

HNRAO Observing Log
40.673181 N – 80.437885 W
EN90sq



Date: August 29, 2019

Object: Jupiter – Non-IO-C

Observer: JB

Start - Time UT:	0217:44	Planetary K-index:	
Jupiter Altitude (deg):	18.0	Jupiter Azimuth (deg):	216.4
Jupiter CML:	319.71	Jupiter Io Phase:	205.59
Jupiter RA (hr/min):	16:54	Jupiter Dec (hr/min):	-22:13
Hour Angle (hr/min):	02:30	Polarization	LCP
Sun Altitude (deg):	-24.6	Sun Azimuth (deg):	310.6
Sun RA (hr/min):	10:22	Sun Dec (hr/min):	10:11

End – Time UT:	0253:32	De:	-2.5
Jupiter Altitude (deg):	13.7	Jupiter Azimuth (deg):	223.8
Jupiter CML:	341.35	Jupiter Io Phase	210.68
Hour Angle (hr/min):	03:06	Duration (min):	36
Sun Altitude (deg):	-29.5	Sun Azimuth (deg):	318.9
Max Frequency MHz	21	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 #1	TFD	RCP	-8.35 dB	#2 RCP	Port 2 +3dB	Twice daily
SDRPlay RSP2 #2	TFD	LCP	-7.59 dB	#1 LCP	Port 2 +3dB	Twice daily
JOVE II HNRAO #2	Jove dipoles	Linear	-3.66 dB	#3 Linear	Port 4 +3 dB	8/25/2019

Radio JOVE dipoles phased @ 32 degrees for 2018-2019 season

Typinski AN-TFD-24-4 array phased @ 35 degrees for 2018-2019 season

Four LWA antenna array phased @ 35 degrees and orientation for observation: 45 degrees

Radio Sky Spectrograph software version 2.9.26

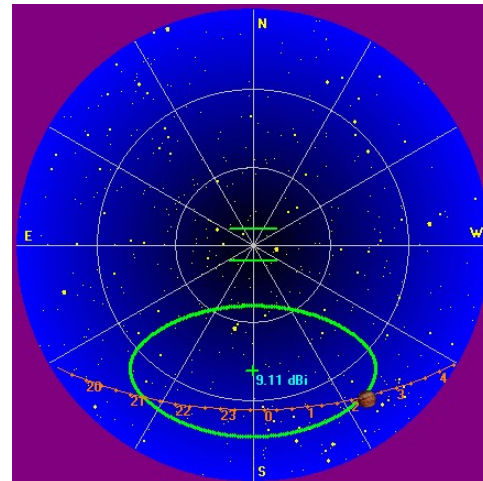
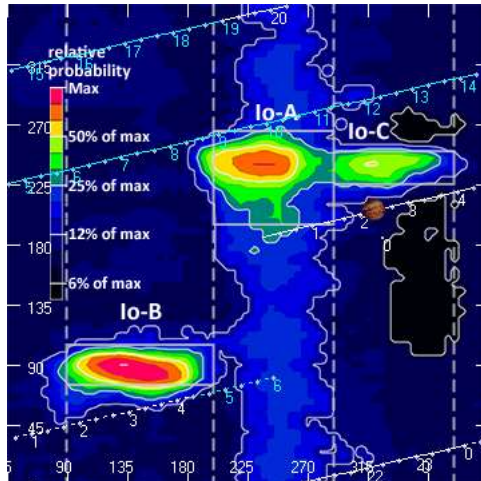
Radio-SkyPipe software version 2.7.33

Radio-Jupiter Pro software version 3.8.2

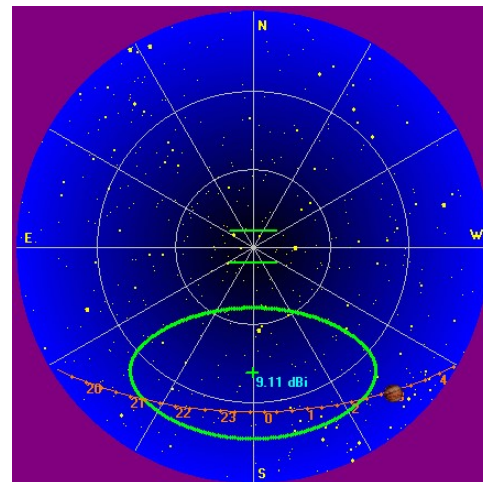
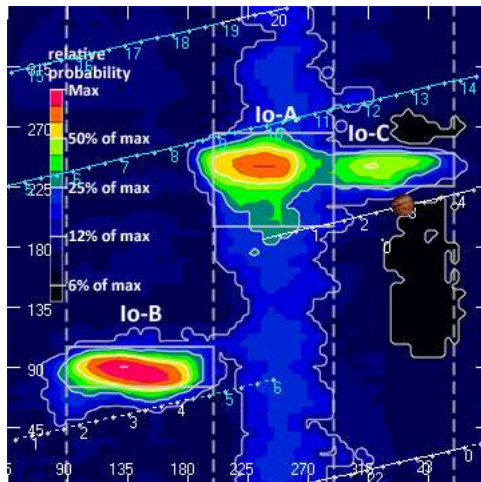
Network Time Server GpsNtp-Pi, Reeve Engineering

All times are synced with a local GPS locked NTP server.

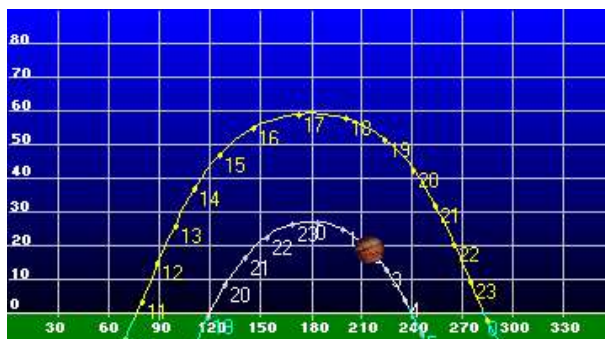
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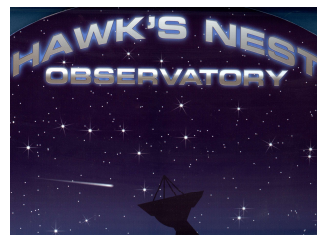
Beginning of Pass



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	

All spectrographs and receivers operating except for the FSX-2/LWA array. A power supply issue has caused the telescope to be shut down until a replacement power supply is secured. It is unclear how long the power supply has failed. All antennas functioning normally. No other known issues.

The spectrograph charts show unknown RFI as horizontal bright bands and lines. Unknown RFI in the SkyPipe record rendered that data unusable.

An extremely weak Non-Io-C storm with LCP L-bursts perhaps 2-3 dB above GB.

Nothing else of note.

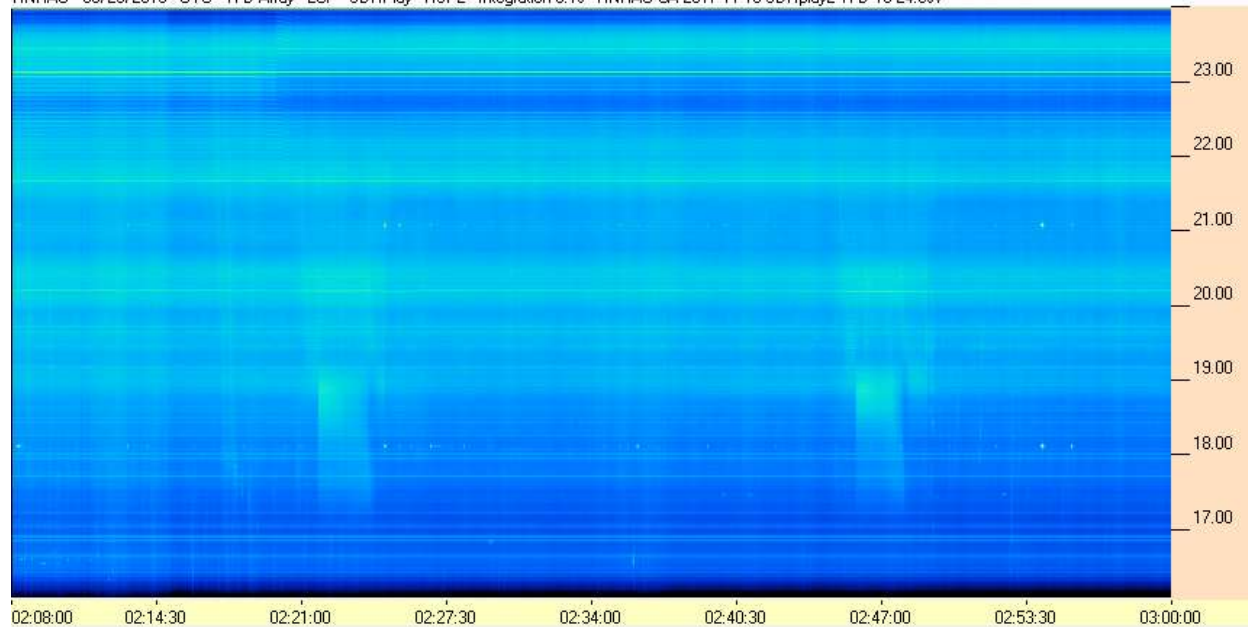
EOR

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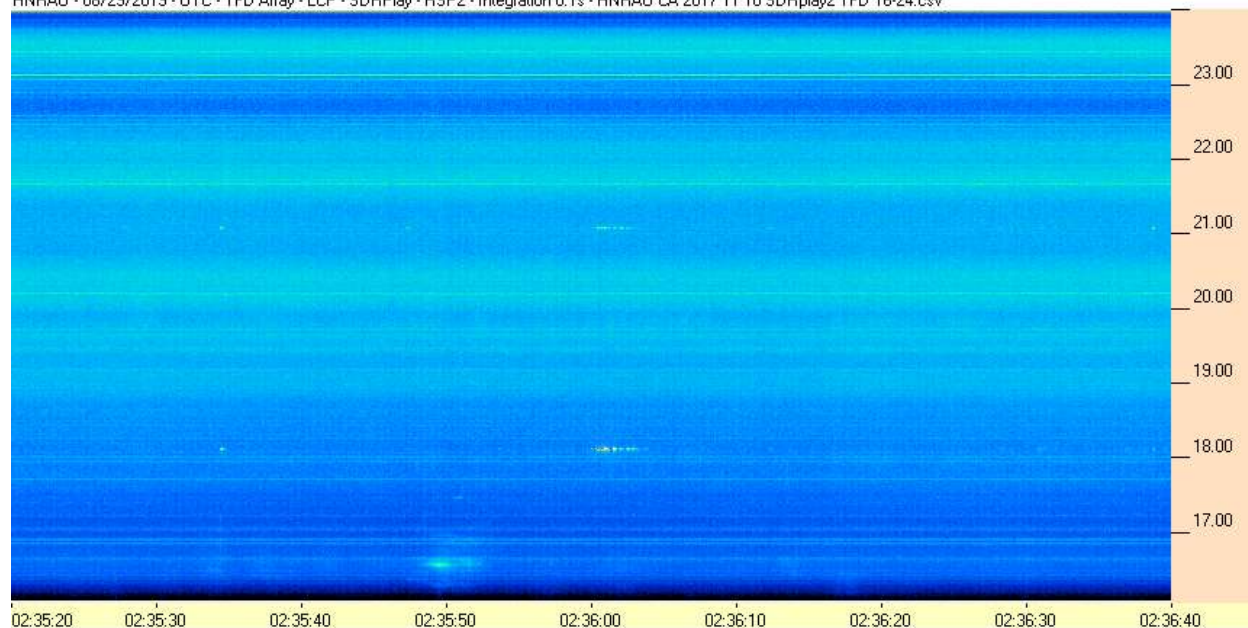


SDRPlay RSP2 / TFD Array

HNRAO - 08/29/2019 - UTC - TFD Array - LCP - SDRPlay - RSP2 - Integration 0.1s - HNRAO CA 2017 11 10 SDRplay2 TFD 16-24.csv



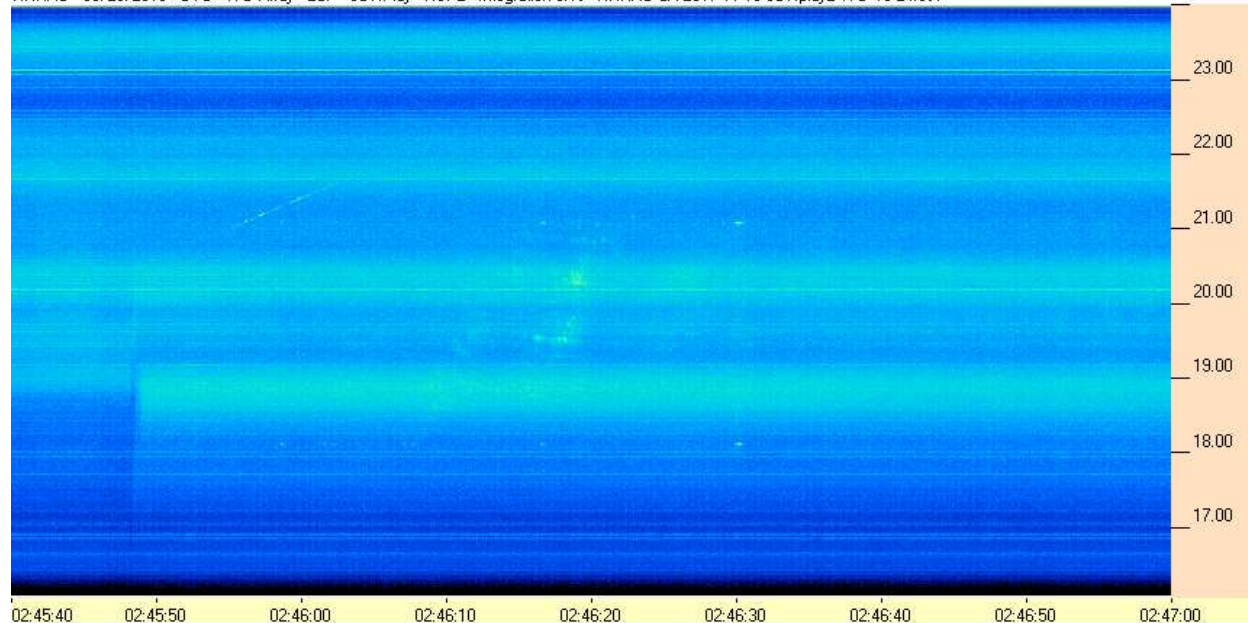
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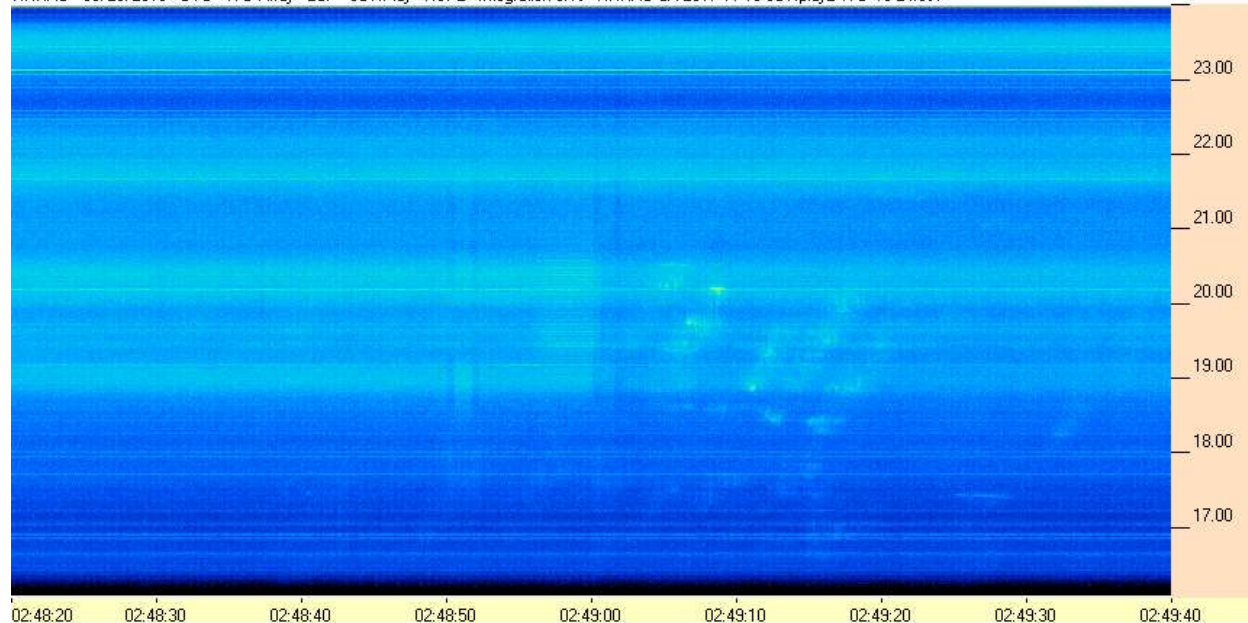
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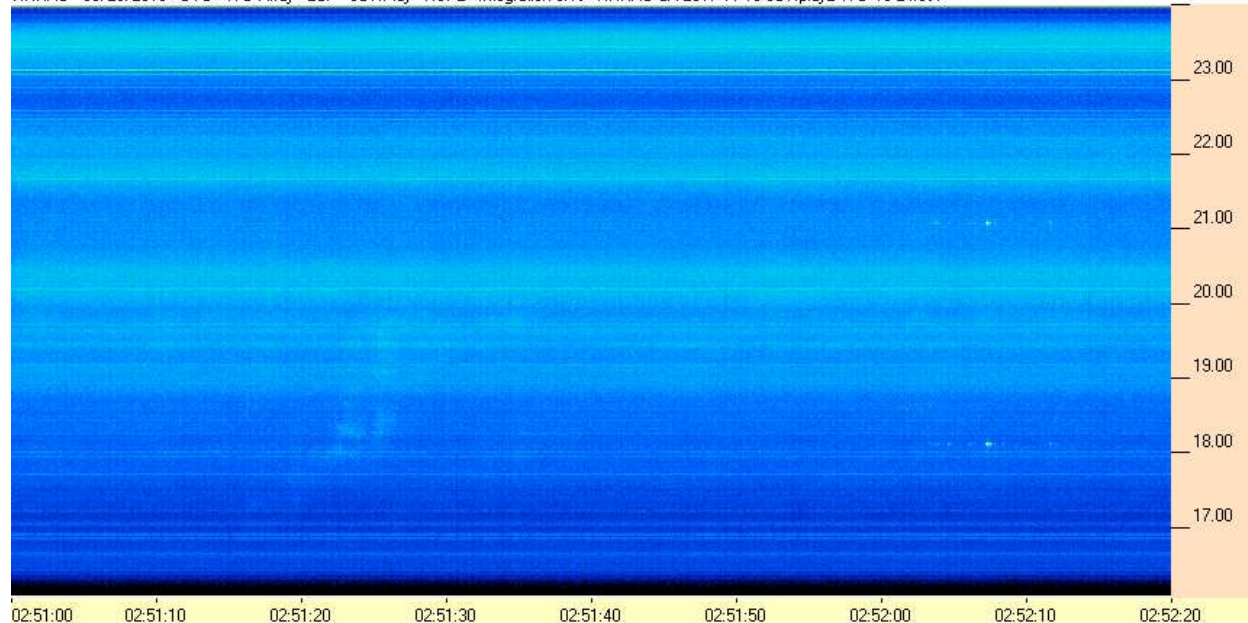
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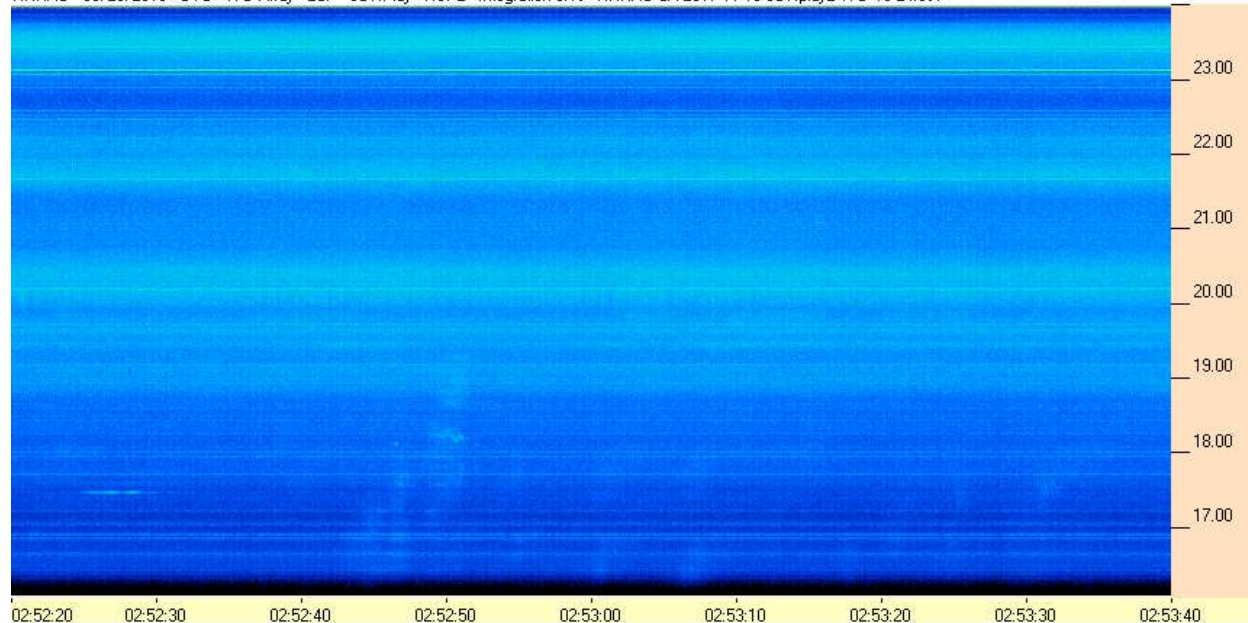
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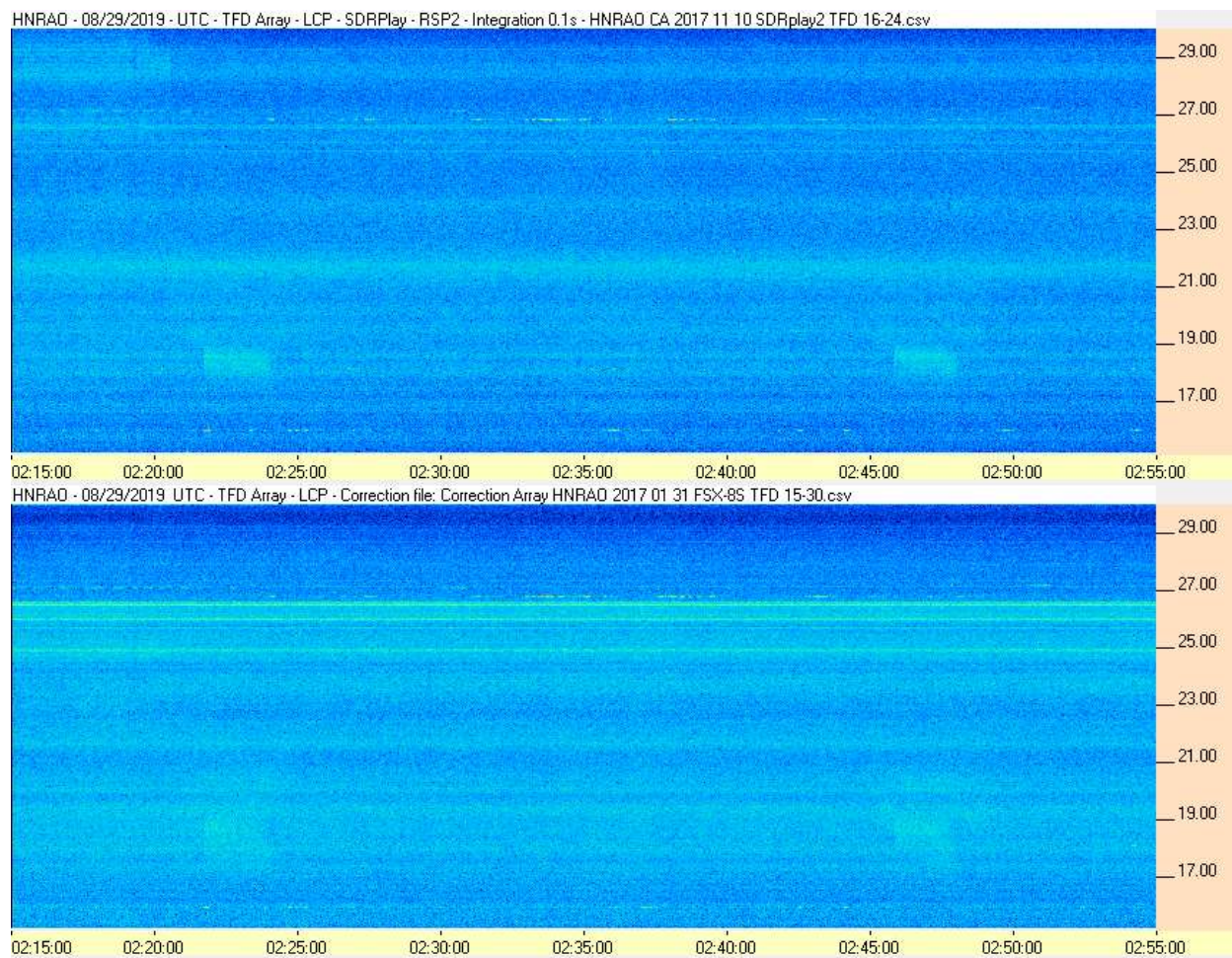
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FSX-8S / TFD Array



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JOVE II Receiver / JOVE Dipole Array

