HNRAO Observing Log
40.673181 N – 80.437885 W
EN90sq

Date: April 27, 2018

Object: Jupiter – Non-Io-C

Observer: Unattended

Start - Time UT:	**0652**	**Planetary K-index:**	**0**
Jupiter Altitude (deg):	**32.1**	**Jupiter Azimuth (deg):**	**191.5**
Jupiter CML:	**341.52**	**Jupiter Io Phase:**	**124.09**
Jupiter RA (hr/min):	**15:11**	**Jupiter Dec (hr/min):**	**-16:27**
Hour Angle (hr/min):	**00:40**	**Polarization**	**LCP**
Sun Altitude (deg):	**-31.3**	**Sun Azimuth (deg):**	**028.8**
Sun RA (hr/min):	**20:11**	**Sun Dec (hr/min):**	**13:13**

End – Time UT:	**0728**	**De:**	**-3.4**
Jupiter Altitude (deg):	**30.2**	**Jupiter Azimuth (deg):**	**201.3**
Jupiter CML:	**3.29**	**Jupiter Io Phase**	**129.14**
Hour Angle (hr/min):	**01:17**	**Duration (min):**	**76**
Sun Altitude (deg):	**-27.6**	**Sun Azimuth (deg):**	**037.9**
Max Frequency MHz	**23**	**Min Frequency MHz**	**16**

Observatory Configuration

Spectrograph Receiver	Antenna	Polarization	System Loss	Multicoupler	Multicoupler port	Calibrated
FSX-8S	TFD	RCP LCP	-8.35 dB -7.59 dB	#2 RCP #1 LCP	Port 1 +10dB Port 1 +10dB	Twice daily Twice daily
FSX-2	LWA	RCP/LCP manual select		N/A	N/A	N/A
SDRPlay RSP2	TFD	RCP	-8.35 dB	#2 RCP	Port 2 +3dB	Twice daily
SDRPlay RSP2	TFD	LCP	-7.59 dB	#1 LCP	Port 2 +3dB	Twice daily
JOVE 1	TFD	RCP	-8.35 dB	#2 RCP	Port 3 +3 dB	04/20/2018
JOVE 1	TFD	LCP	-7.59 dB	#1 LCP	Port 3 +3 dB	04/20/2018
JOVE II	Jove dipoles	Linear	-3.12 dB	#3 Linear	Port 4 +3 dB	04/10/2018
SDRPlay RSP1	Experimental*					

JOVE dipoles phased @ 32 degrees for 2017-2018 season
TFD array phased @ 35 degrees for 2017-2018 season
LWA antenna phased @ 35 degrees and orientation for observation: 45 degrees
* Used for testing and evaluating antenna systems
Software Radio Sky Spectrograph 2.8.50

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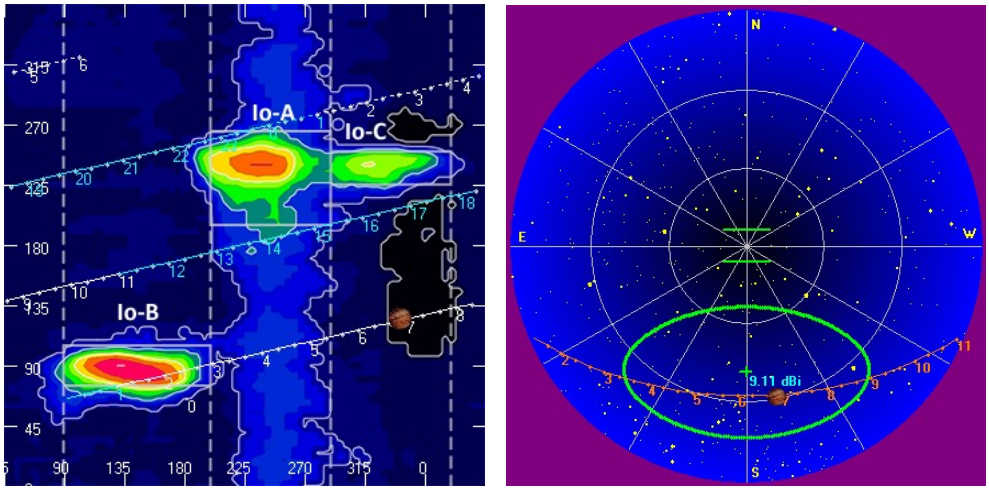
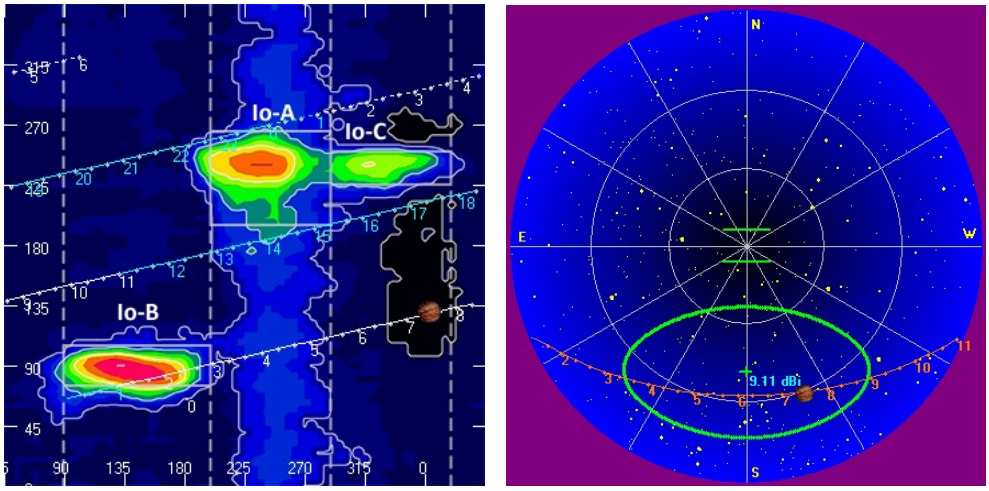


Beginning of Pass



End of Pass

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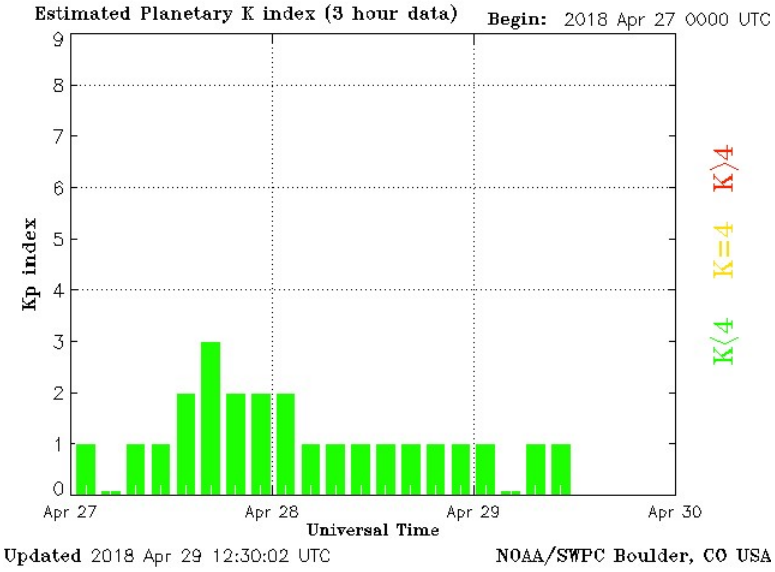
MODE	CML RANGE	Io RANGE	MAX F	POLAR	ARC	NOTES
Io-D	0-200	95-130	18	LH	Early	Also called "fourth source"
Io-B	(105 - 185)	(80-110)	39.5	RH	Early	Also called "early source"
non Io-B	80-200	0-360	38	RH	Early	Voyager info
Io-A	(200-270)	(205-260)	38	RH	Late	Also called "main source"
non-Io-A	(230-280)	0-360	38	RH	Late	
Io-C	(300-20)	(225-260)	36	RH&LH	Late	Also called "third source"
non-Io-C	300-360	0-360	32	RH&LH	Late	Voyager info

https://www.radiosky.com/jupmodes.html

Modulation Lanes Designations*	
L - Burst	S-Burst
L1 – No lanes	S1 – No lanes
L2 - Positive slope	S2 – Positive slope
L3 - Cross hatched	S3 – Cross hatched
L4 – Negative slope	S4 – Negative slope
*Modulation Lanes in the Dynamic Spectra of Jovian L-bursts, J.J. Riihimaa, Astron. & Astrophys. 4, 1970	



A very weak Non-Io-C storm with negative slopping arcs and no identifiable modulation lanes. L-bursts dominate. There were signs of possible S-bursts at the very beginning (0655:20 UT) of the storm but since the bursts were at or slightly above the galactic background, positive identification was impossible.

Some L-bursts were almost N-event like (0658 UT).

No emissions strong enough to be recorded with SkyPipe @ 20.1 MHz.

Nothing else of note.

EOR

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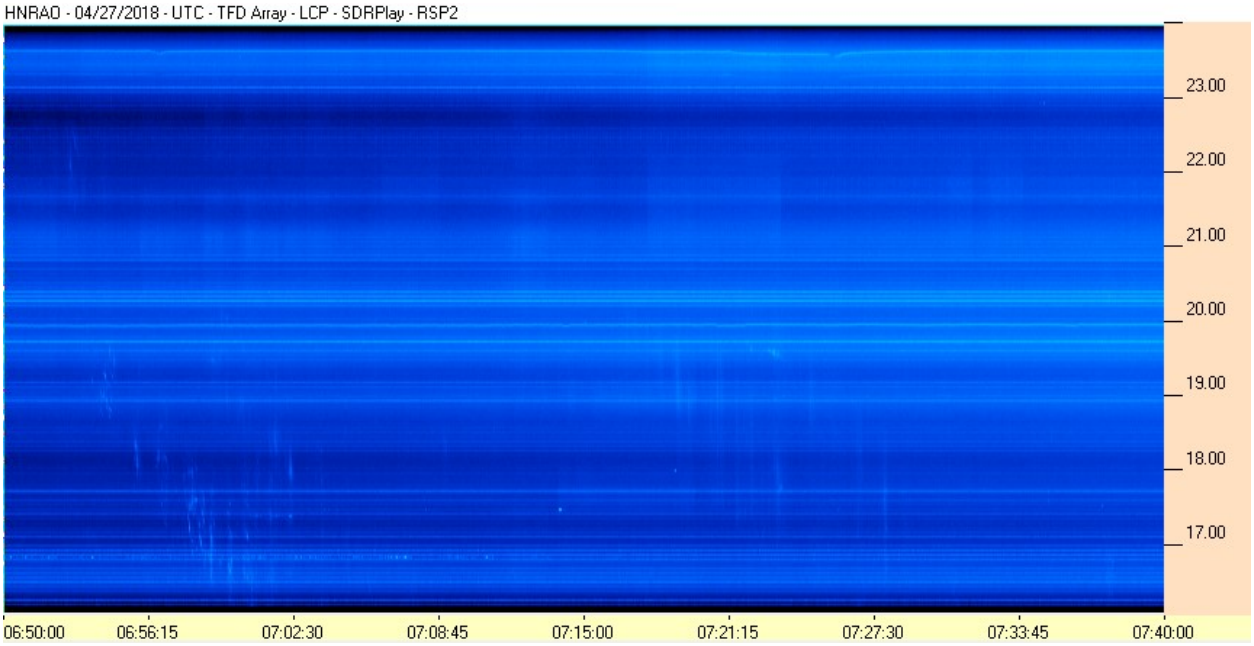
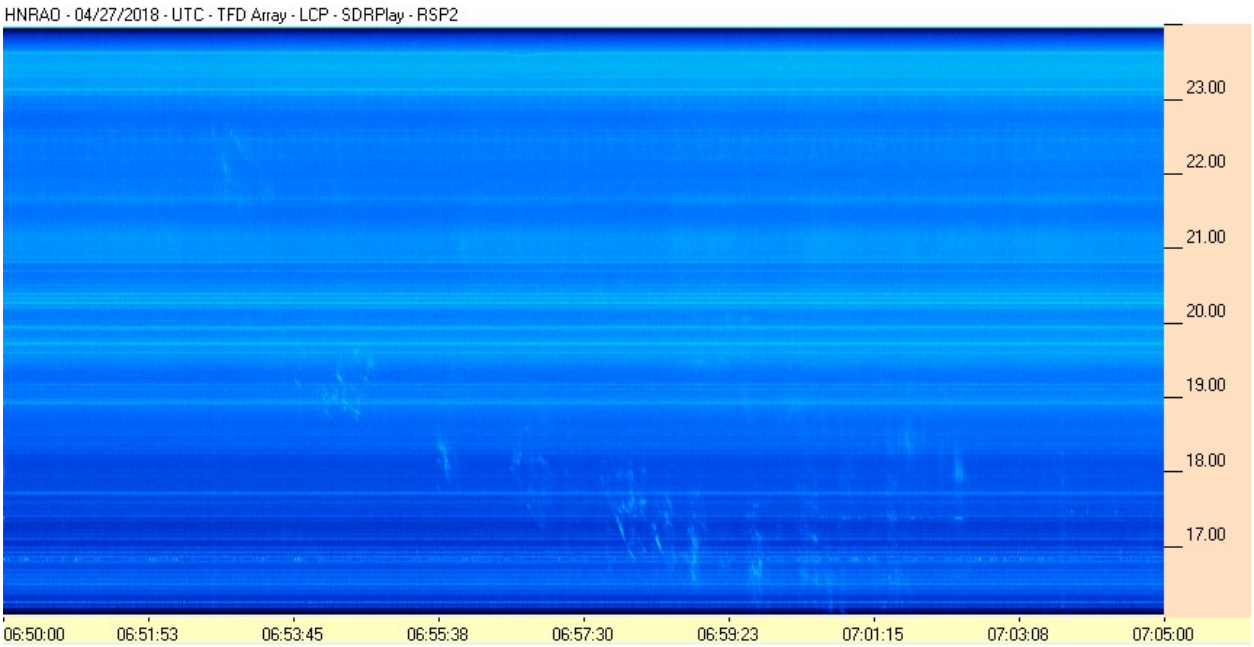
SDRPlay RSP2 / TFD Array





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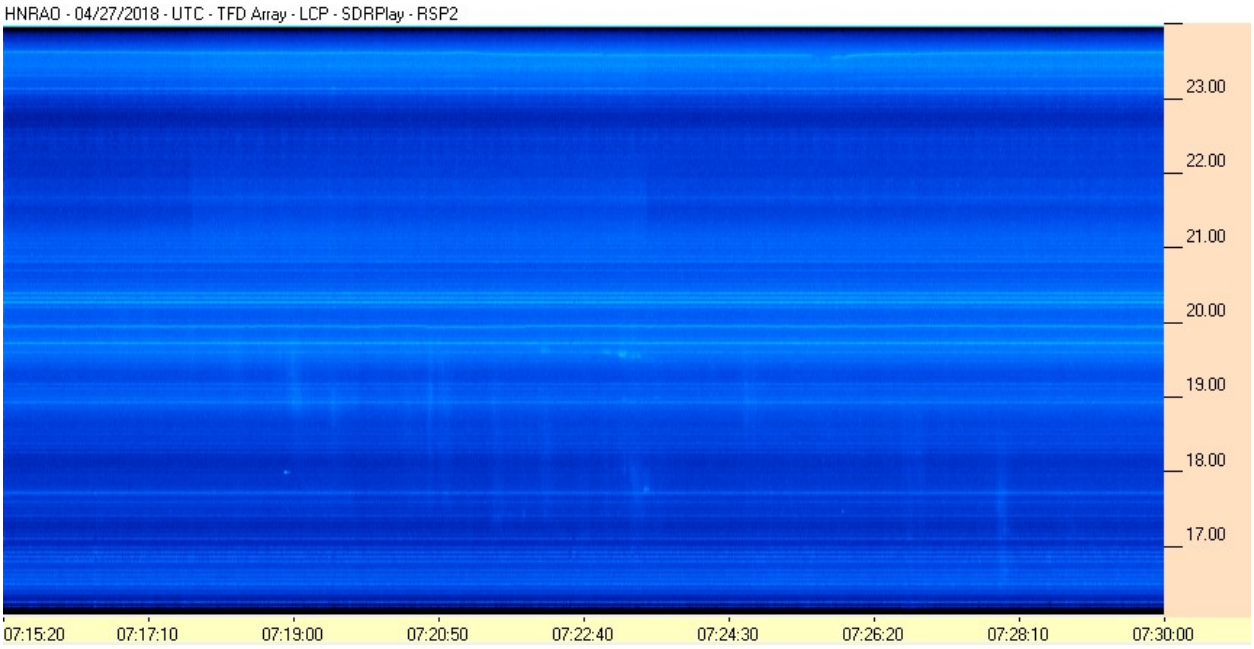

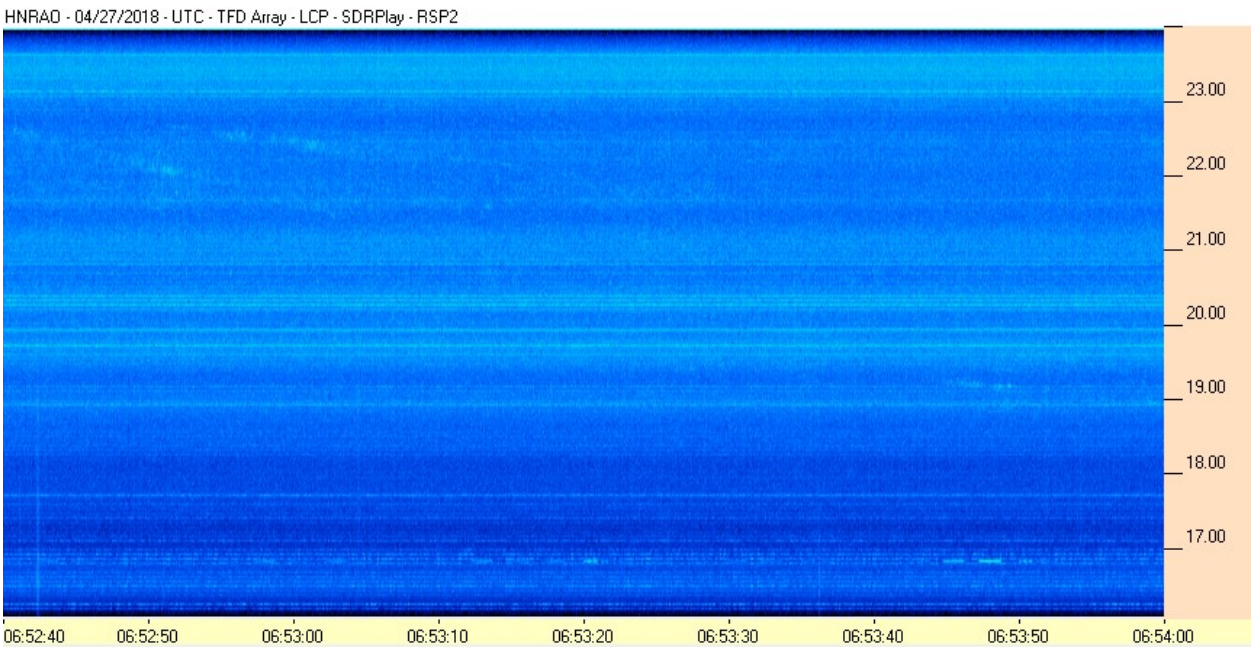

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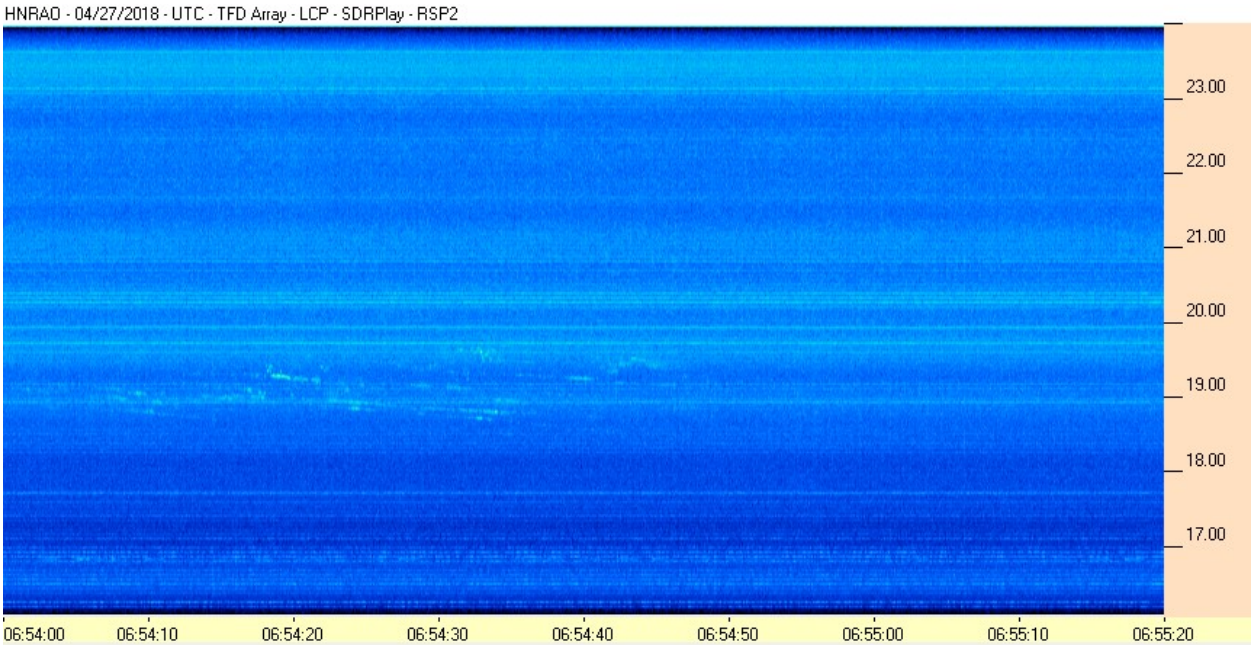

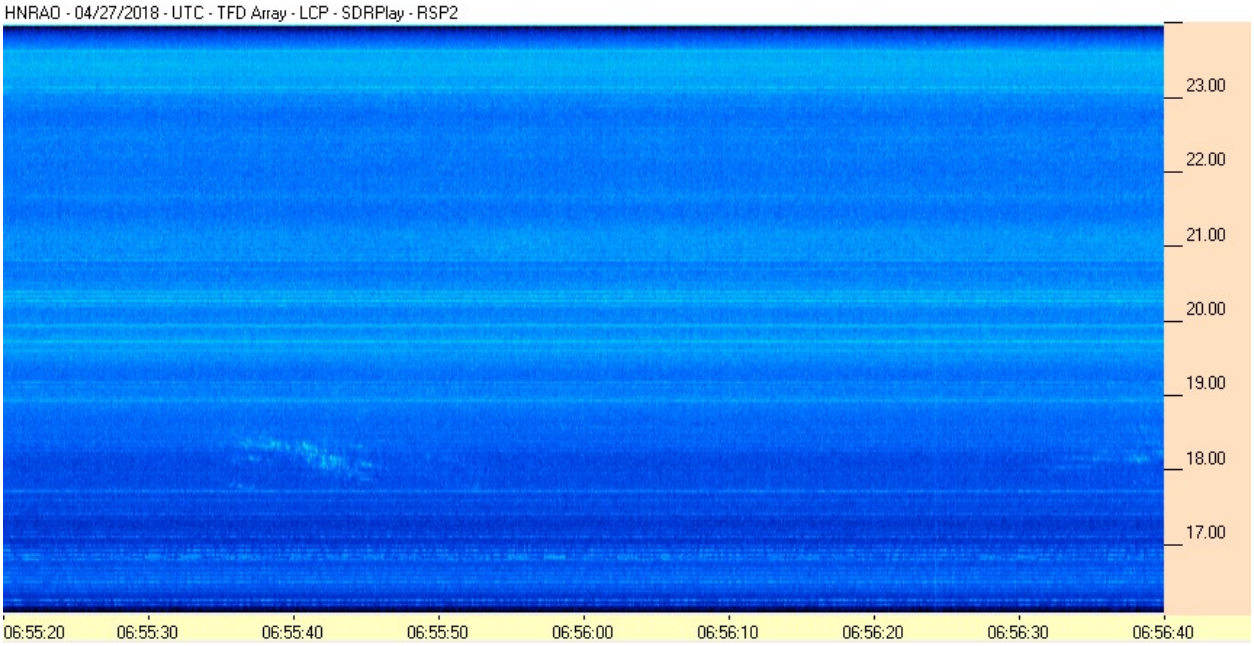

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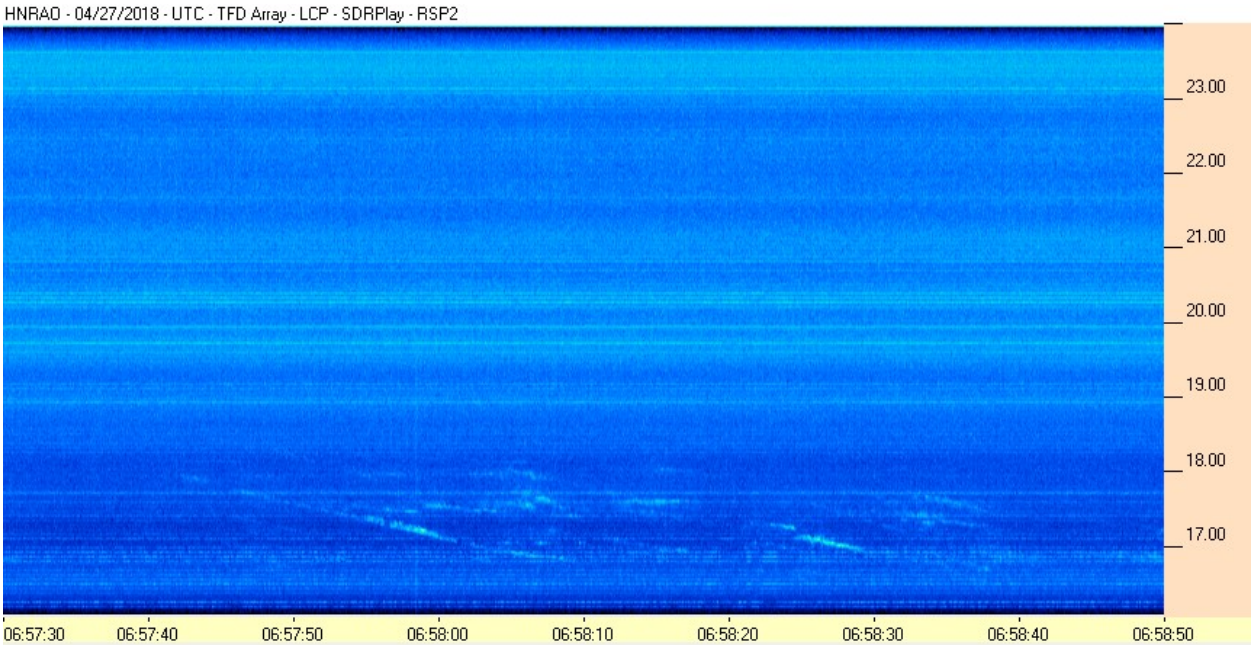

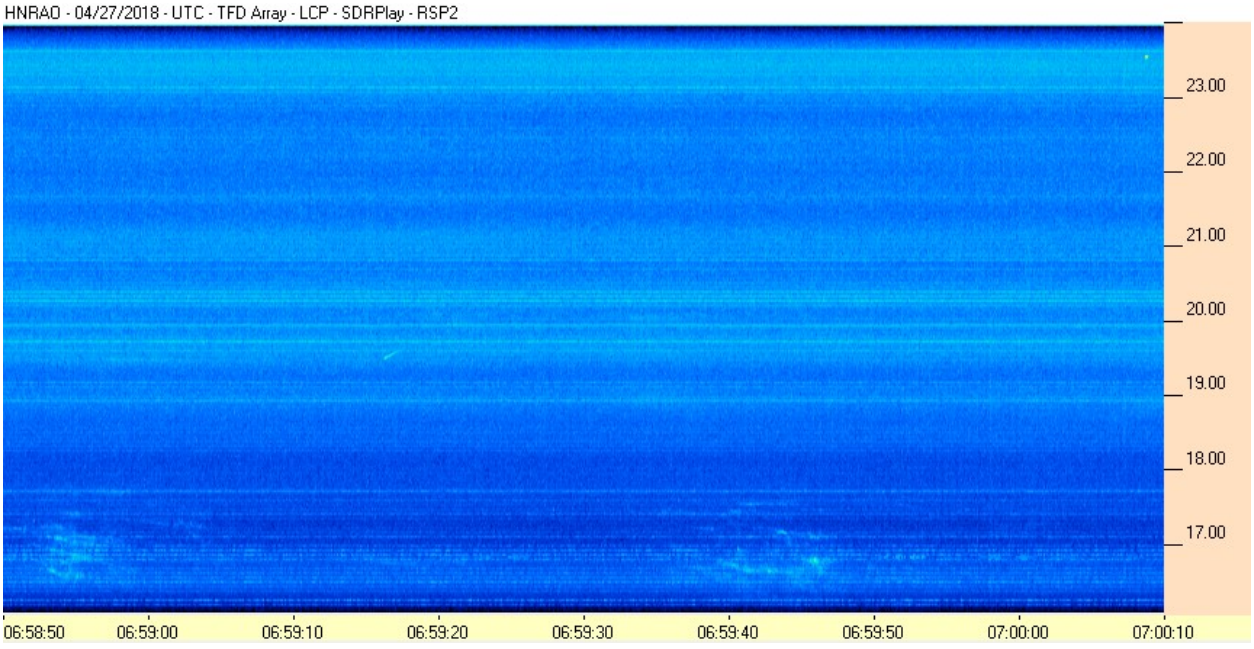

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