO in Gauribidanur, India
Frequency [MHz]
200
400
600
800
03:48
03:52
03:56
04:00
Start Time (04-Aug-11 03:45:00)

Fig. 5

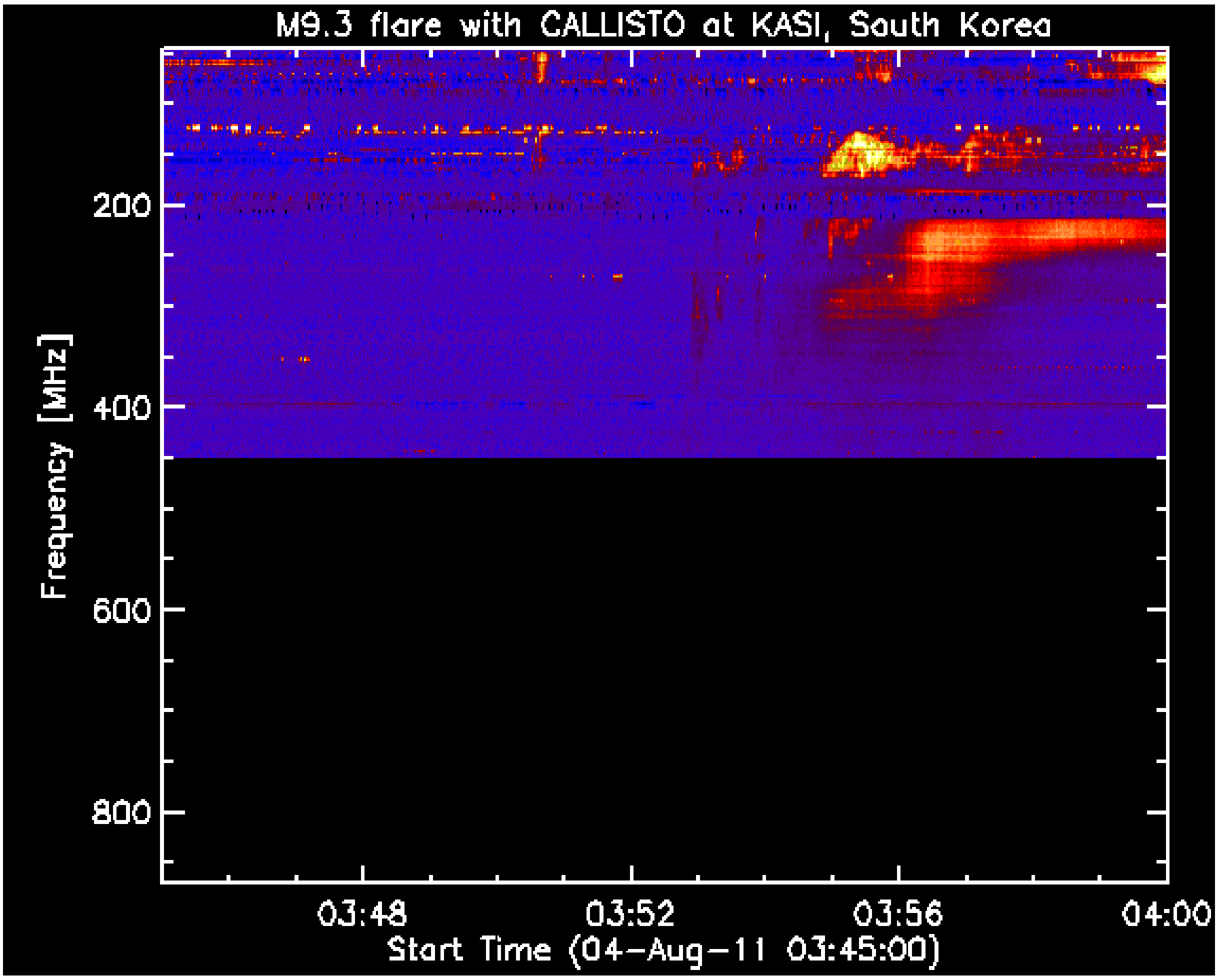

M9.3 flare with CALLISTO at KASI, South Korea
Frequency [MHz]
200
400
600
800
03:48
03:52
03:56
04:00
Start Time (04-Aug-11 03:45:00)

Fig. 6

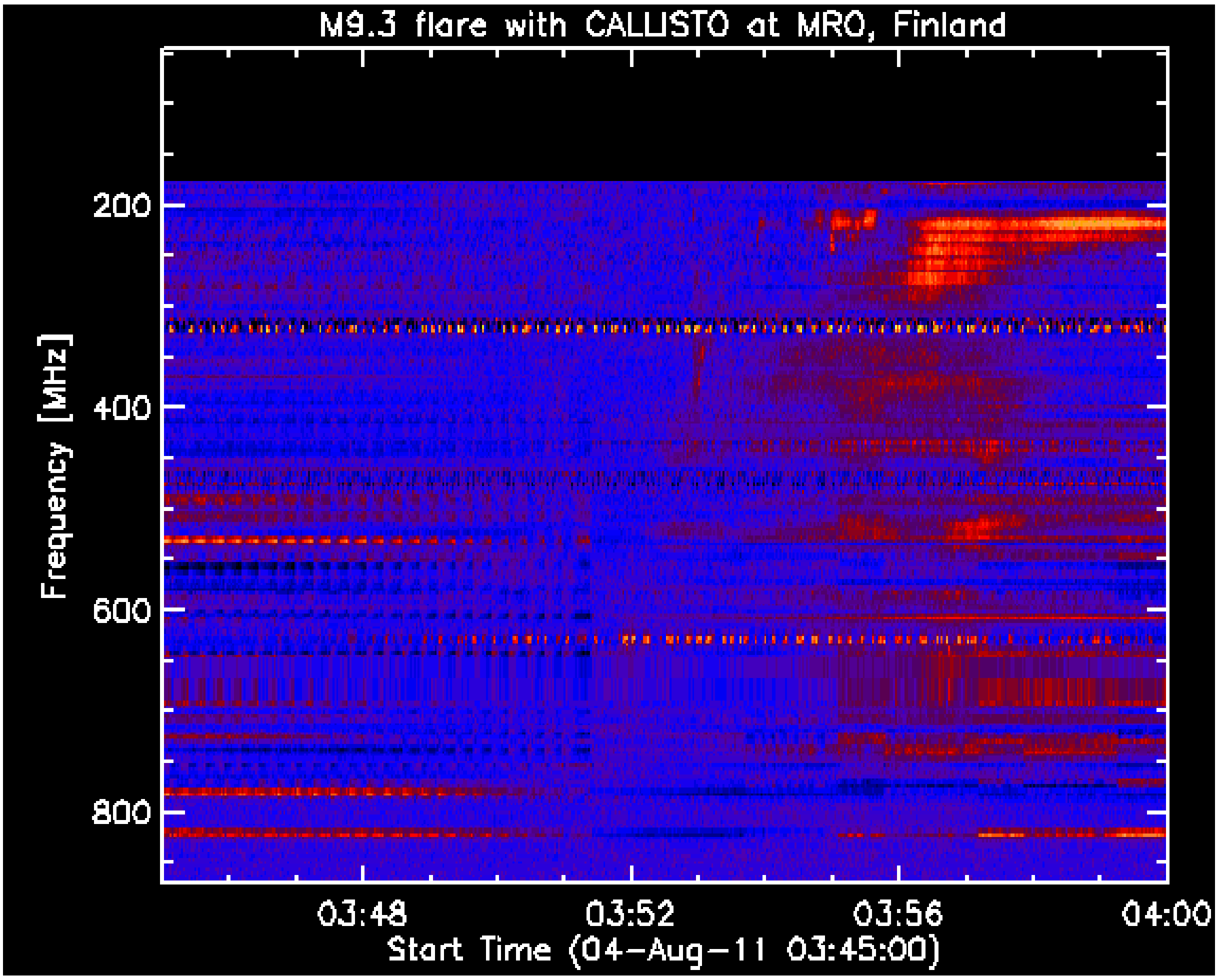

M9.3 flare with CALLISTO at MRO, Finland
Frequency [MHz]
200
400
600
800
03:48
03:52
03:56
04:00
Start Time (04-Aug-11 03:45:00)

Fig. 7

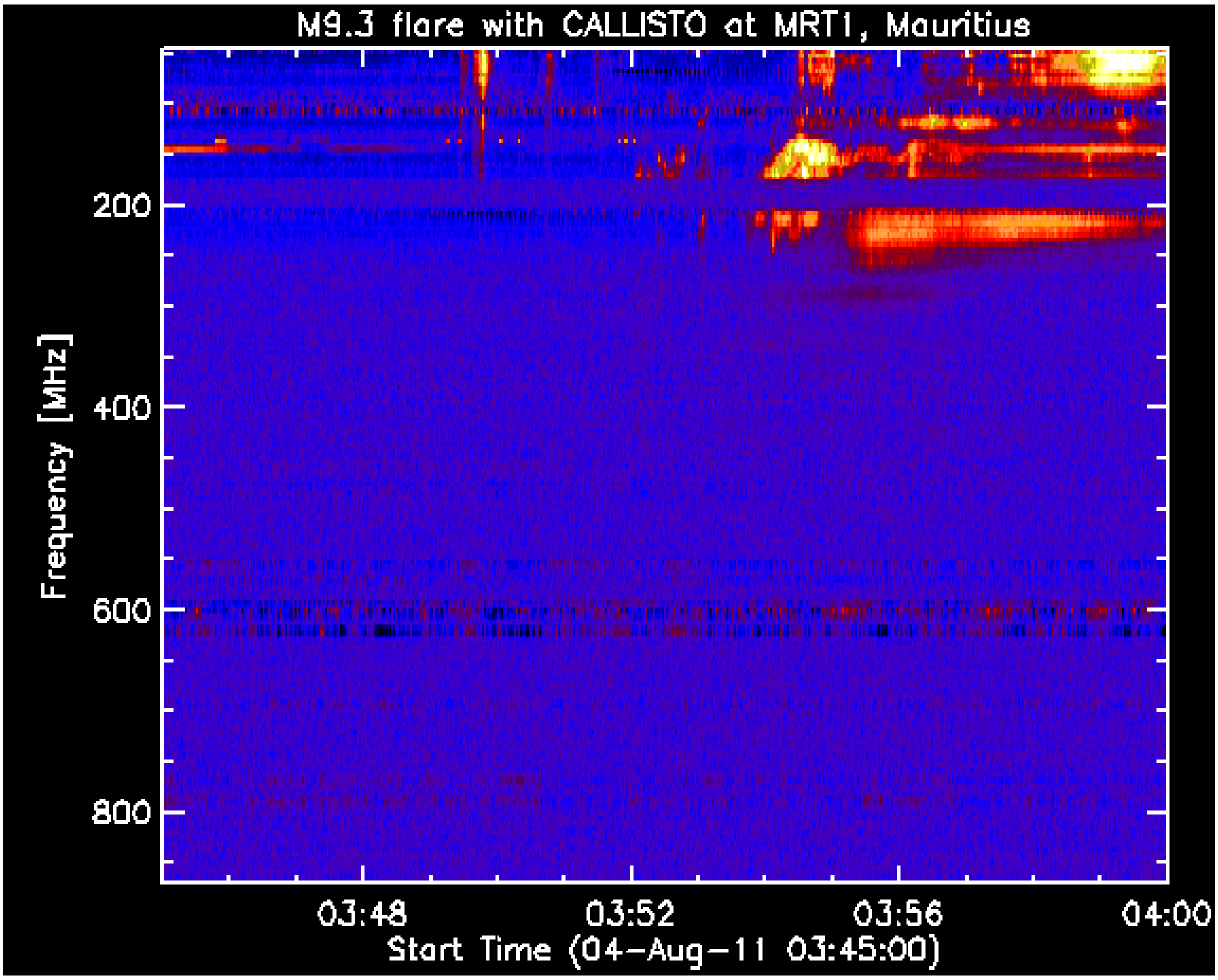

M9.3 flare with CALLISTO at MRT1, Mauritius
Frequency [MHz]
200
400
600
800
03:48
03:52
03:56
04:00
Start Time (04-Aug-11 03:45:00)

Fig. 8

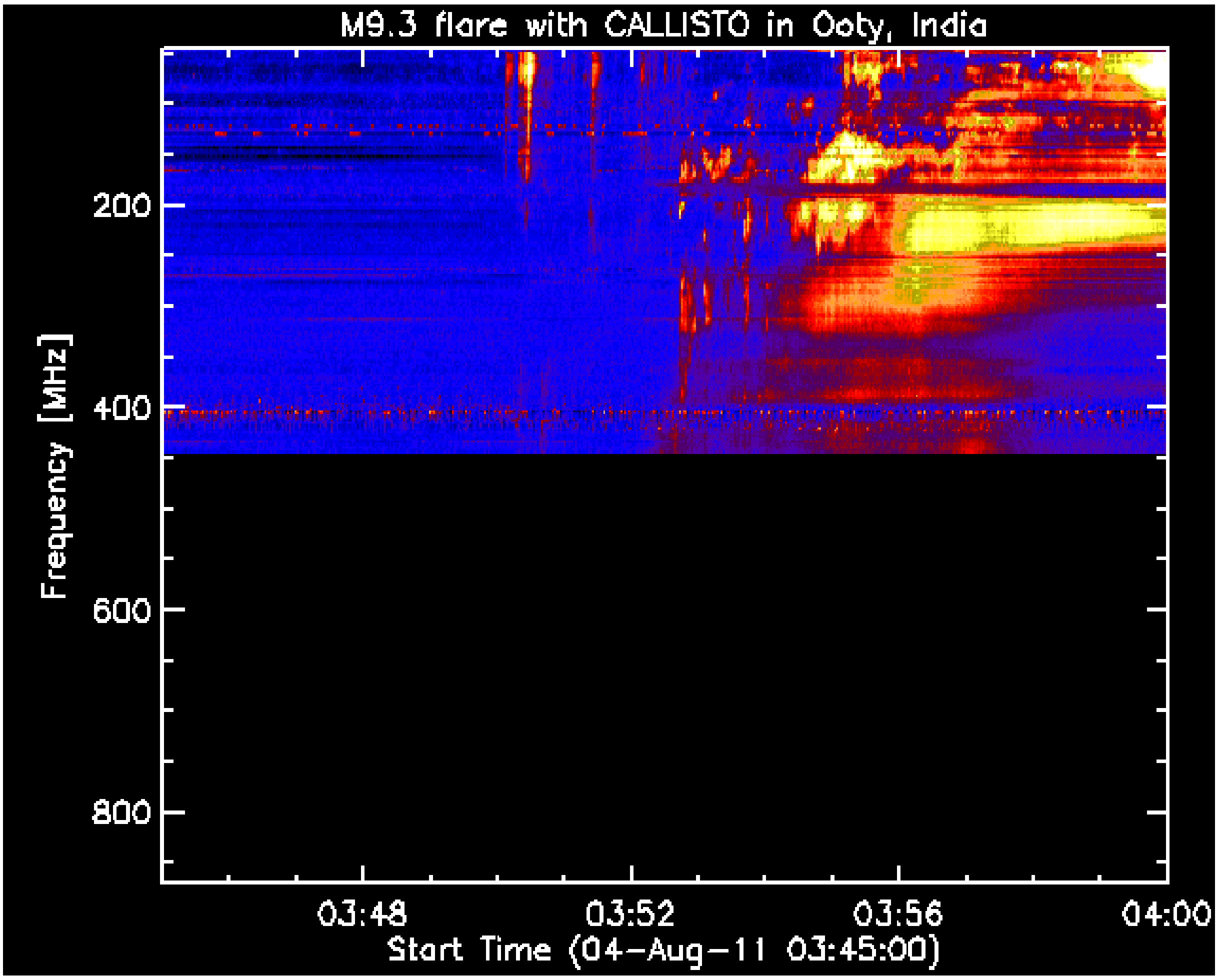

M9.3 flare with CALLISTO in Ooty, India
Frequency [MHz]
200
400
600
800
03:48
03:52
03:56
04:00
Start Time (04-Aug-11 03:45:00)

Fig. 9

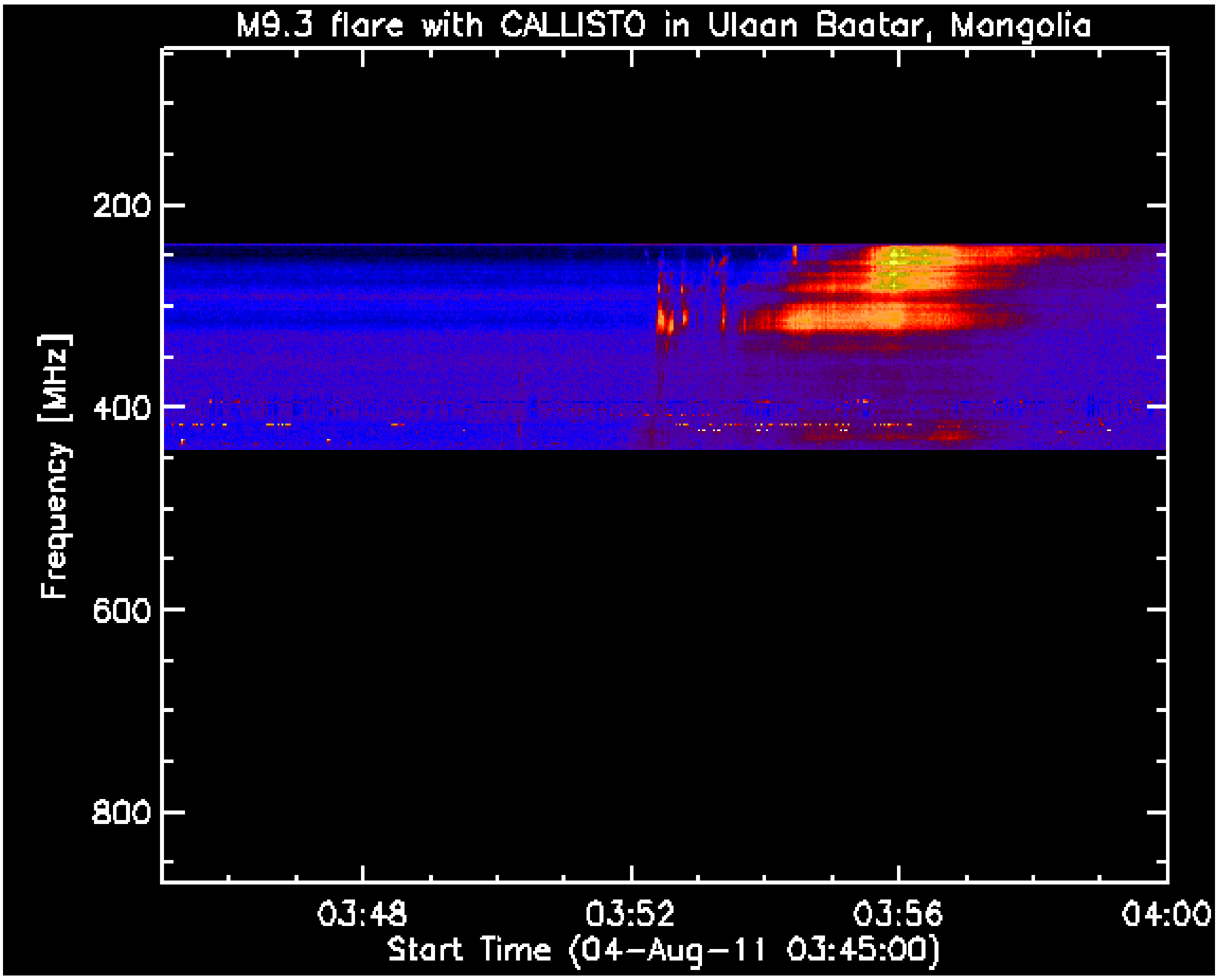

M9.3 flare with CALLISTO in Ulaan Baatar, Mongolia
Frequency [MHz]
200
400
600
800
03:48
03:52
03:56
04:00
Start Time (04-Aug-11 03:45:00)

Fig. 10

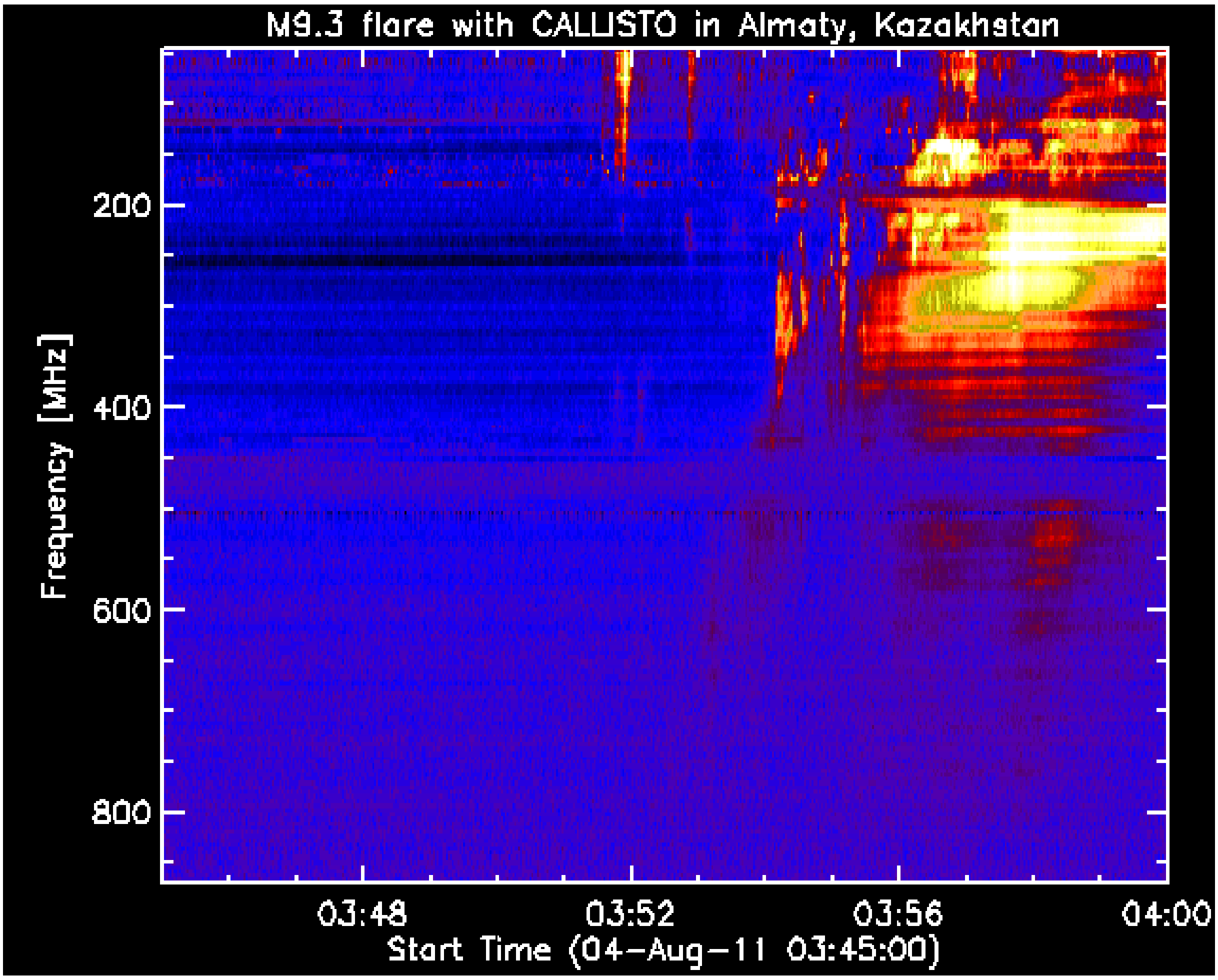

M9.3 flare with CALLISTO in Almaty, Kazakhstan
Frequency [MHz]
200
400
600
800
03:48
03:52
03:56
04:00
Start Time (04-Aug-11 03:45:00)

Fig. 11

UNIVERSITY OF MAURITIUS

MAURITIUS RADIO TELESCOPE (F O S)

MAURITIUS CALLISTO SPECTROGRAPH

RECENT OBSERVATIONS USING THE MAURITIUS CALLISTO SPECTROMETER

Girish Kumar Beeharry, Head MRT
Gauribidanur Naranappa Rajasekhara, Expert Observer MRT

Circulated in
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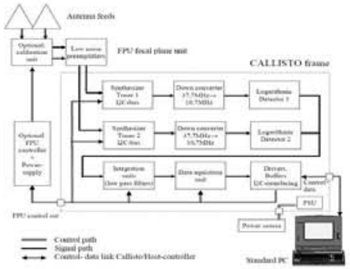
on 2 Sept 2011.

ABSTRACT

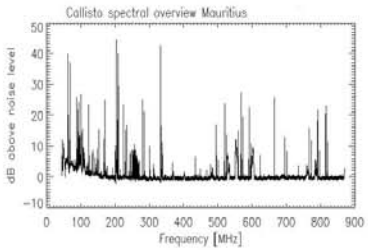
Daily solar flare spectral observations, from 45 to 870 MHz, are carried out by the Mauritius CALLISTO Spectrometer since the 27th April 2009. This instrument is located at the Mauritius Radio Telescope site in Bras d' Eau. On 20th May 2011 another spectrometer was connected to a second log periodic antenna, to monitor the radio Sun in both U – V planes. A selection of the notable flares are presented here. On 24th February 2011, at 0735 UT, a M3-class solar flare erupted. On 7th June 2011,, an M2-class solar flare was emitted at 0620 UT, and a S1-class geomagnetic storm ensued. At 0357 UT on August 4th we registered a M9.3 flare. On August 9th at 0805 UT, sunspot 1263 produced an X7-class solar flare; the third, and strongest so far, X-flare of the present Solar Cycle 24. The structure of all the flares, compared with results from other observatories is depicted here. As we head into the maxima of the solar cycle, these observations can guide us in better understanding solar triggered events in space weather.

Broad band logarithmic periodic antenna at MRT observatory in Mauritius. The antenna was built out of standard aluminum profiles in the local workshop. Frequency range goes from 20 MHz up to 860 MHz in fixed vertical position. Vertical tubes on both sides are made of PVC to mechanically support long, heavy dipoles.

The CALLISTO Spectrometer is on the left side of the table (below 'TOBLERONE' chocolate) power supplies just behind the monitor with keyboard and PC on the right.

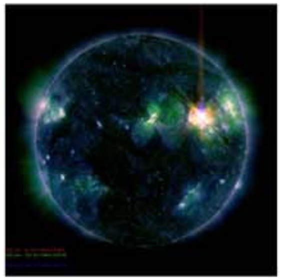


THE CALLISTO HARDWARE SIGNAL PATH

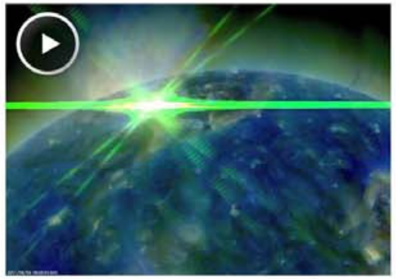


M3-CLASS FLARE 24-02-2011 AT 07 35 UT (SOHO)

RADIATION STORM ON 07-06-2011 AT 06 41 UT (SOHO)



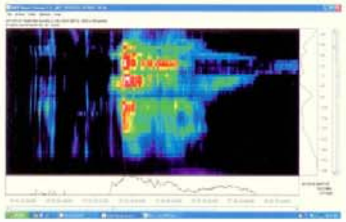
M9.3-CLASS FLARE ON 04-08-2011 AT 03 58 UT (SDO)

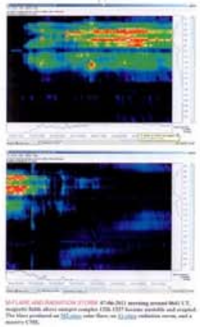


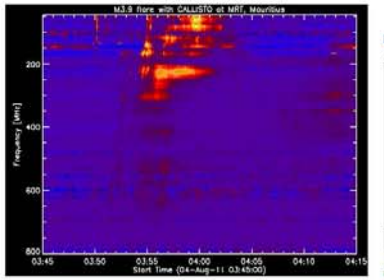
X7-CLASS FLARE, THE STRONGEST SO FAR IN PRESENT SOLAR CYCLE ON 09-08-2011 AT 08 05 UT(SDO)

Above images are from the SOlar and Heliospheric Observatory & the Solar Dynamics Observatory in space

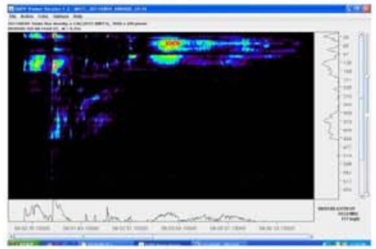
FEB 24TH SOLAR FLARE OBSERVED BY MRT
CALLISTO 45 to 180 MHz





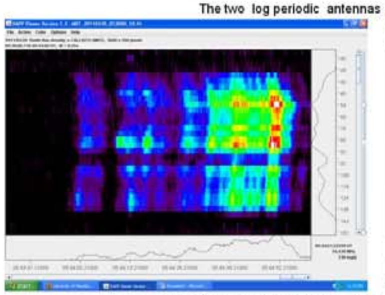


SOLAR FLARE ON 09-08-2011 AT 08 05 UT IN RADIO SPECTRUM FROM 45MHz TO 650MHz OBSERVED THROUGH MAURITIUS CALLISTO SPECTROMETER



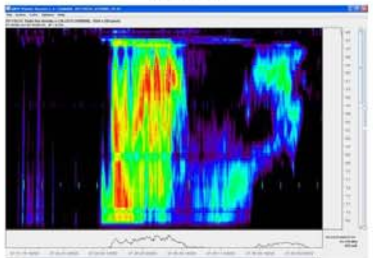
Above spectrograms are from the Mauritius CALLISTOs

The two log periodic antennas in the U and V planes

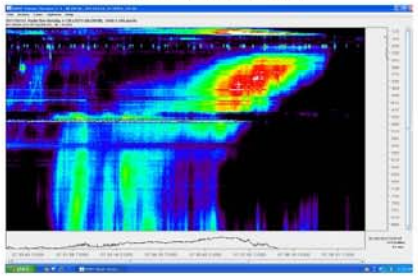


Type 3 flares in U (left) and V (right) planes on 20-04-2011 at 05 44 UT

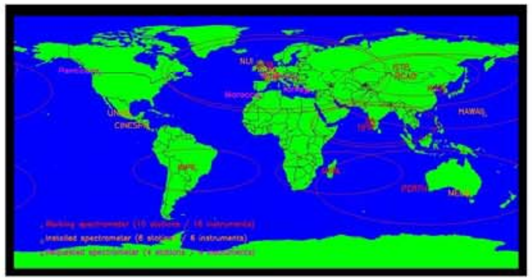
HUMAIN



BLEN7M 175 to 870 MHz



24-02-2011 flares from the log periodic tracking Humain (Belgium) and the 7 m dish Bleien (Switzerland) CALLISTOs



WORLD WIDE CALLISTO NETWORK

INTEGRATED SPECTRA OF THE FLARE TYPE TWO ON 13-05-2010 FROM EIGHT LOCATIONS