

HNRAO Observing Log
40.673181 N – 80.437885 W
EN90sq



Date: 8 February 2018

Object: Jupiter – Non-Io-A

Observer: Unattended

Start of pass:	0943	Planetary K-index:	1
Jupiter Altitude (deg):	27.5	Jupiter Azimuth (deg):	152.2
Jupiter CML:	216.17	Jupiter Io Phase:	113.38
Jupiter RA (hr/min):	15:18	Jupiter Dec (hr/min):	-17.04
Hour Angle (hr/min):	-1:43	Polarization	RCP
Sun Altitude (deg):	-29.9	Sun Azimuth (deg):	085.0
Sun RA (hr/min):	21:20	Sun Dec (hr/min):	-15:33

End of pass:	1153		
Jupiter Altitude (deg):	31.9	Jupiter Azimuth (deg):	187.8
Jupiter CML:	294.76	Jupiter Io Phase	131.60
Hour Angle (hr/min):	00:28		
Sun Altitude (deg):	-05.5	Sun Azimuth (deg):	105.8

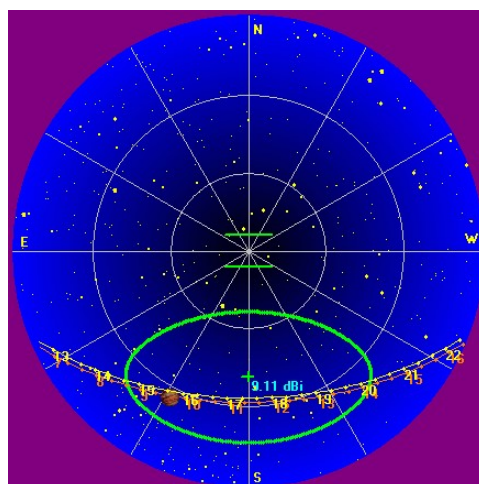
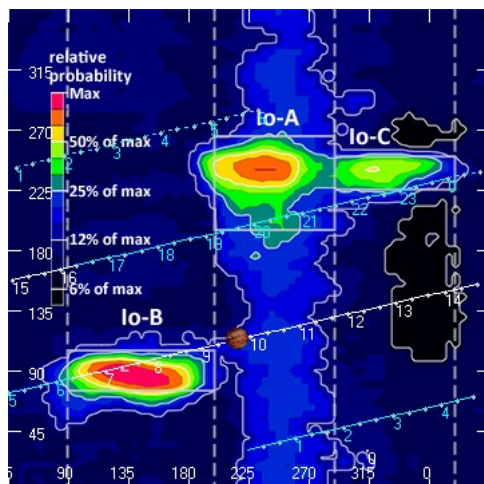
Observatory Configuration

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	-7.7 dB	#1 LCP	Port 3 +3dB	Twice daily
SDRPlay RSP2	TFD	LCP	-7.7 dB	#2 RCP	Port 3 +3dB	Twice daily
SDRPlay RSP1	Jove dipoles	Linear	-3.19 dB	N/A	N/A	12/29/2017
JOVE II	Jove dipoles	Linear	-3.19 dB	N/A	N/A	12/29/2017
JOVE 1	TFD	RCP	-7.7 dB	N/A	N/A	
JOVE 1	TFD	LCP	-7.7 dB	N/A	N/A	

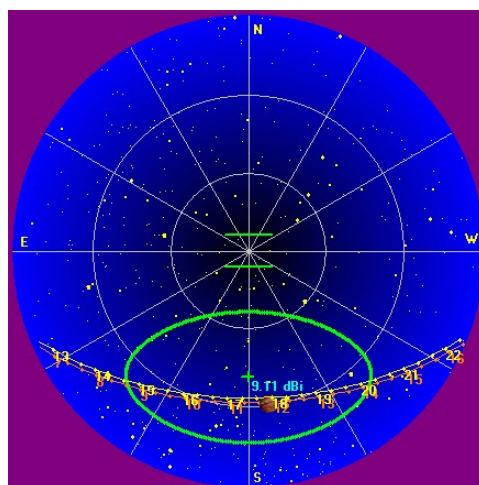
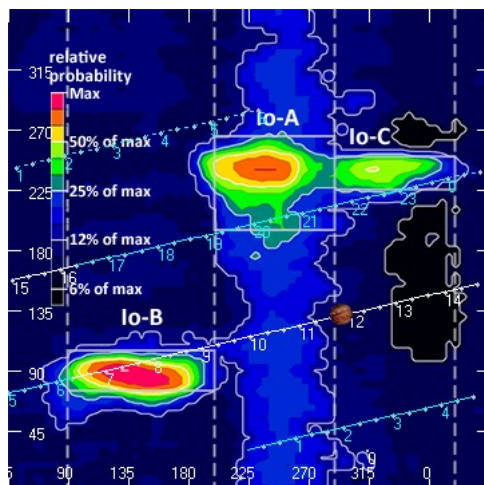
JOVE dipoles phased for 2017-2018 season

LWA antenna orientation for observation: 67.5 degrees

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Beginning of Pass



End of Pass

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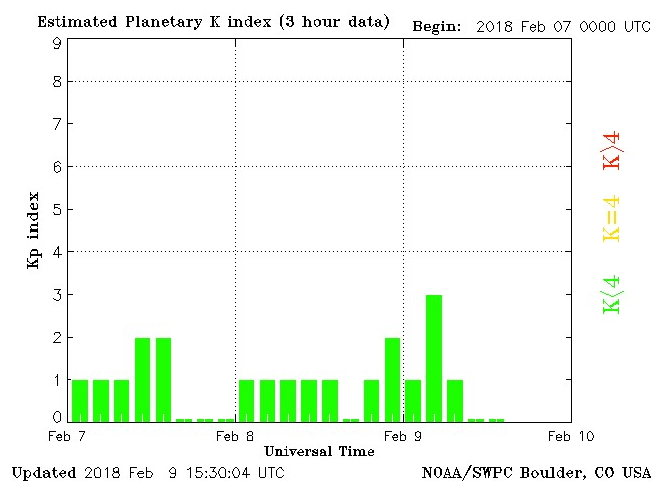


MODE	CML RANGE	Io RANGE	MAX F	POLAR	ARC	NOTES
Io-D	0-200	95-130	18	LH	Early	Also called "fourth source"
Io-B	(105 - 185)	(80-110)	39.5	RH	Early	Also called "early source"
non Io-B	80-200	0-360	38	RH	Early	Voyager info
Io-A	(200-270)	(205-260)	38	RH	Late	Also called "main source"
non-Io-A	(230-280)	0-360	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*-A storm where all emissions were RCP. While the best resolution was with the SDRPlay RSP2 spectrograph, there was emission seen with the FSX-2 and FSX-8S.

Foreign broadcast stations were constant at 17.5 MHz, but the stations below 16 MHz began to overload the RSP2 at 1034 UT.

At 1149 UT, stronger Non-*Io*-A L-burst emissions between 16 and 19 MHz. At 1153 UT, the strongest L-burst in the storm occurs between 16 and 17 MHz.

There were no more visible emissions past 1153 UT.

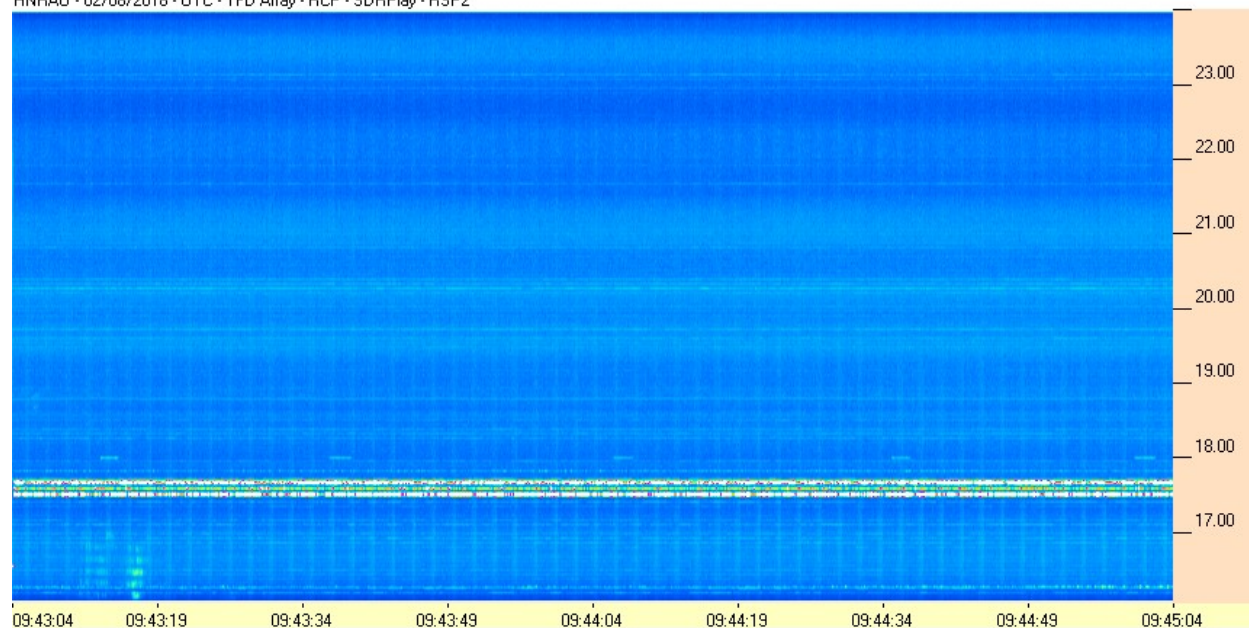
EOR

SDRPlay RSP2/TFD/RCP Array

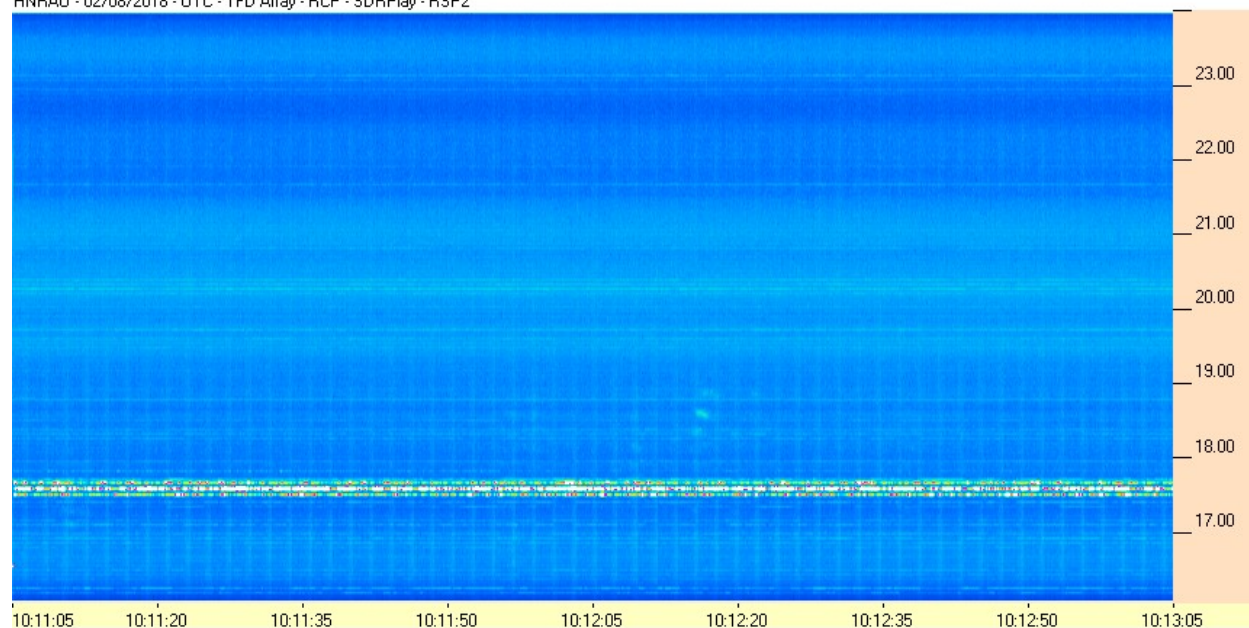
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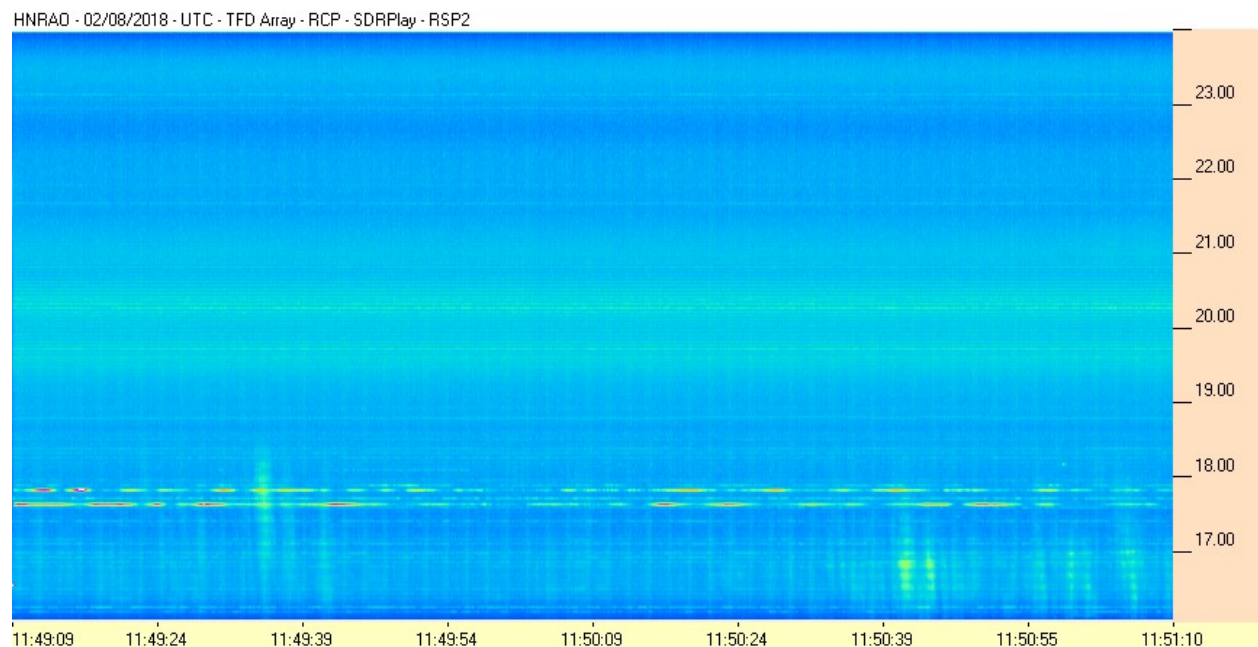
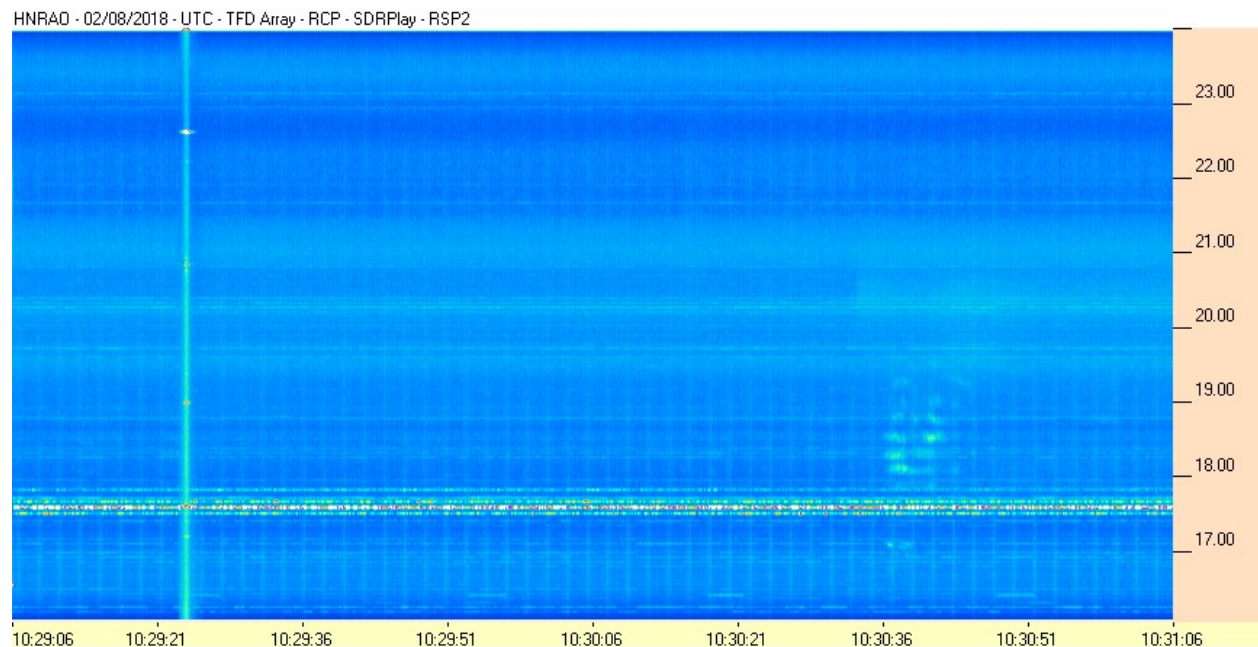
HNRAO - 02/08/2018 - UTC - TFD Array - RCP - SDRPlay - RSP2



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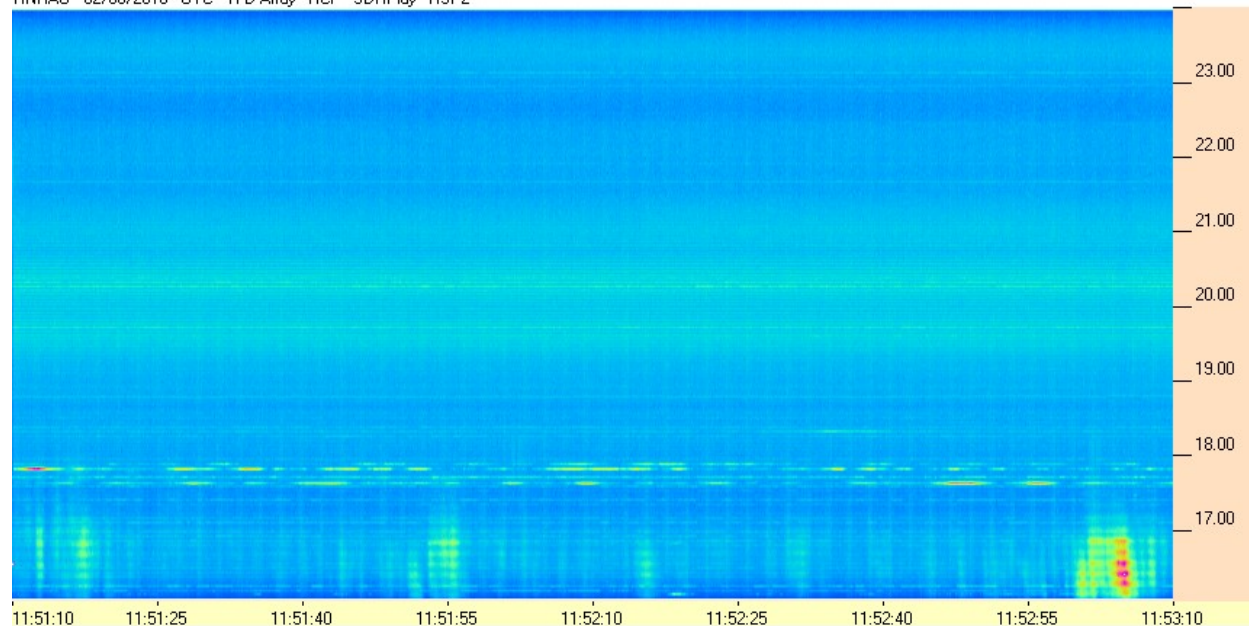
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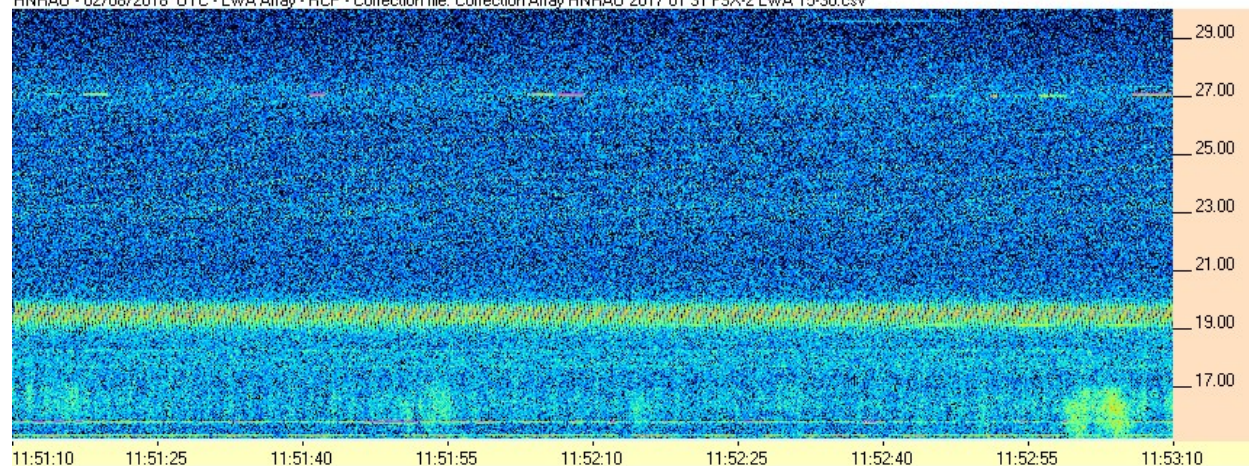


HNRAO - 02/08/2018 - UTC - TFD Array - RCP - SDRPlay - RSP2



FSX-2/LWA Array

HNRAO - 02/08/2018 UTC - LWA Array - RCP - Correction file: CorrectionArray HNRAO 2017 01 31 FSX-2 LWA 15-30.csv

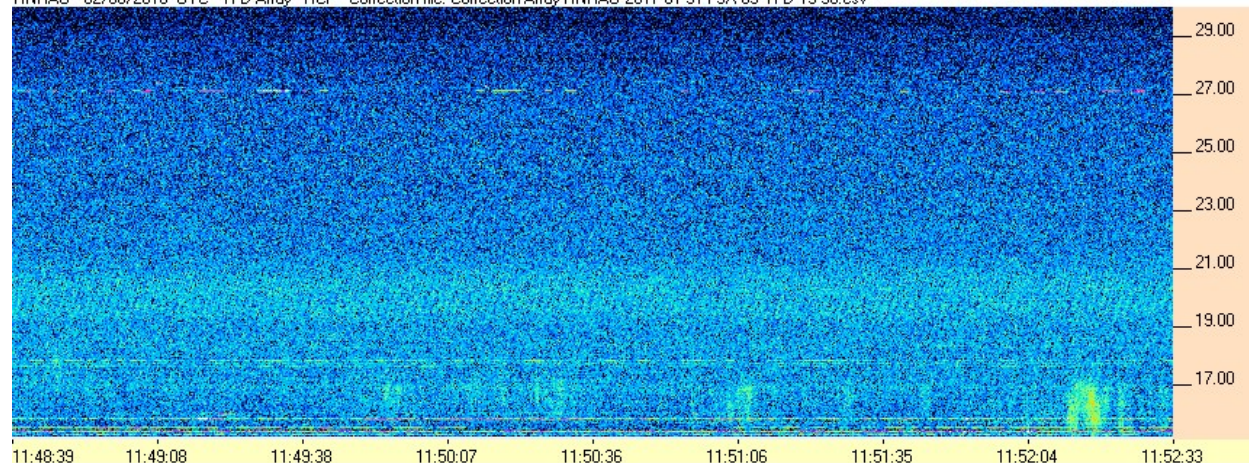


FSX-8S/TFD Array

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HNRAO - 02/08/2018 UTC - TFD Array - RCP - Correction file: Correction Array HNRAO 2017 01 31 FSX-8S TFD 15-30.csv



HNRAO - 02/08/2018 UTC - TFD Array - LCP - Correction file: Correction Array HNRAO 2017 01 31 FSX-8S TFD 15-30.csv

