

First light from student Pascal Keller, Eschenbach/Switzerland on 6-8 June 2014

Christian Monstein

Pascal Keller, a student during his exams for general qualification for university entrance, recently set up a Long Wavelength Array (LWA) antenna and a Callisto system to observe solar radio burst activity in his back yard (figure 1) in Eschenbach, Switzerland. The antenna, spectrometer and software were provided on loan by Institute for Astronomy, ETH Zurich. On the first observation day he observed his 1st light, a type II solar radio burst and some type III bursts. His aim is now to compare this LWA observation with others from the e-Callisto network, which is composed of different antenna types and different antenna sizes as well different locations worldwide. His first four observations on 6 and 8 June 2014 are presented in figures 2 to 5 and associated tables 1 to 4.



Figure 1 ~ An LWA antenna installed in the backyard of student Pascal Keller in Eschenbach, Switzerland

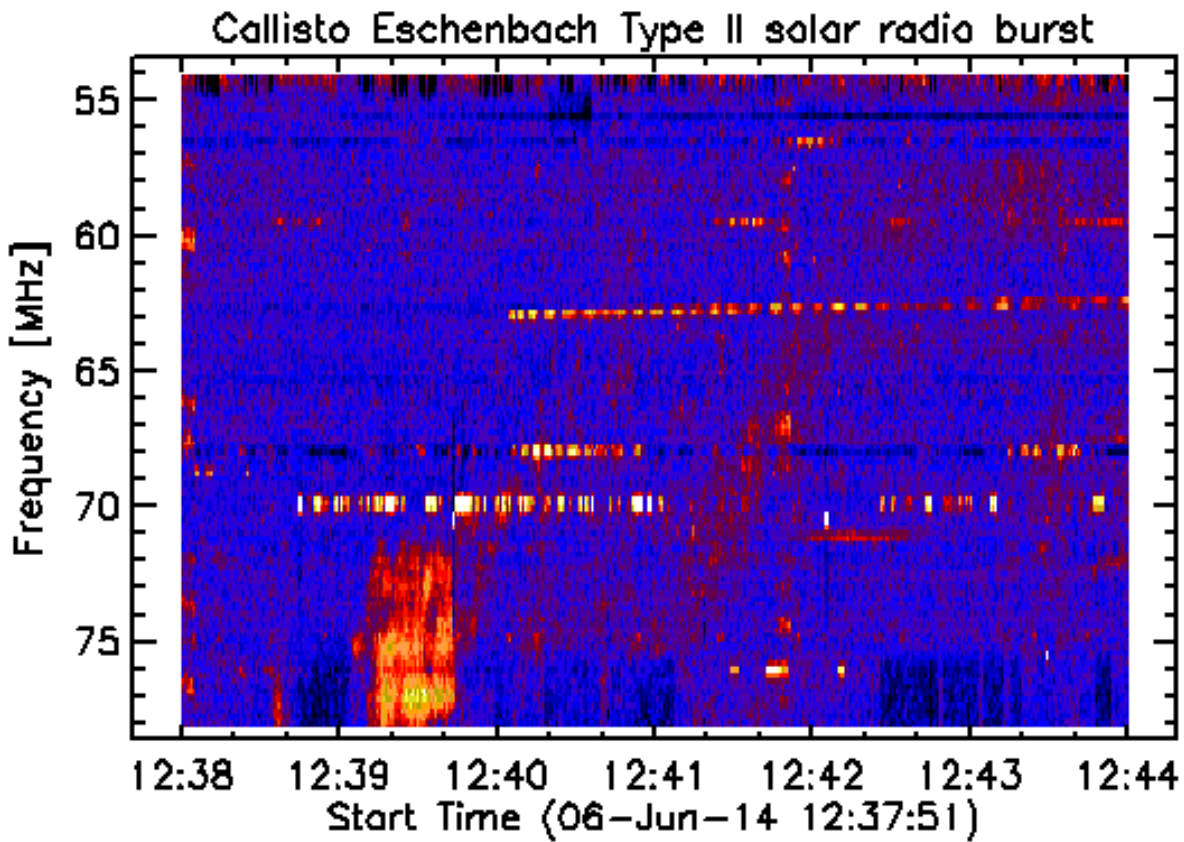


Figure 2 ~ 1st light in Eschenbach, a type II solar radio burst starting at 12:39 UT until about 12:44. Horizontal structures are local interference from short wave transmitters. Blue stands for low signal while yellow denotes to high signal level.

Table 1 ~ Space Weather Prediction Center Event Data for solar event on 6 June 2014
<http://www.swpc.noaa.gov/ftpdirectories/indices/events/20140606events.txt>

#Event	Begin	Max	End	Obs	Q	Type	Loc/Frq	Particulars	Reg#
1450 +	1237	////	1250	SVI	C	RSP	029-118	II/1	637

For a description of the information shown above, see: <http://www.swpc.noaa.gov/ftpdirectories/indices/events/README>

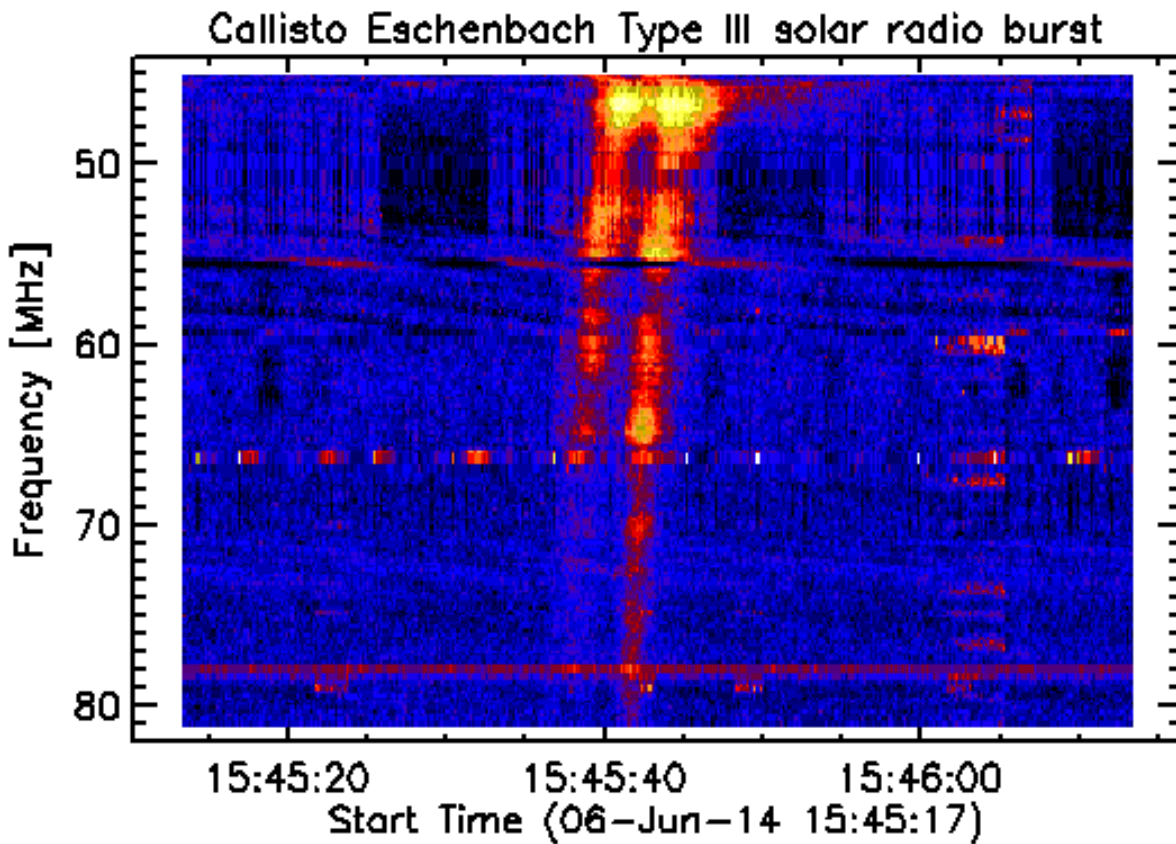


Figure 3 ~ 2nd light in Eschenbach, a type III solar radio burst around 15:45 UT. Horizontal structures are local interference from short wave transmitters. Blue stands for low signal while yellow denotes to high signal level.

Table 2 ~ Space Weather Prediction Center Event Data for solar event on 6 June 2014

(<http://www.swpc.noaa.gov/ftplib/indices/events/20140606events.txt>)

#Event	Begin	Max	End	Obs	Q	Type	Loc/Frq	Particulars	Reg#
1540	1654	////	1655	SVI	C	RSP	025-083	III/1	

For a description of the information shown above, see: <http://www.swpc.noaa.gov/ftplib/indices/events/README>

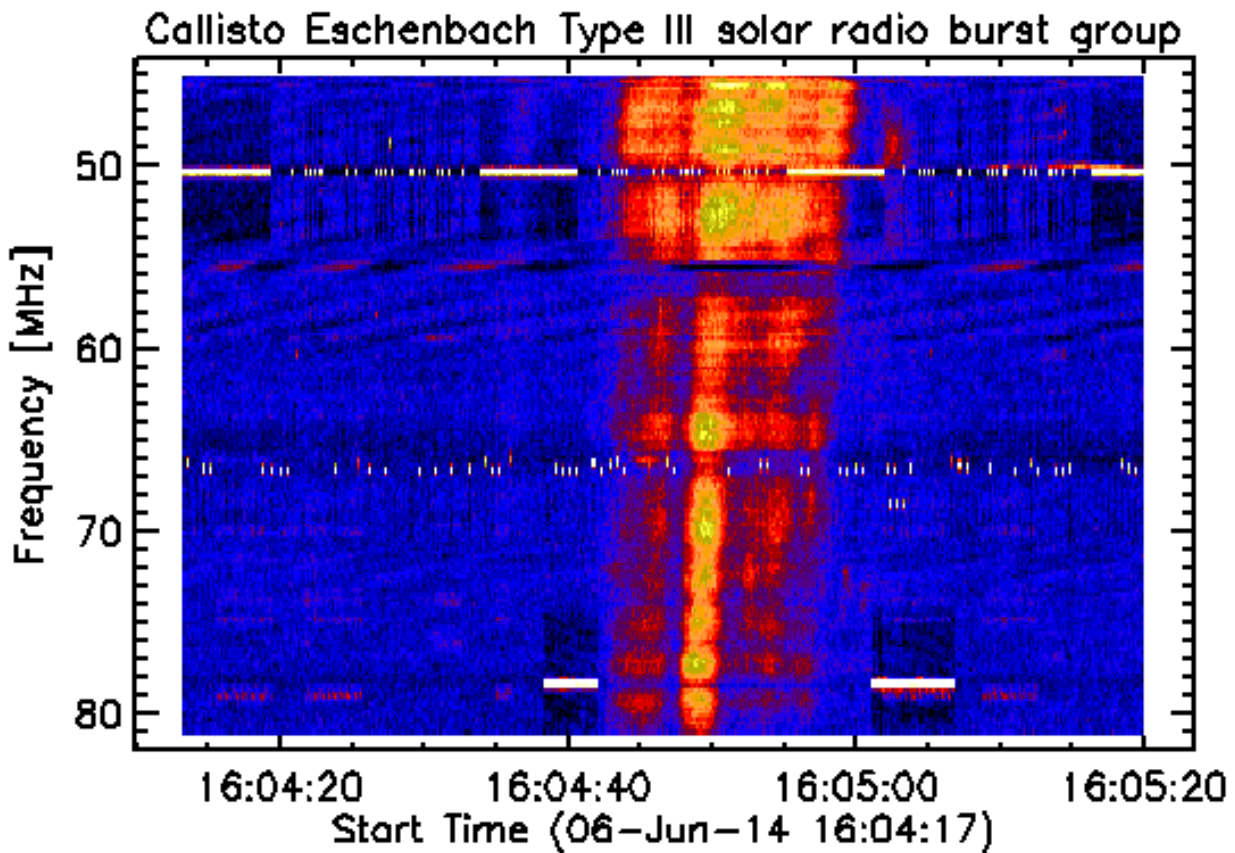


Figure 4 ~ 3rd light in Eschenbach, a type III solar radio burst around 16:04 UT. Horizontal structures are local interference from short wave transmitters. Blue stands for low signal while yellow denotes to high signal level. White denotes to extremely high level of interference.

Table 3 ~ Space Weather Prediction Center Event Data for solar event on 6 June 2014

(<http://www.swpc.noaa.gov/ftplib/indices/events/20140606events.txt>)

#Event	Begin	Max	End	Obs	Q	Type	Loc/Frq	Particulars	Reg#
1540	1654	////	1655	SVI	C	RSP	025-083	III/1	

For a description of the information shown above, see: <http://www.swpc.noaa.gov/ftplib/indices/events/README>

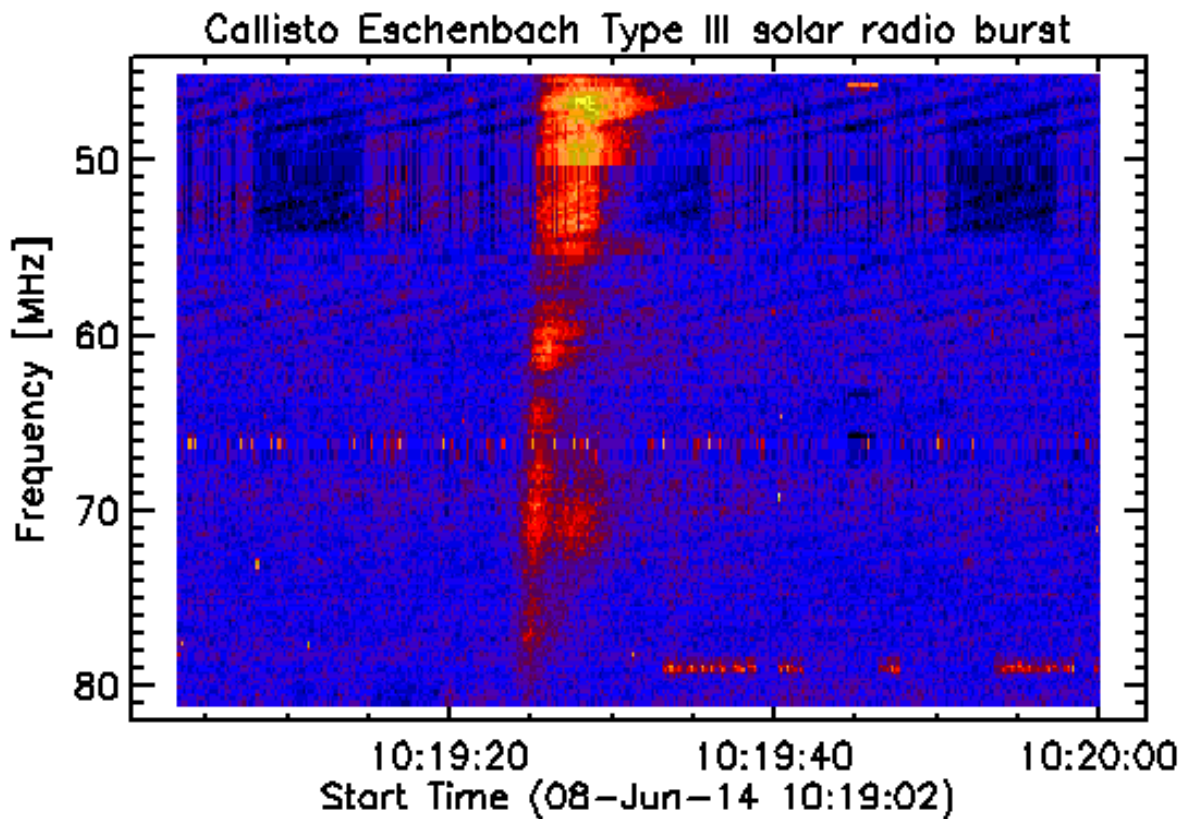


Figure 5 ~ 4th light in Eschenbach, a type III solar radio burst around 10:19 UT on June 8th 2014. Horizontal structures are local interference from short wave transmitters. Blue stands for low signal while yellow denotes to high signal level.

Table 4 ~ Space Weather Prediction Center Event Data for solar event on 8 June 2014
<http://www.swpc.noaa.gov/ftplib/indices/events/20140608events.txt>

#Event	Begin	Max	End	Obs	Q	Type	Loc/Frq	Particulars	Reg#
1880	1017	////	1030	SVI	C	RSP	025-109	III/2	

For a description of the information shown above, see: <http://www.swpc.noaa.gov/ftplib/indices/events/README>

Further information:

More information about the instrument Callisto and the network e-Callisto can be found here:
<http://e-callisto.org/>

More information about the LWA can be found here:
<http://www.reeve.com/RadioScience/Antennas/ActiveCrossed-Dipole/ActiveBalunOrderInfo.htm>