

HNRAO Observing Log
40.673181 N – 80.437885 W
EN90sq



Date: 1 April 2017

Object: Jupiter – Non-Io-A

Observer: Unattended

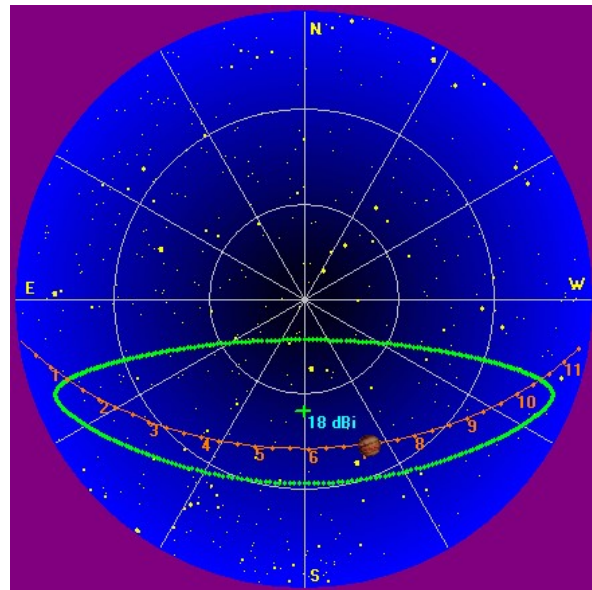
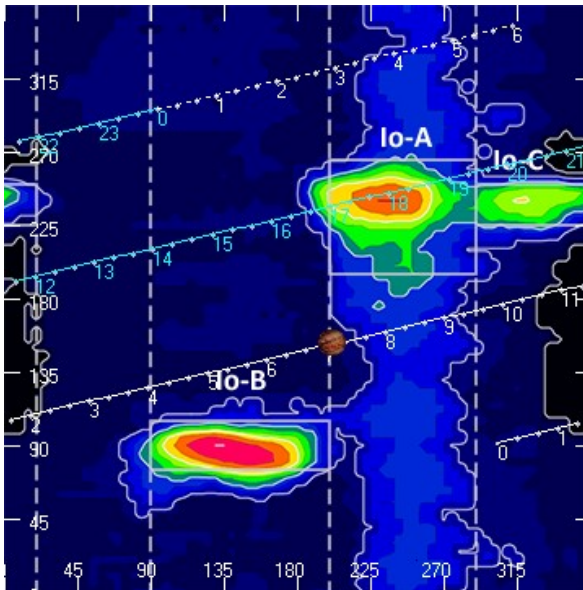
Start of pass:	0707 UT	Planetary K-index:	3
Jupiter Altitude:	40.5 degrees	Jupiter Azimuth:	203.8 degrees
Jupiter CML:	201.56	Jupiter Io Phase:	152.52
Jupiter RA:	13:13	Jupiter Dec:	-05:59
Hour Angle:	01:12	Polarization	RCP
Sun Altitude:	-39.0 degrees	Sun Azimuth:	035.8 degrees
Sun RA:	00:36	Sun Dec:	03:54

End of pass:	0751 UT		
Jupiter Altitude:	36.3 degrees	Jupiter Azimuth:	216.8 degrees
Jupiter CML:	228.16	Jupiter Io Phase	158.76
Hour Angle:	01:56		
Sun Altitude:	-33.4 degrees	Sun Azimuth:	047.5 degrees

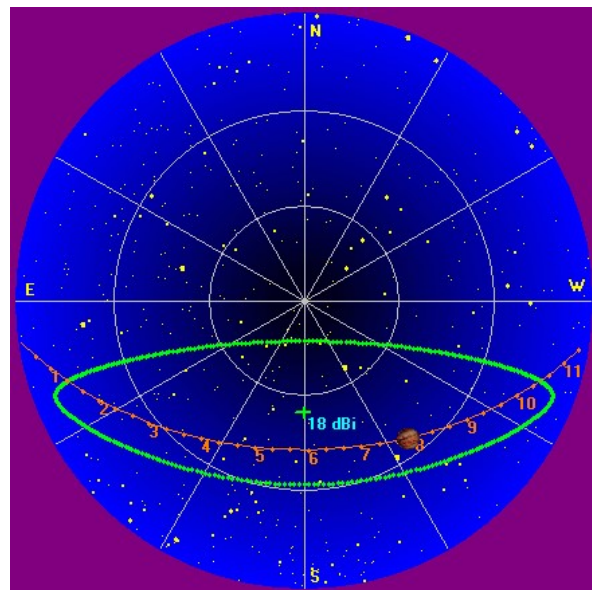
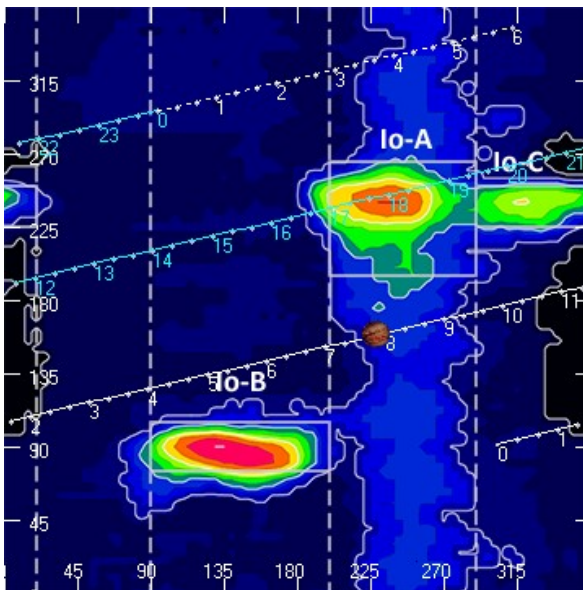
Observations made using:

1. FSX-8S fed by the TFD array
 - a. 7.7 dB loss between TFD and Multicouplers.
 - b. Connect to array through HNRAO Multicoupler #1 and #2, port 2
 - i. HNRAO Multicoupler #1 – TFD/LCP
 - ii. HNRAO Multicoupler #2 – TFD/RCP
 1. Port 1 having 10 dB of gain, all other ports have 3 dB gain.
2. FSX-2 fed by the LWA array directly
 - a. LWA element configuration – 90 degrees
3. JOVE 2 receiver fed by phased JOVE dipoles @ 10'
 - a. 12' phase cable - phased for 2016-17 season
 - b. Calibrated 6 March 2017
 - c. Connected to dipoles through HNRAO Multicoupler #3, port 1.
 - i. 3.165 dB loss between Multicoupler and dipoles.
4. Icom R75 receiver fed by experimental DDRR antenna directly.
 - a. Calibrated 6 March 2017
5. SDRPlay
 - a. RSP1 (2) and RSP2 (1)

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Beginning of Pass

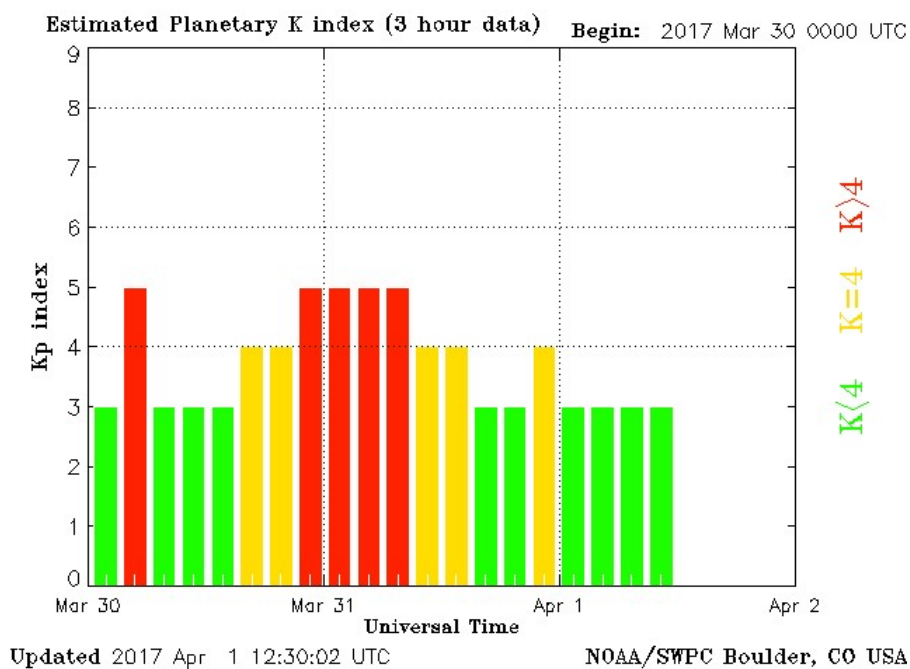


End of Pass

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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



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A relatively brief and weak Non-Io-A event. RCP L-bursts with negative drift modulation lanes.

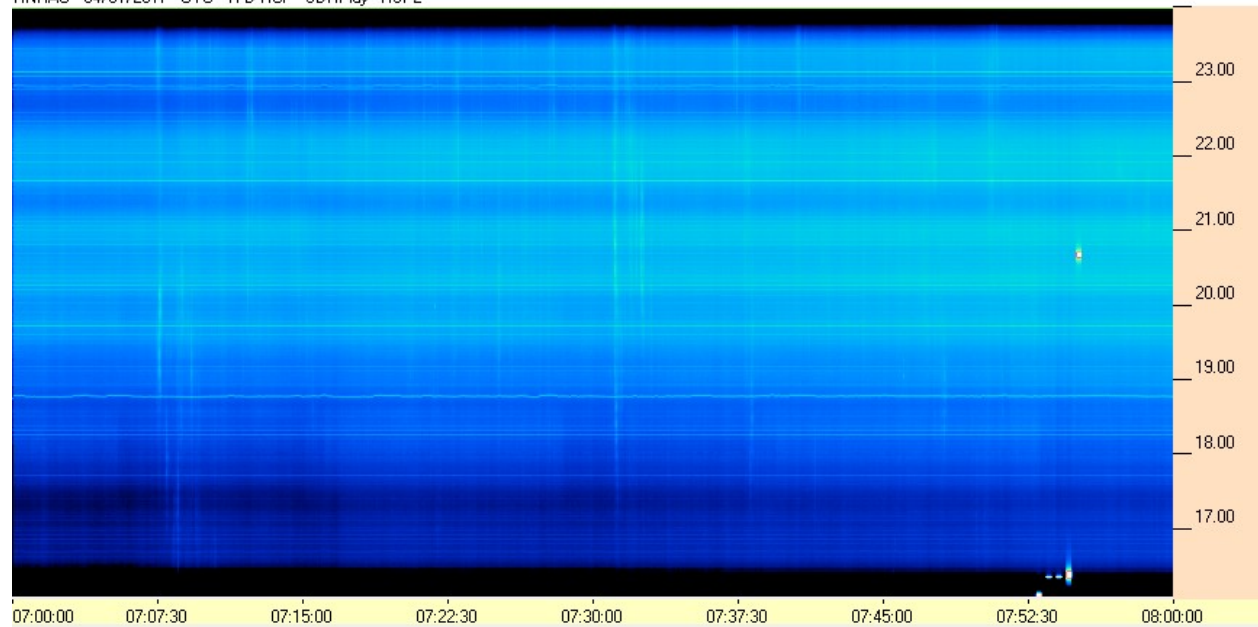
Modulation lanes measured where clear lanes permitted. Ranging from a high of -100 kHz/sec to -78 kHz/sec, the average was -88 kHz/sec. There did not appear to be any correlation between drift rate and time of pass.

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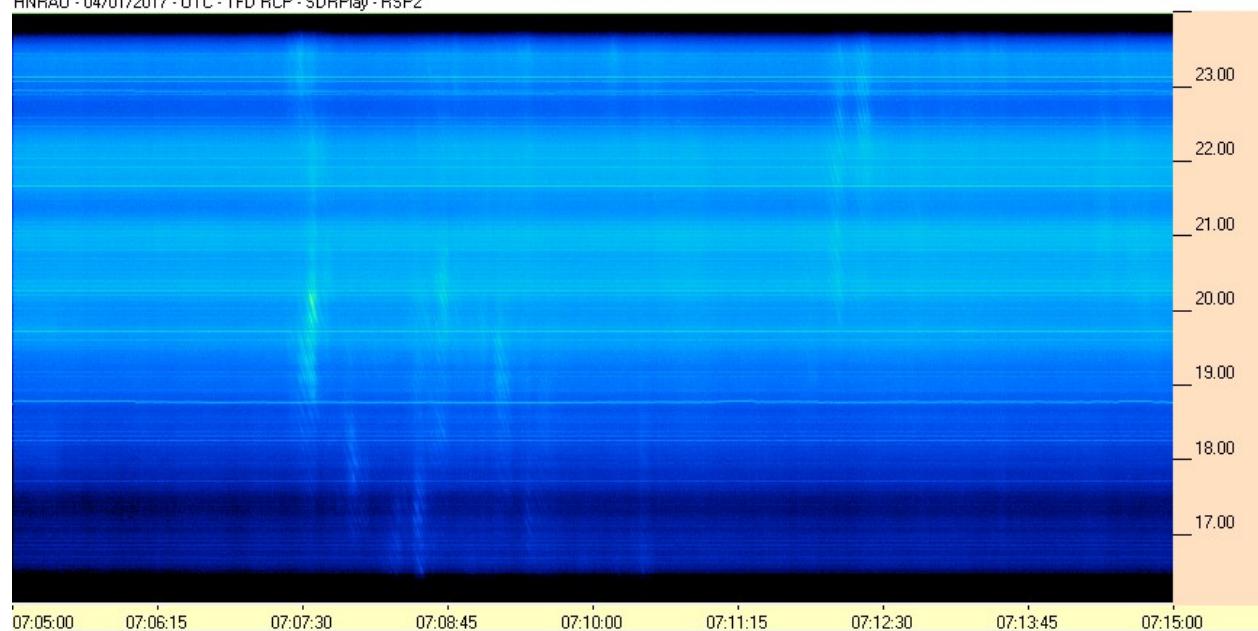


RSP2/TFD Pair

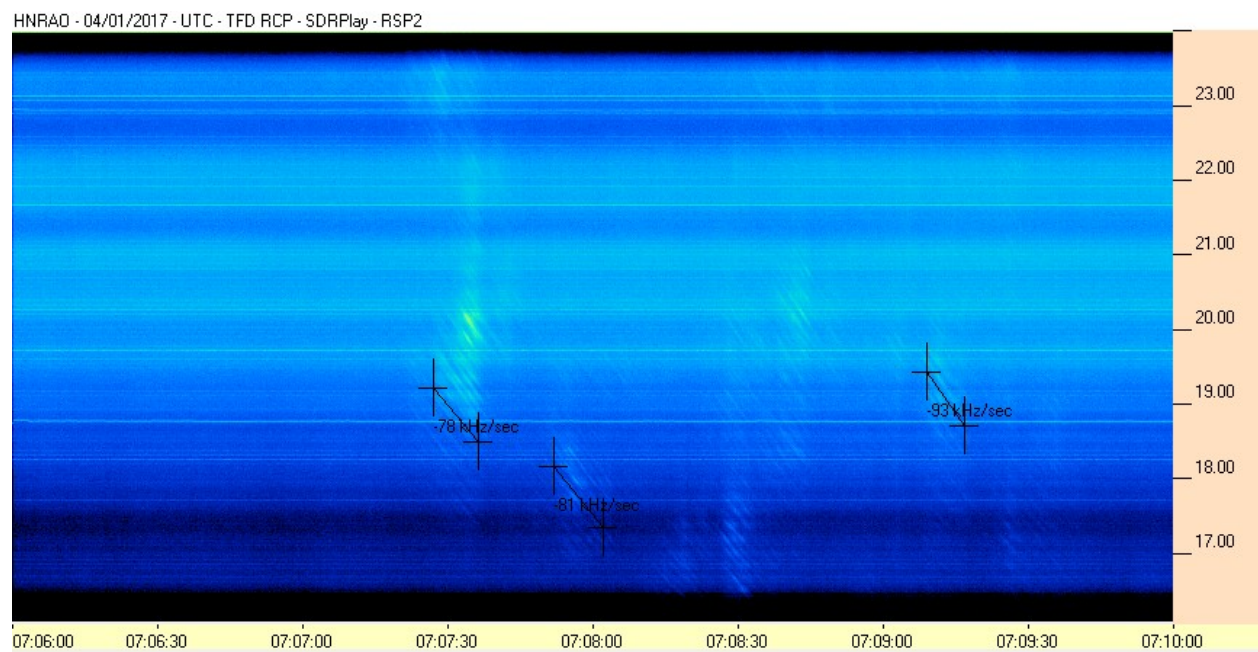
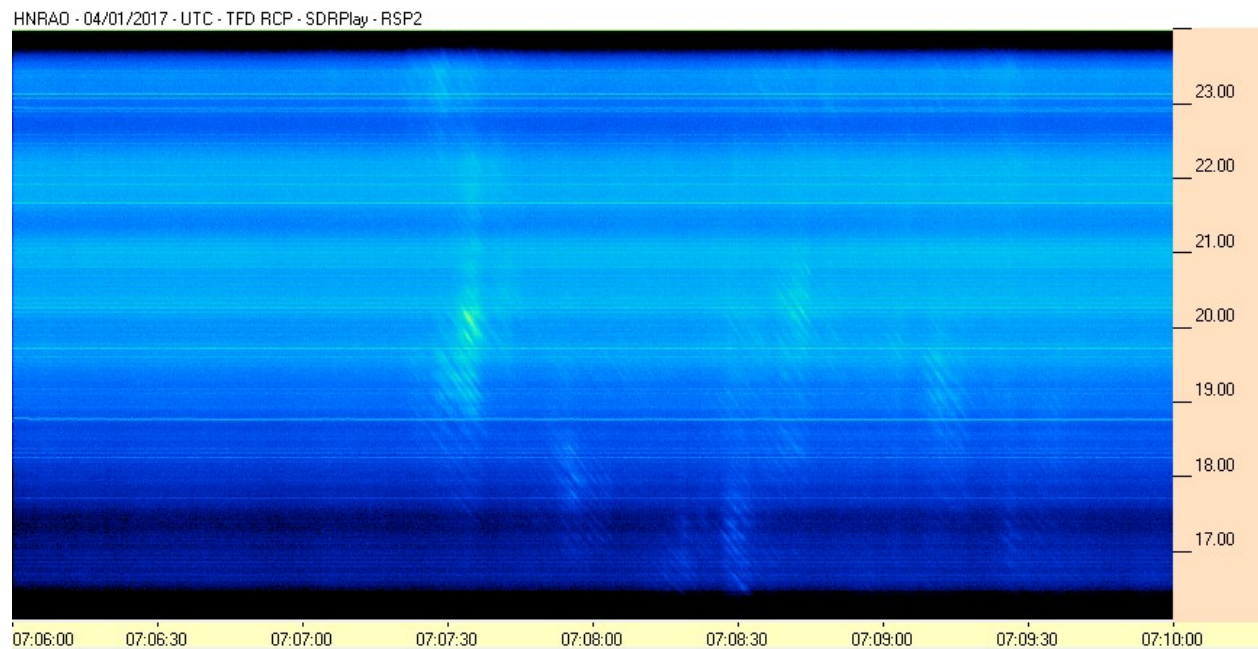
HNRAO - 04/01/2017 - UTC - TFD RCP - SDRPlay - RSP2



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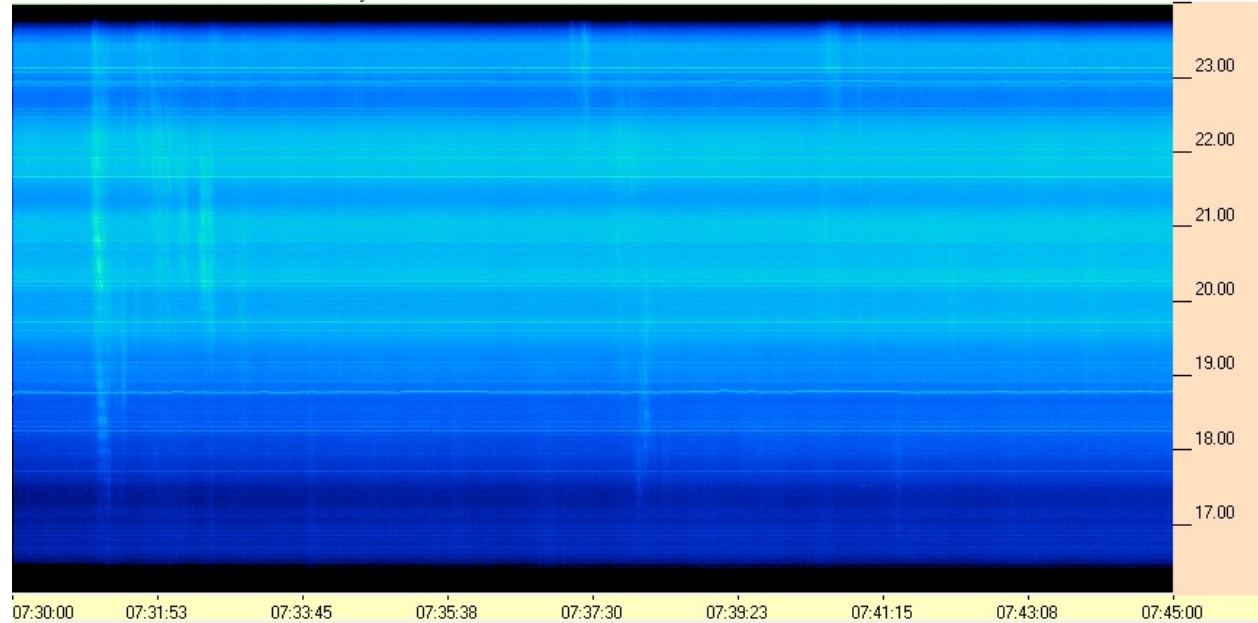
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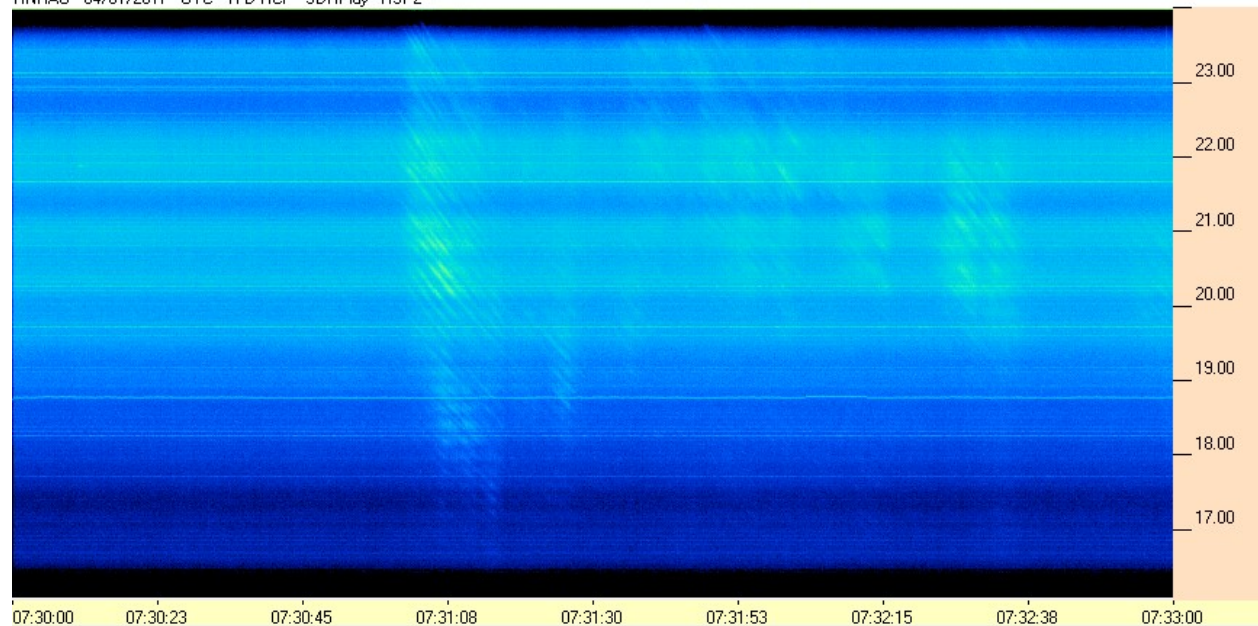
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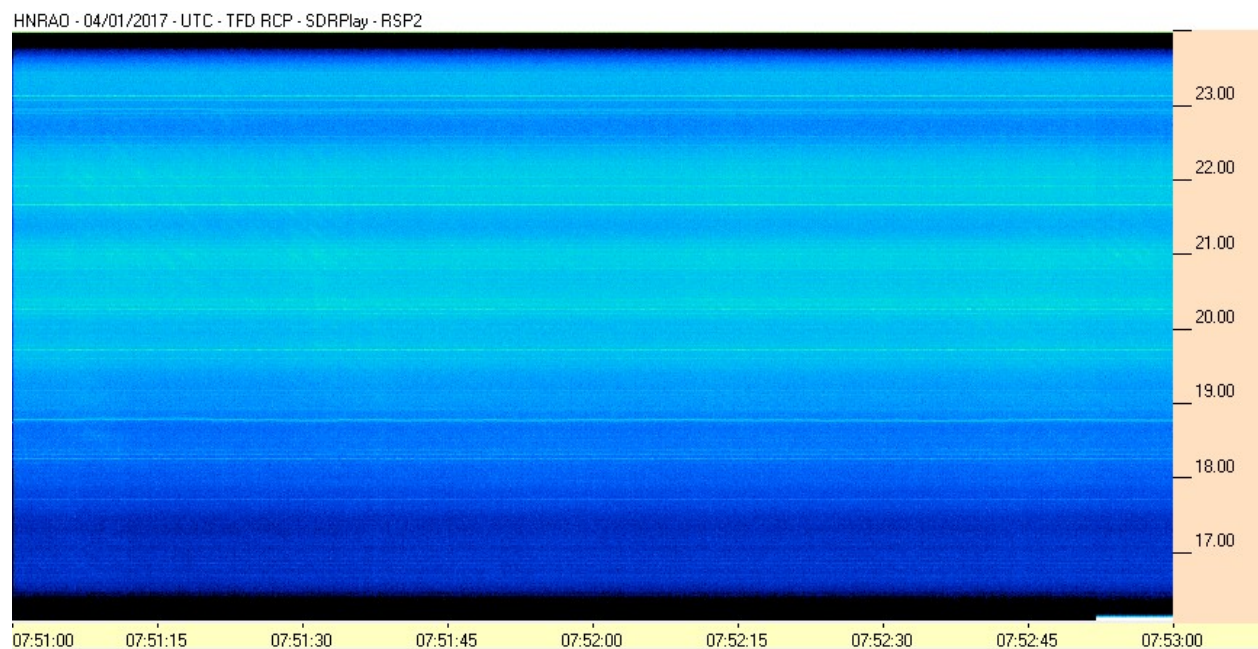
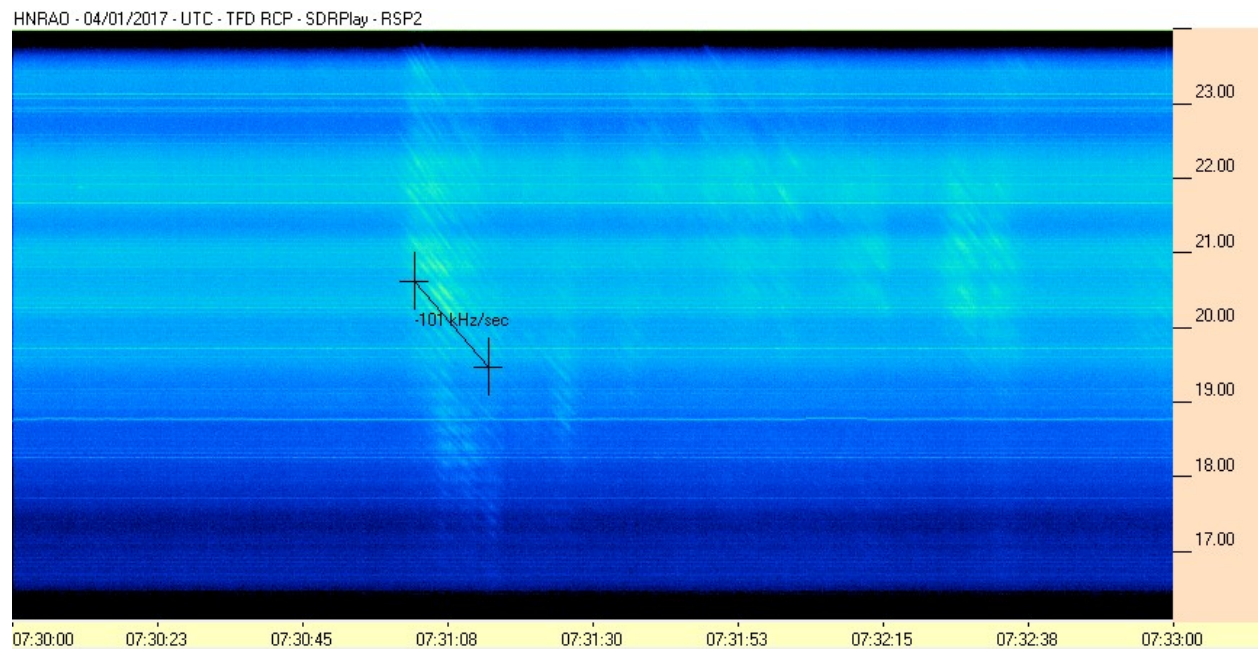
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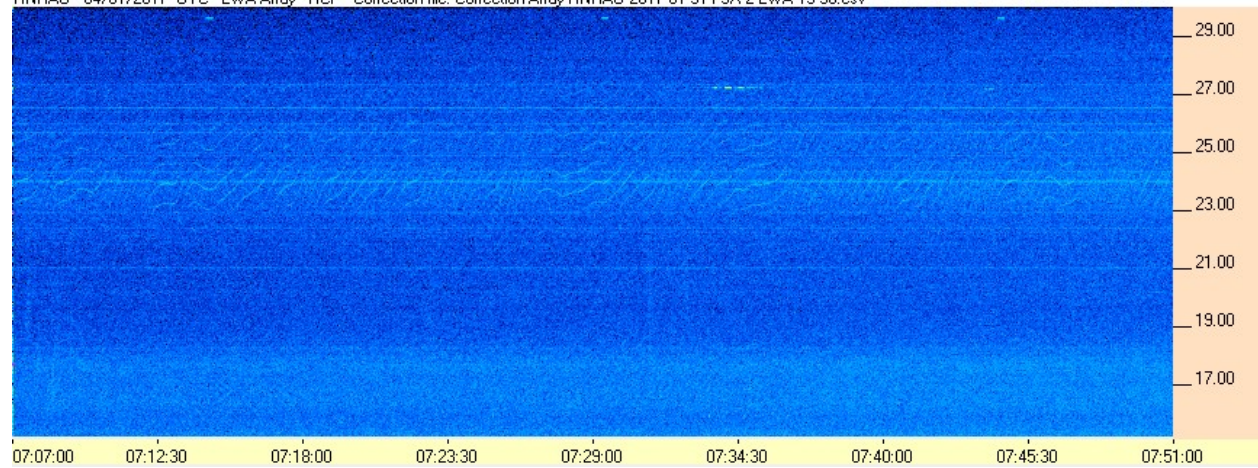


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FSX-2/LWA Pair

HNRAO - 04/01/2017 UTC - LWA Array - RCP - Correction file: Correction Array HNRAO 2017 01 31 FSX-2 LWA 15-30.csv

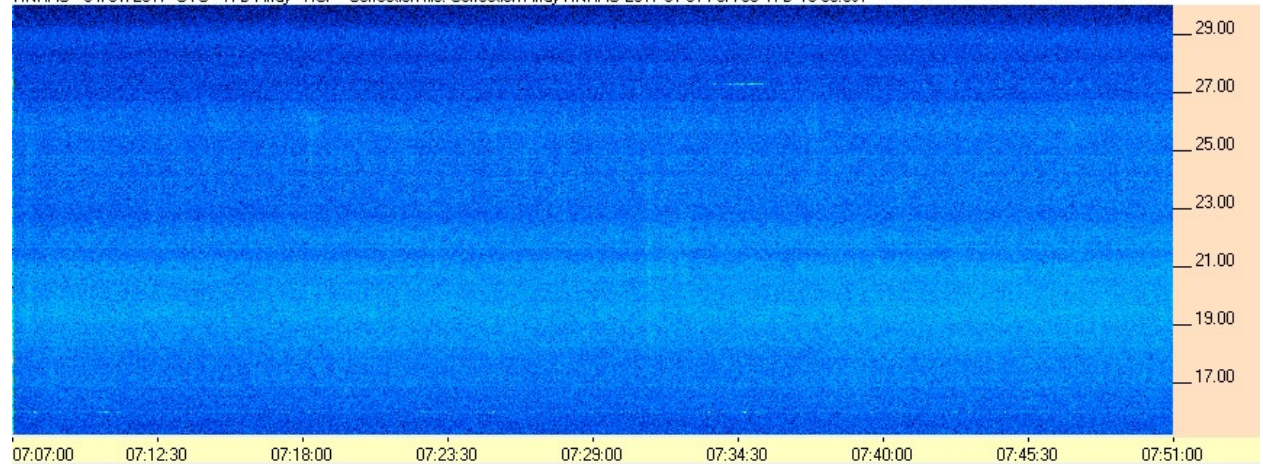


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FSX-8S/TFD Pair

HNRAO - 04/01/2017 UTC - TFD Array - RCP - Correction file: Correction Array HNRAO 2017 01 31 FSX-8S TFD 15-30.csv



HNRAO - 04/01/2017 UTC - TFD Array - LCP - Correction file: Correction Array HNRAO 2017 01 31 FSX-8S TFD 15-30.csv

