

HNRAO Observing Log
40.673181 N – 80.437885 W
EN90sq



Date: 12 March 2018

Object: Jupiter – Non-Io-D

Observer: Unattended

Start - Time UT:	0607	Planetary K-index:	0
Jupiter Altitude (deg):	15.9	Jupiter Azimuth (deg):	130.8
Jupiter CML:	224.01	Jupiter Io Phase:	113.64
Jupiter RA (hr/min):	15:24	Jupiter Dec (hr/min):	-17:21
Hour Angle (hr/min):	-03:19	Polarization	LCP
Sun Altitude (deg):	-52.2	Sun Azimuth (deg):	017.4
Sun RA (hr/min):	23:22	Sun Dec (hr/min):	-04:04

End – Time UT:	0705		
Jupiter Altitude (deg):	23.4	Jupiter Azimuth (deg):	143.2
Jupiter CML:	259.07	Jupiter Io Phase	121.77
Hour Angle (hr/min):	-02:21		
Sun Altitude (deg):	-47.0	Sun Azimuth (deg):	038.4

Observatory Configuration

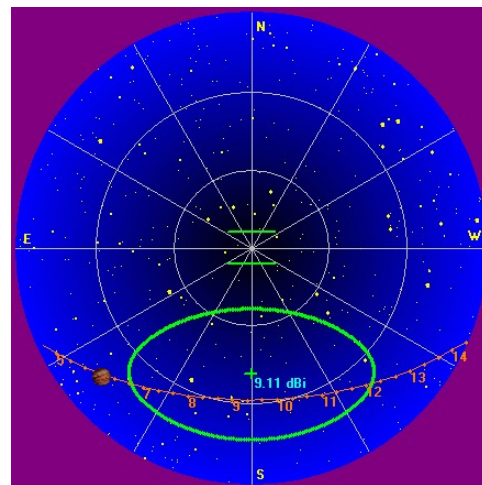
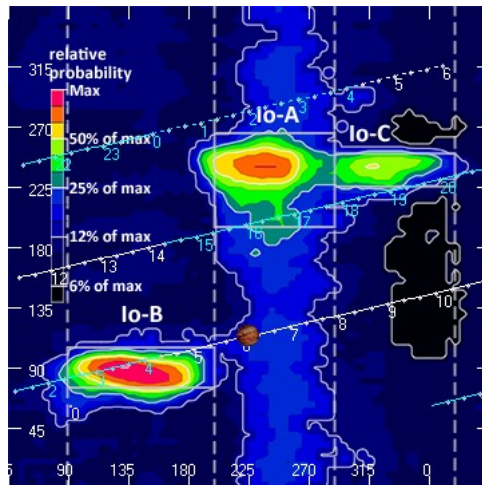
Spectrograph Receiver	Antenna	Polarization	System Loss	Multicoupler	Multicoupler port	Calibrated
FSX-8S	TFD	RCP LCP	7.70 dB 7.70 dB	#2 RCP #1 LCP	Port 2 +3dB Port 2 +3dB	Twice daily Twice daily
FSX-2	LWA	RCP/LCP manual select		N/A	N/A	N/A
SDRPlay RSP2	TFD	RCP	-7.70 dB	#2 RCP	Port 3 +3dB	Twice daily
SDRPlay RSP2	TFD	LCP	-7.70 dB	#1 LCP	Port 3 +3dB	Twice daily
SDRPlay RSP1	Jove dipoles	Linear	-3.19 dB	#3 Linear	Port 3 +3 dB	N/A
JOVE II	Jove dipoles	Linear	-3.19 dB	#3 Linear	Port 4 +3 dB	02/20/2018
JOVE 1	TFD	RCP	-7.70 dB	#2 RCP	Port 3 +3 dB	03/08/2018
JOVE 1	TFD	LCP	-7.70 dB	#1 LCP	Port 3 +3 dB	03/08/2018

JOVE dipoles phased @ 32 degrees for 2017-2018 season

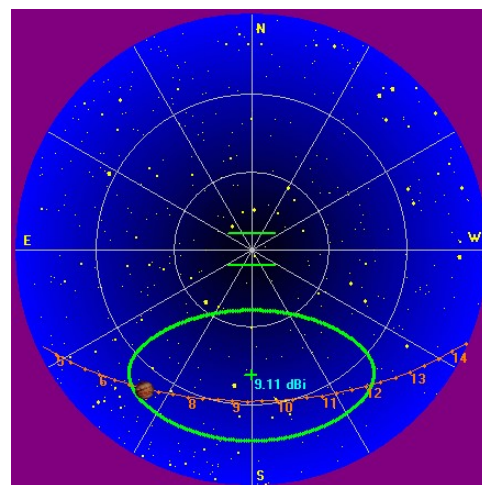
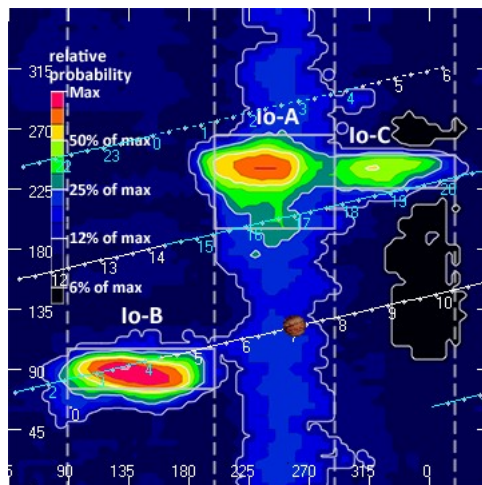
TFD array phased @ 35 degrees for 2017-2018 season

LWA antenna orientation for observation: 67.5 degrees

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Beginning of Pass



End of Pass

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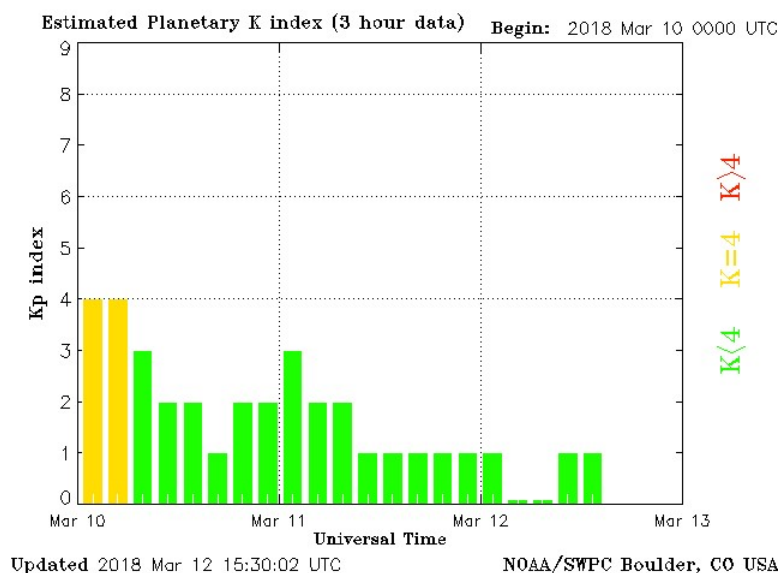


MODE	CML RANGE	Io RANGE	MAX F	POLAR	ARC	NOTES
Io-D	0-200	95-130	18	LH	Early	Also called "fourth source"
Io-B	(105 - 185)	(80-110)	39.5	RH	Early	Also called "early source"
non Io-B	80-200	0-360	38	RH	Early	Voyager info
Io-A	(200-270)	(205-260)	38	RH	Late	Also called "main source"
non-Io-A	(230-280)	0-360	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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A very weak LCP Non-Io-D storm. L-bursts between 16 MHz and 19 MHz. Only one single burst strong enough to confirm that this was, indeed, Non-Io-D at 0632:30 UT. The remaining emissions were slightly above the galactic background. While modulations lanes were possible at several points, none were definite enough to measure.

No other spectrographs were able to resolve these weak emissions.

No emissions were above 19 MHz so there was no SkyPipe record on the Jove dipole array/Jove receiver.

Nothing else to note.

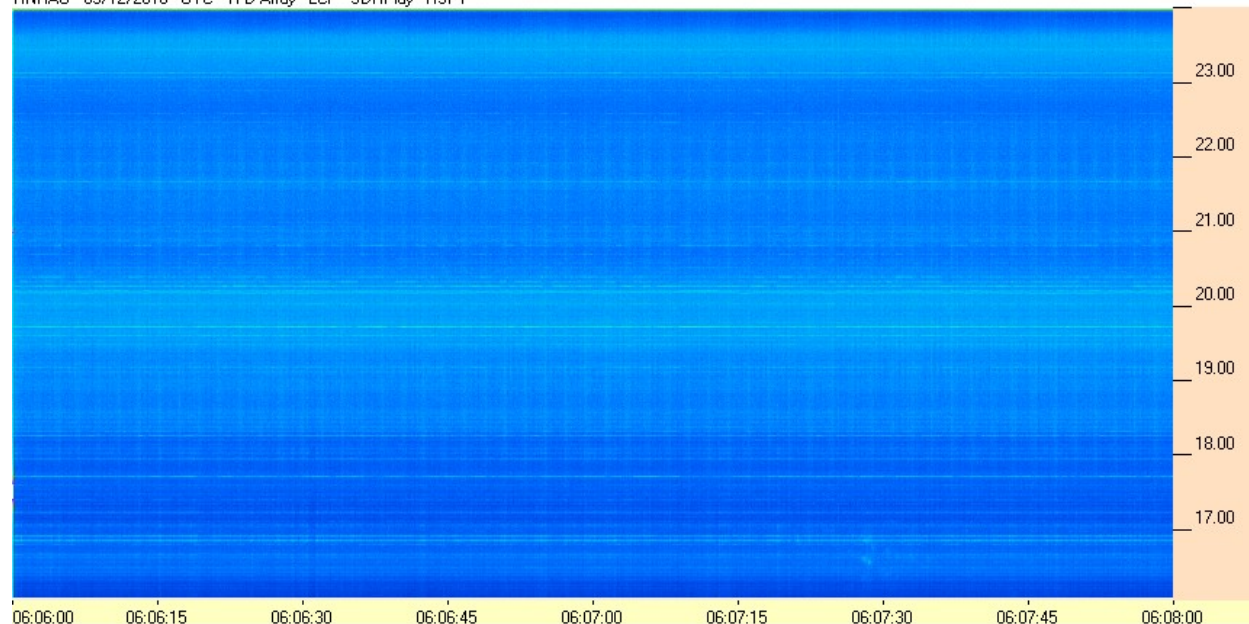
EOR

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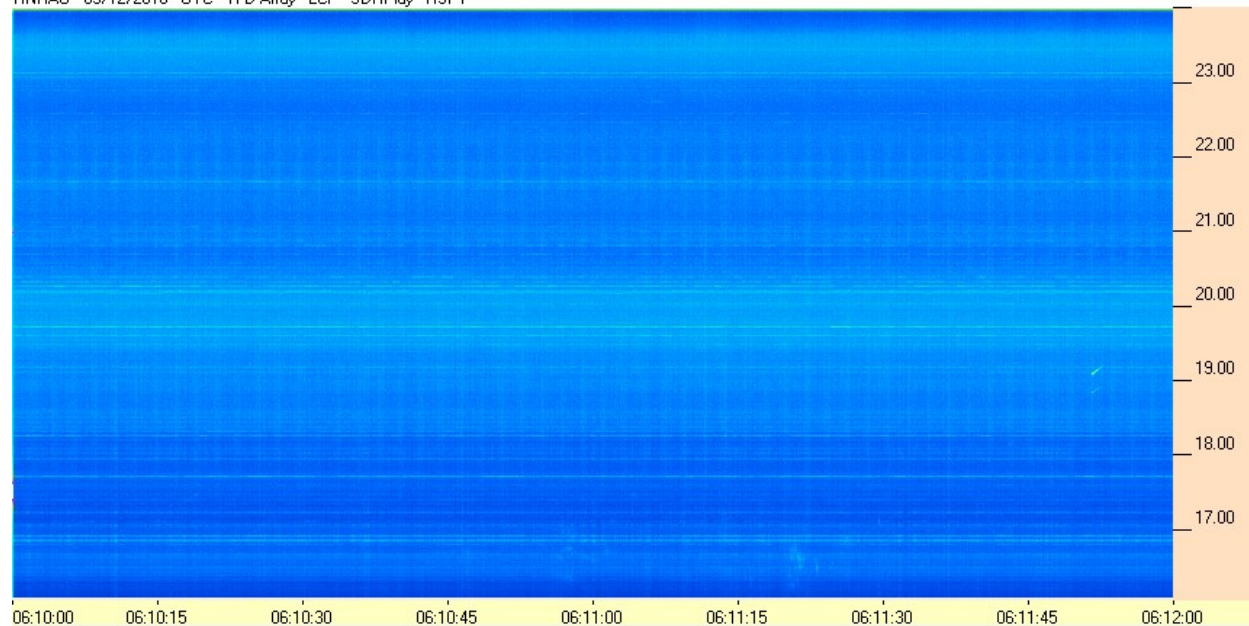


SDRPlay RSP1/TFD array

HNRAO - 03/12/2018 - UTC - TFD Array - LCP - SDRPlay - RSP1



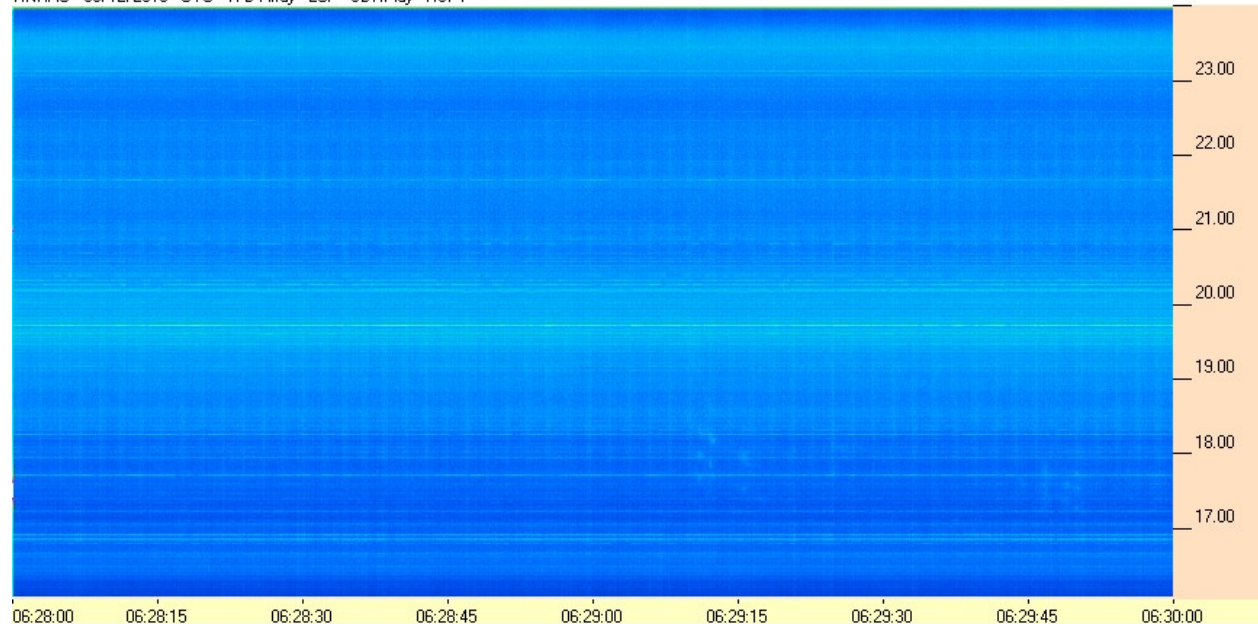
HNRAO - 03/12/2018 - UTC - TFD Array - LCP - SDRPlay - RSP1



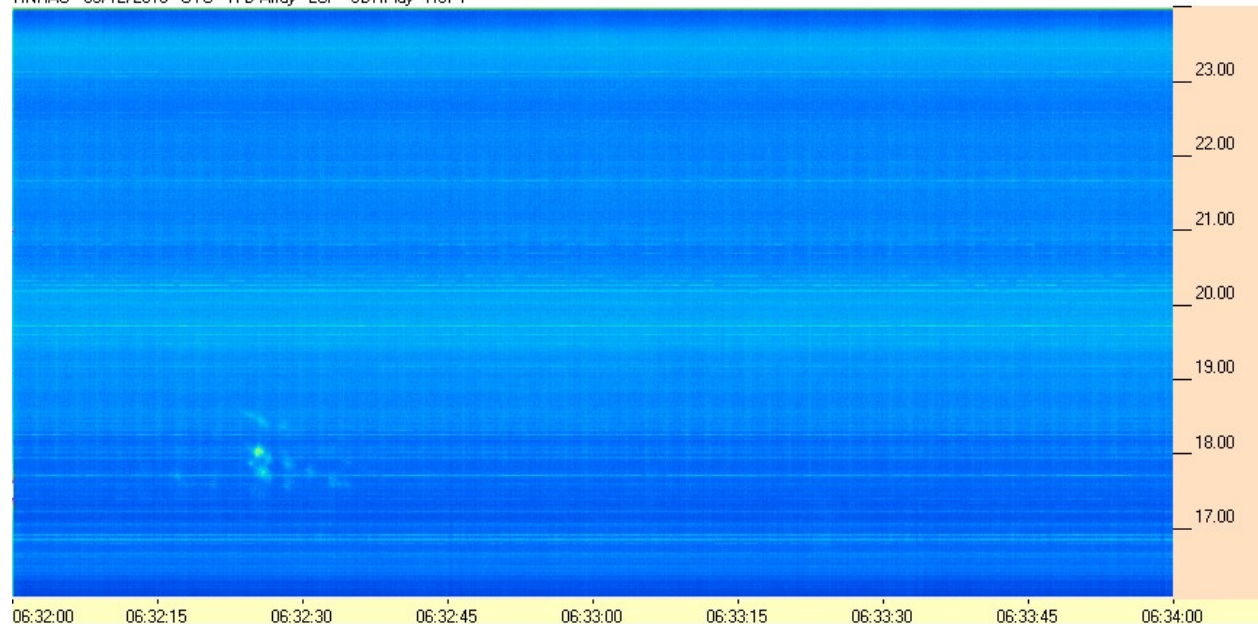
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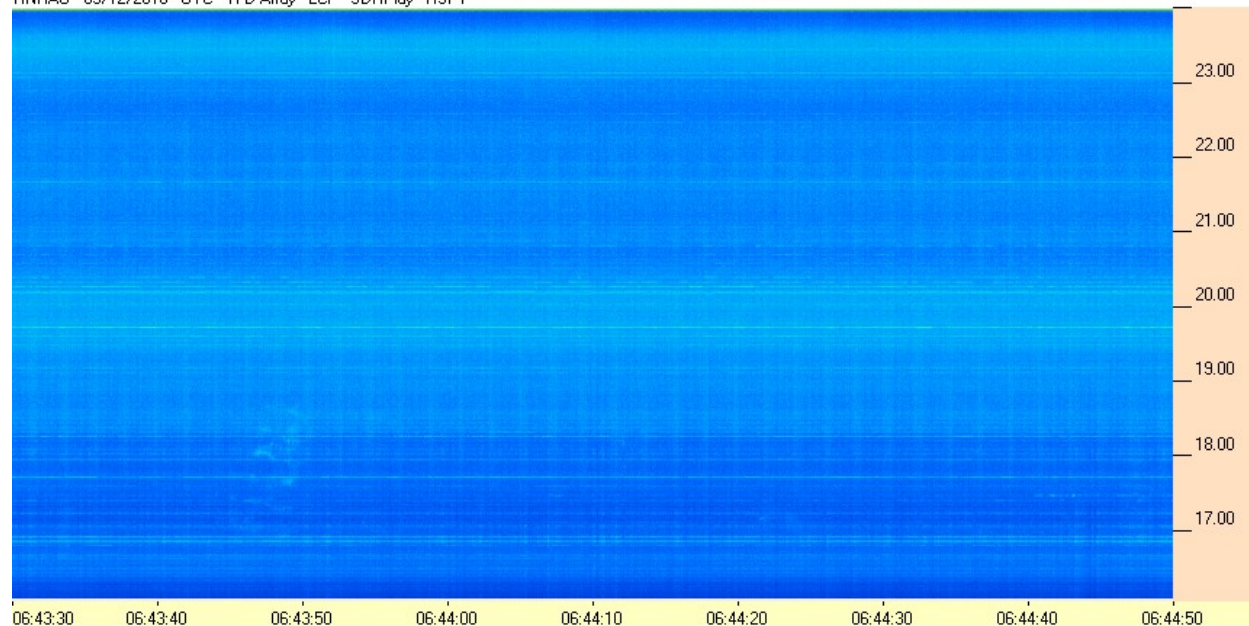
HNRAO - 03/12/2018 - UTC - TFD Array - LCP - SDRPlay - RSP1



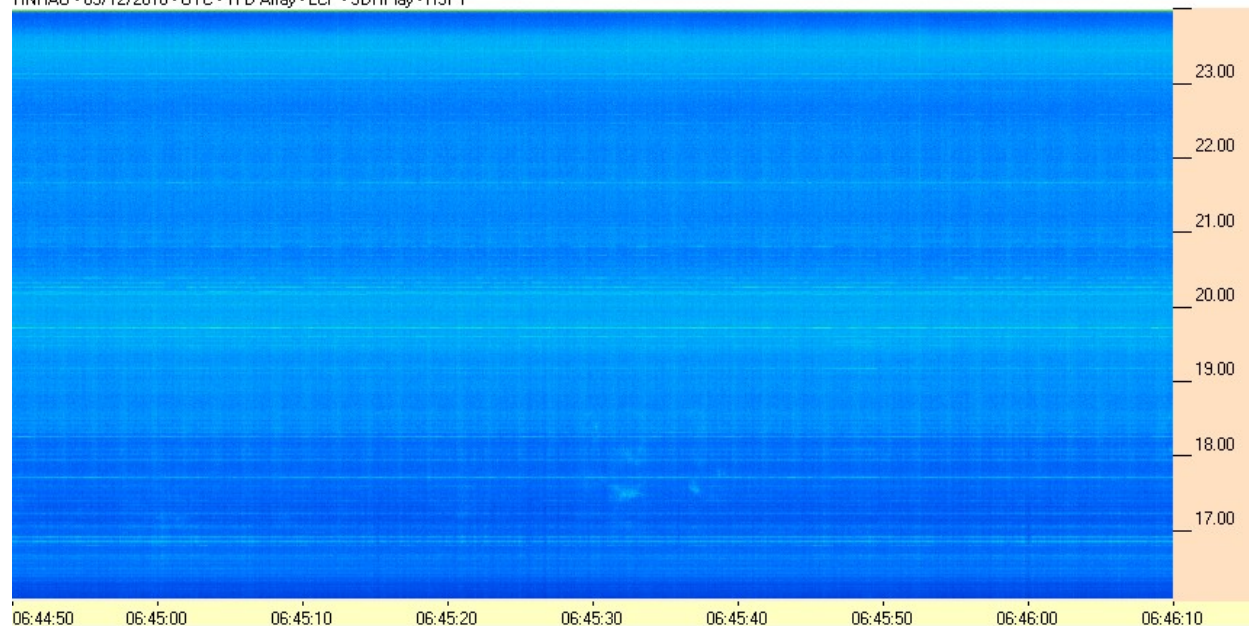
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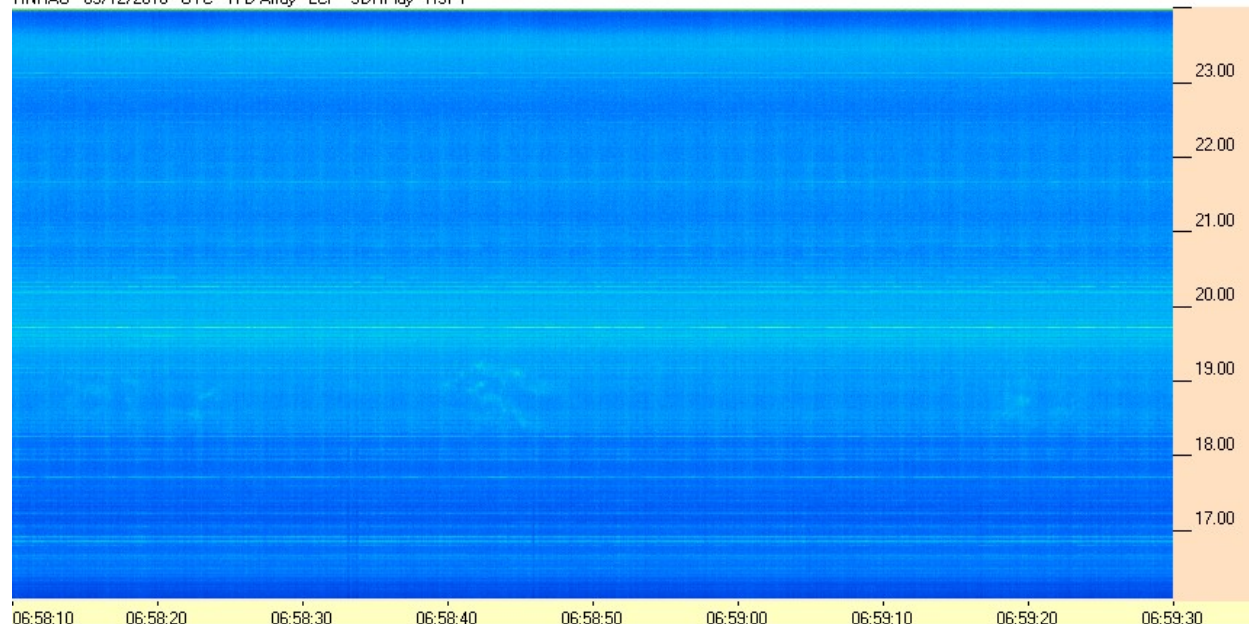
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