

HNRAO Observing Log
40.673181 N – 80.437885 W
EN90sq



Date: 7 March 2018

Object: Jupiter – Non-Io-C

Observer: Unattended

Start - Time UT:	1037	Planetary K-index:	0
Jupiter Altitude (deg):	31.9	Jupiter Azimuth (deg):	184.4
Jupiter CML:	332.19	Jupiter Io Phase:	208.58
Jupiter RA (hr/min):	15:23	Jupiter Dec (hr/min):	-17:21
Hour Angle (hr/min):	00:16	Polarization	LCP
Sun Altitude (deg):	-20.0	Sun Azimuth (deg):	080.4
Sun RA (hr/min):	23:04	Sun Dec (hr/min):	-05:57

End – Time UT:	1112		
Jupiter Altitude (deg):	28.5	Jupiter Azimuth (deg):	203.8
Jupiter CML:	15.35	Jupiter Io Phase	218.67
Hour Angle (hr/min):	01:27		
Sun Altitude (deg):	-06.5	Sun Azimuth (deg):	092.3

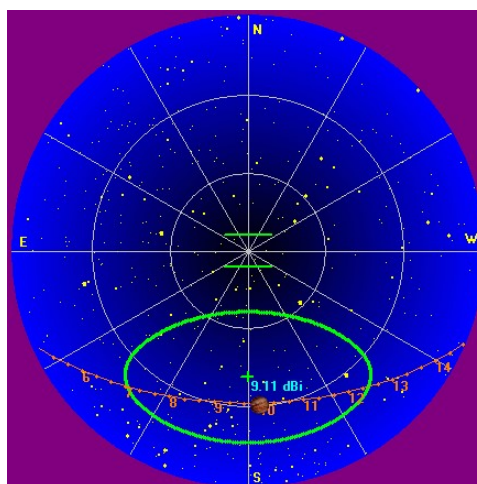
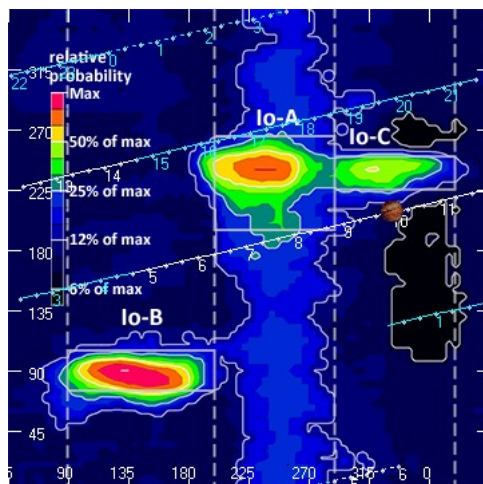
Observatory Configuration

Spectrograph Receiver	Antenna	Polarization	System Loss	Multicoupler	Multicoupler port	Calibrated
FSX-8S	TFD	RCP/LCP	7.7 dB	#1 LCP #2 RCP	Port 2 +3dB Port 2 +3dB	Twice daily
FSX-2	LWA	RCP/LCP manual select		N/A	N/A	N/A
SDRPlay RSP2	TFD	RCP	-7.70 dB	#1 LCP	Port 3 +3dB	Twice daily
SDRPlay RSP2	TFD	LCP	-7.70 dB	#2 RCP	Port 3 +3dB	Twice daily
SDRPlay RSP1	Jove dipoles	Linear	-3.19 dB	N/A	N/A	N/A
JOVE II	Jove dipoles	Linear	-3.19 dB	N/A	N/A	02/20/2018
JOVE 1	TFD	RCP	-7.70 dB	N/A	N/A	
JOVE 1	TFD	LCP	-7.70 dB	N/A	N/A	

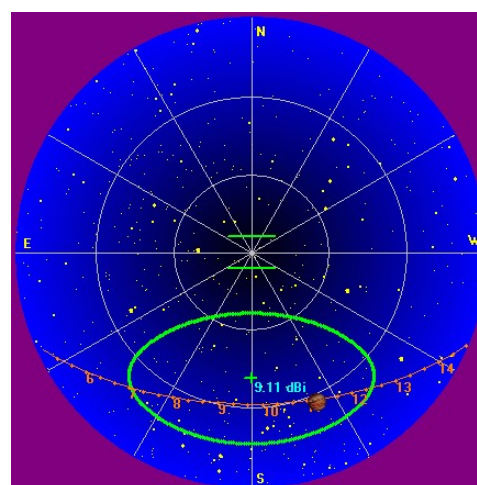
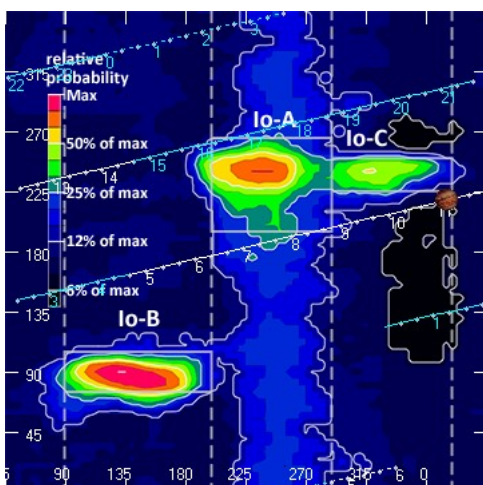
JOVE dipoles phased for 2017-2018 season

LWA antenna orientation for observation: 67.5 degrees

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Beginning of Pass



End of Pass

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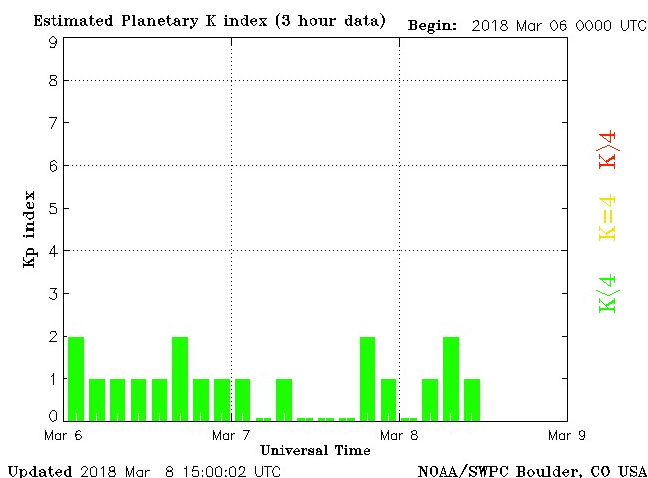


MODE	CML RANGE	Io RANGE	MAX F	POLAR	ARC	NOTES
Io-D	0-200	95-130	18	LH	Early	Also called "fourth source"
Io-B	(105 - 185)	(80-110)	39.5	RH	Early	Also called "early source"
non Io-B	80-200	0-360	38	RH	Early	Voyager info
Io-A	(200-270)	(205-260)	38	RH	Late	Also called "main source"
non-Io-A	(230-280)	0-360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



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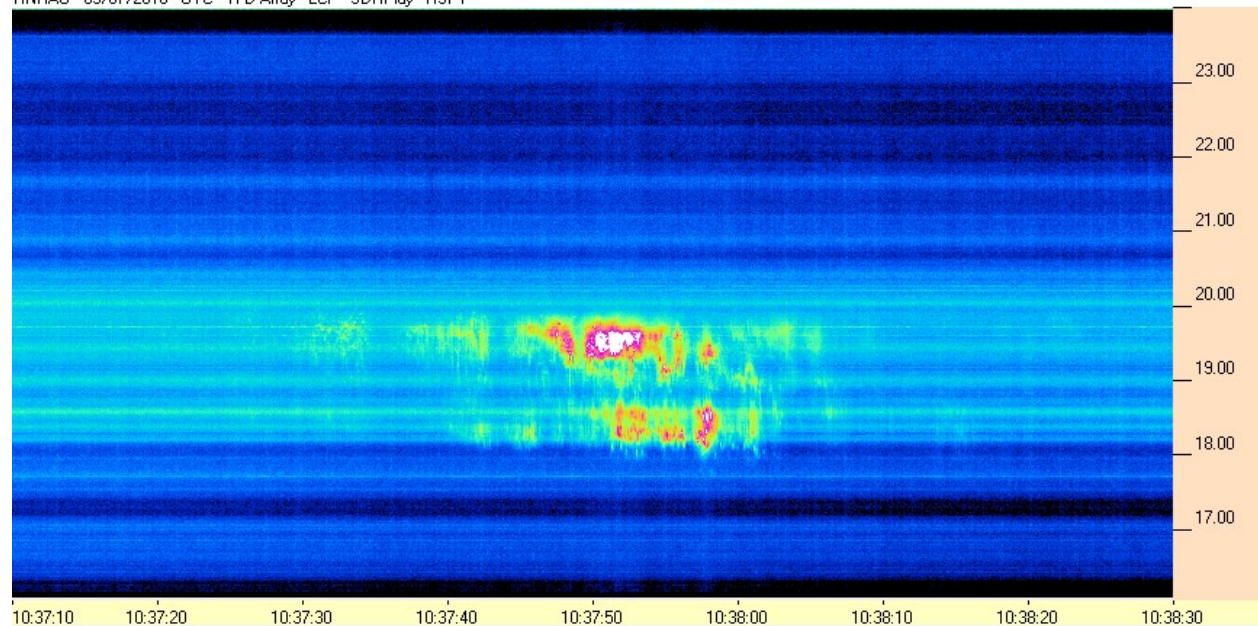
Non-Io-C storm with only a few notable items. Comprised of S-bursts, the emissions began suddenly with an intense sequence of S-bursts between 20 MHz and 18 MHz. Emissions never rose above 20 MHz and continued to descend in frequency for the duration of the storm ending at about 16 MHz as observed with the SDRPlay RSP1/TFD array. There was never any “continuous” sequences of bursts, rather they seemed to come in small groups, some very weak, some moderately strong. There were no observable modulation lanes in any of the emission groups.

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SDRPlay RSP1/TFD

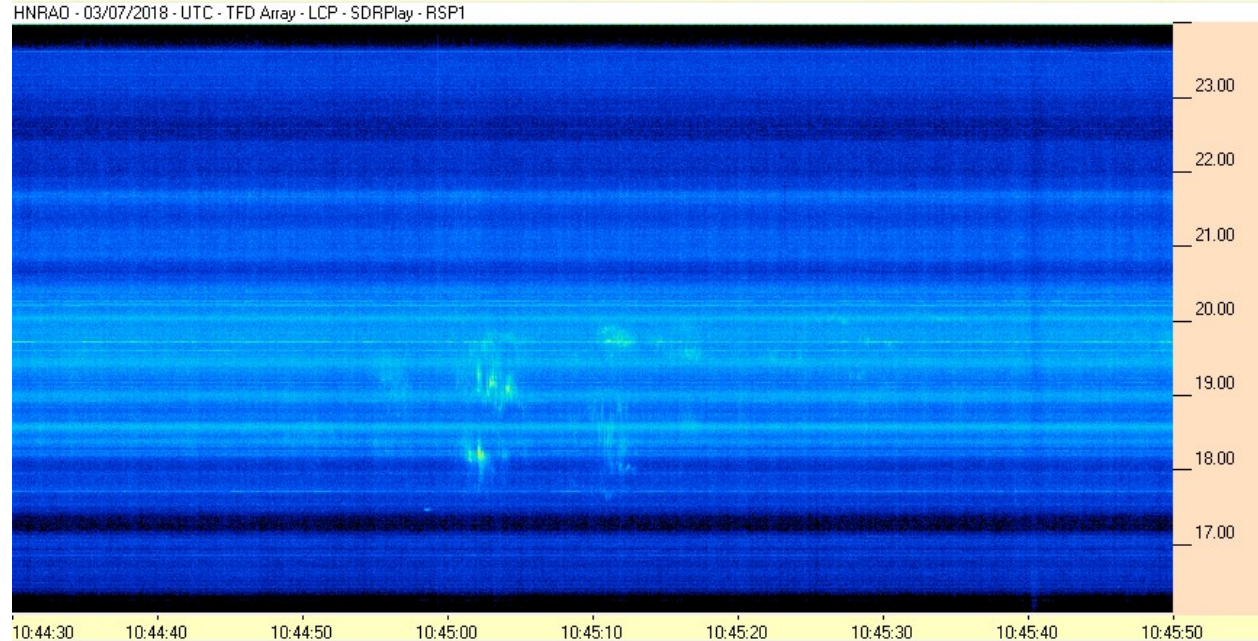
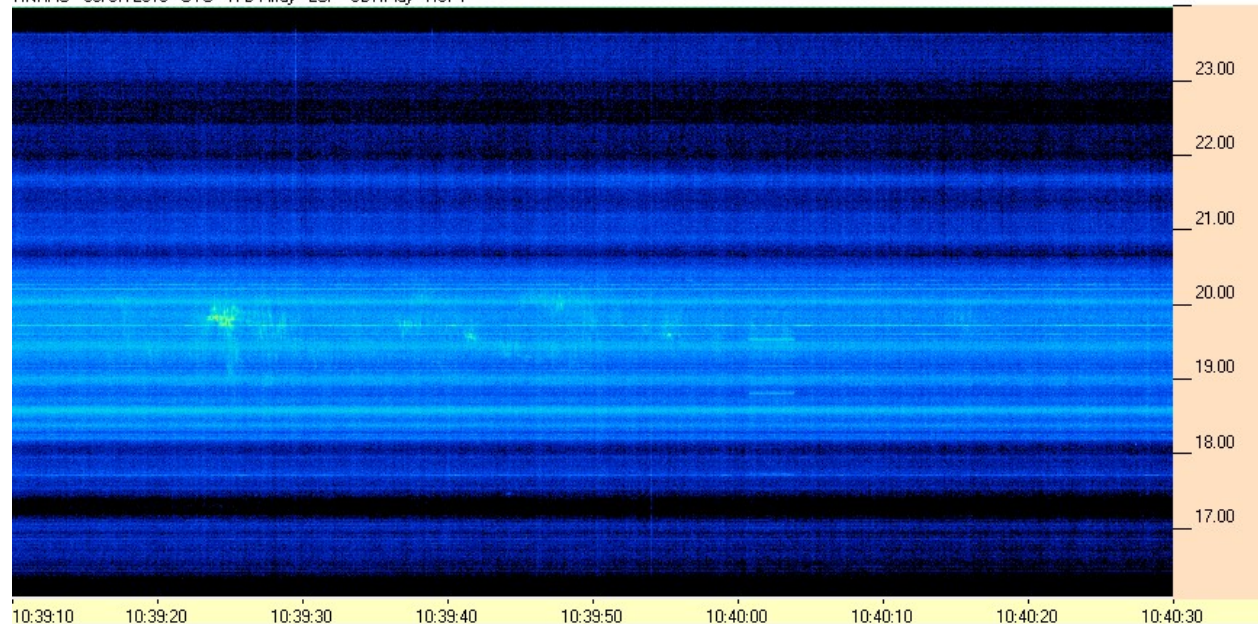
HNRAO - 03/07/2018 - UTC - TFD Array - LCP - SDRPlay - RSP1



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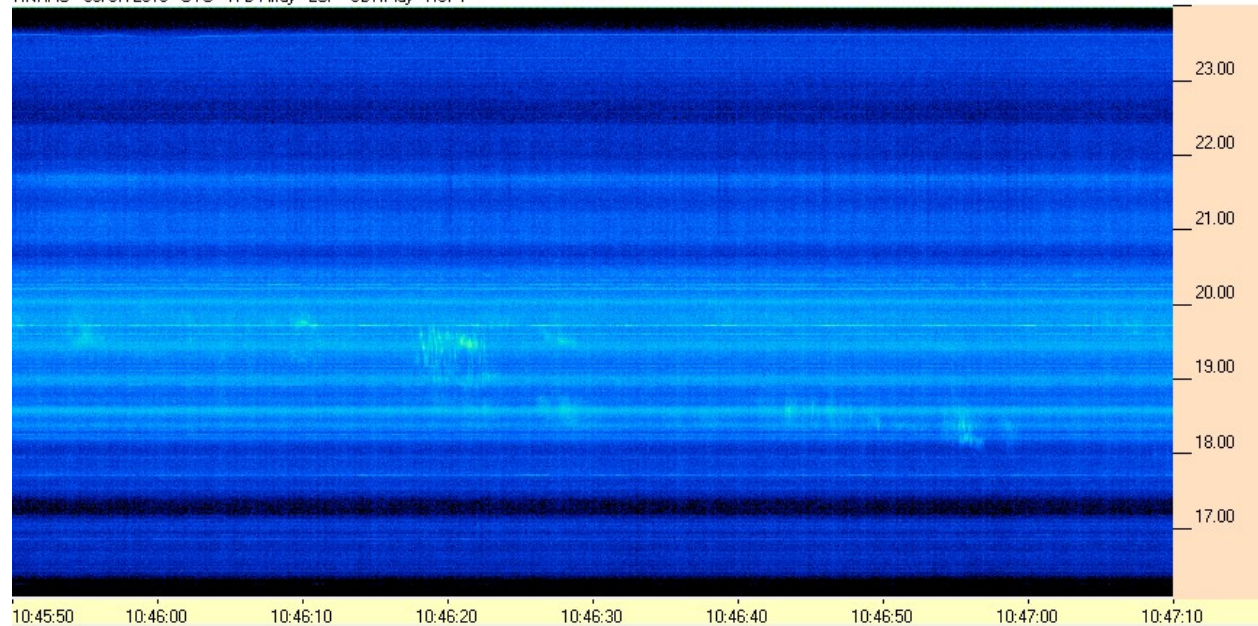
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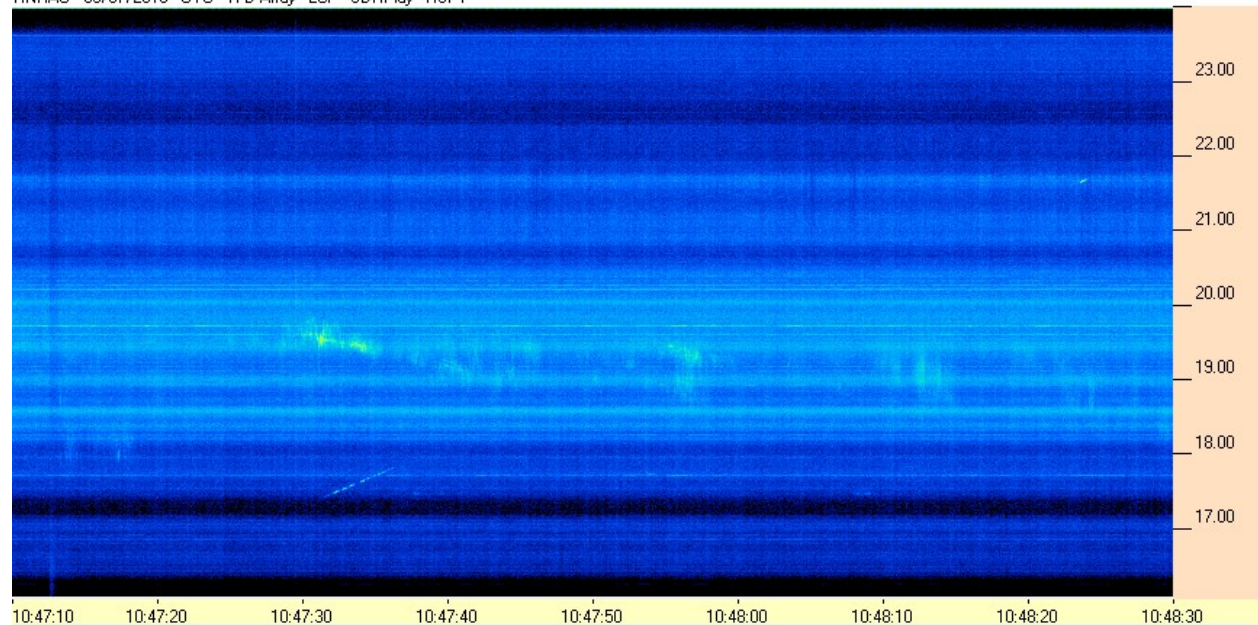
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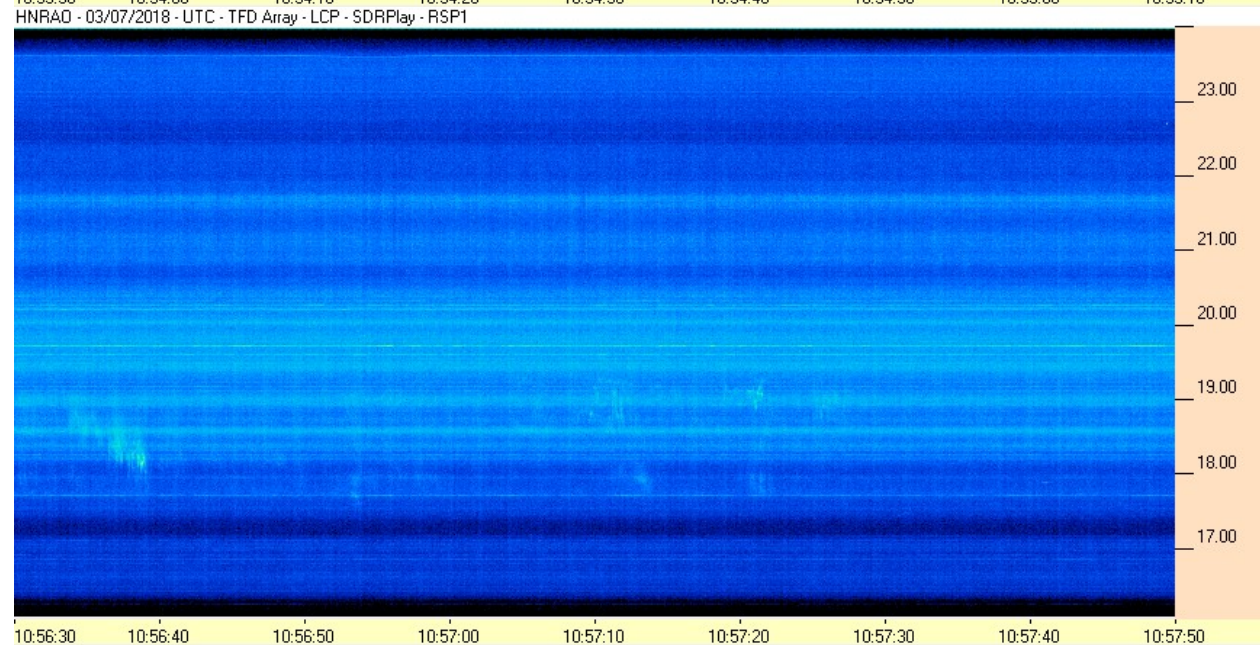
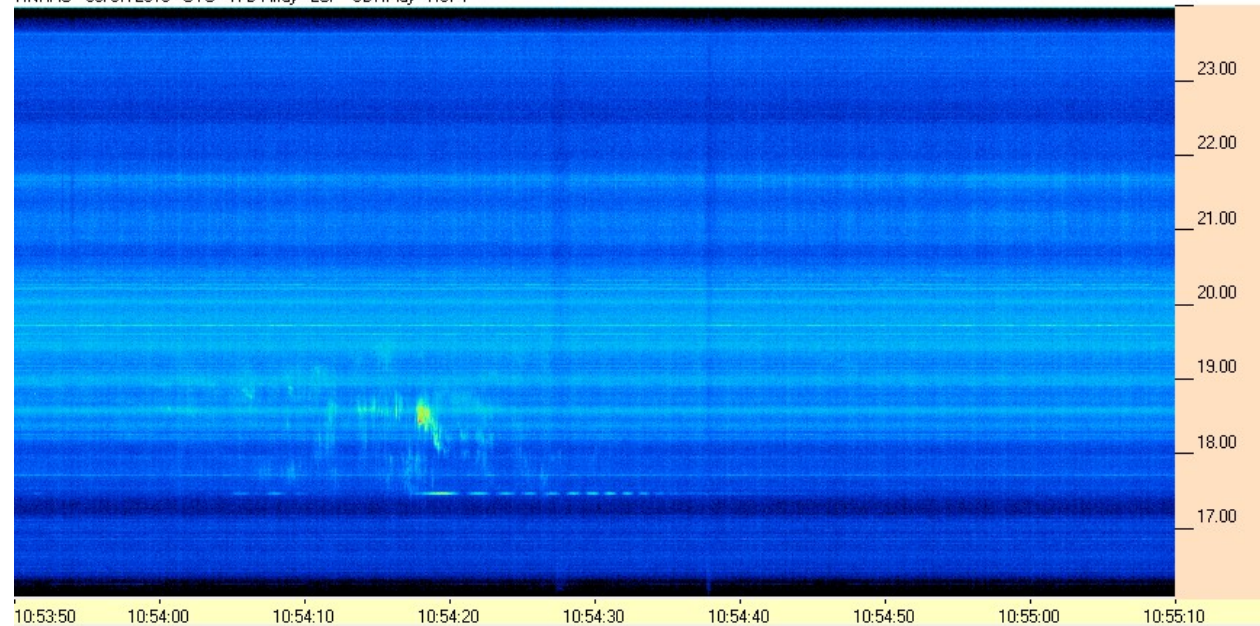
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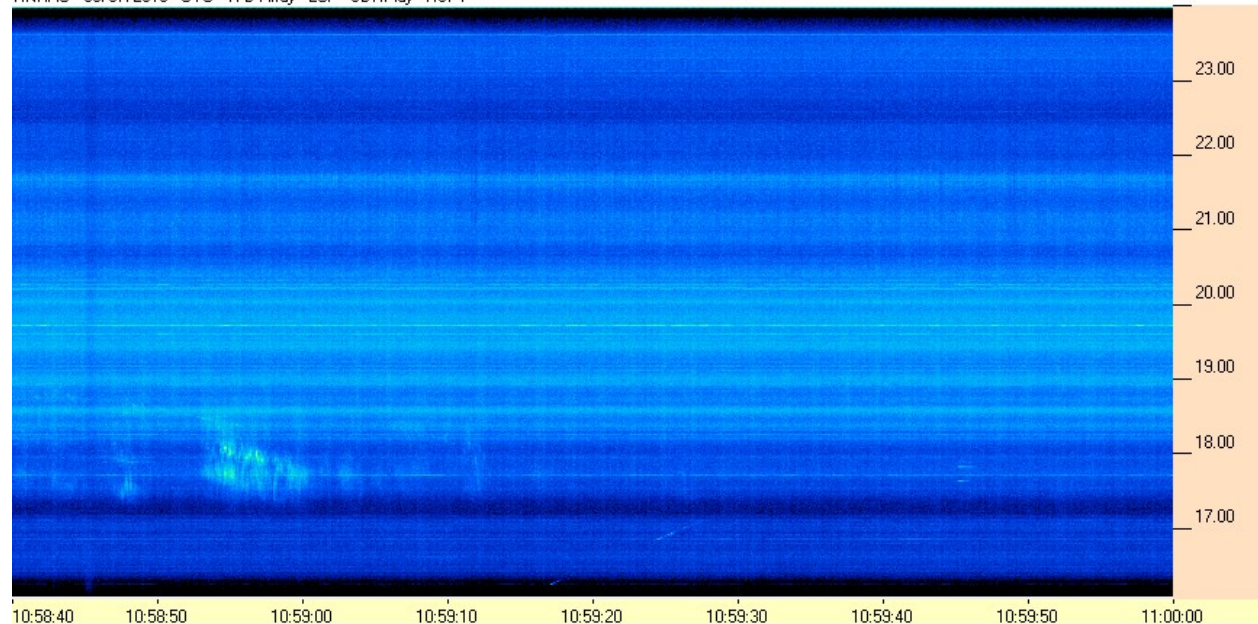
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