

HNRAO Observing Log
40.673181 N – 80.437885 W
EN90sq



Date: 1 May 2017

Object: Jupiter – Non-Io-C

Observer: Unattended

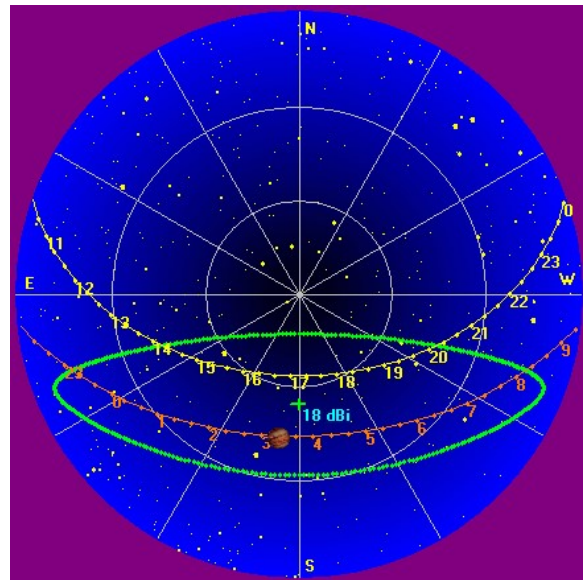
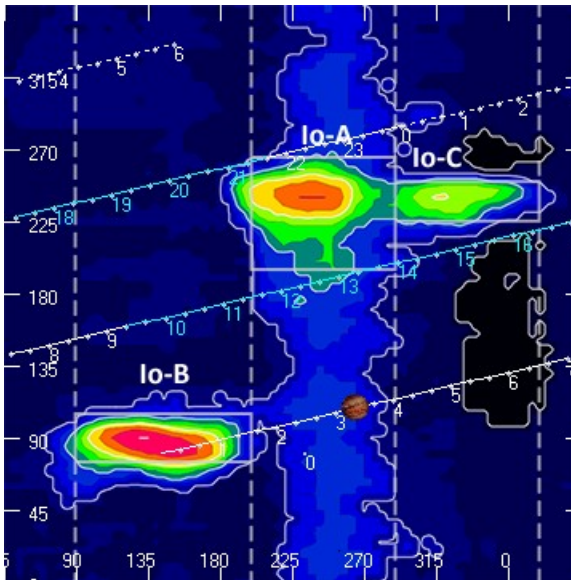
Start of pass:	0322 UT	Planetary K-index:	2
Jupiter Altitude (deg):	44.5	Jupiter Azimuth (deg):	172.4
Jupiter CML:	264.94	Jupiter Io Phase:	108.97
Jupiter RA (hr/min):	12:59	Jupiter Dec (hr/min):	-04:36
Hour Angle (hr/min):	-00:22	Polarization	LCP
Sun Altitude (deg):	-29.2	Sun Azimuth (deg):	329.3
Sun RA (hr/min):	02:27	Sun Dec (hr/min):	14.32

End of pass:	0349 UT		
Jupiter Altitude (deg):	44.7	Jupiter Azimuth (deg):	181.9
Jupiter CML:	281.26	Jupiter Io Phase	112.79
Hour Angle (hr/min):	00:05		
Sun Altitude (deg):	-31.6	Sun Azimuth (deg):	336.4

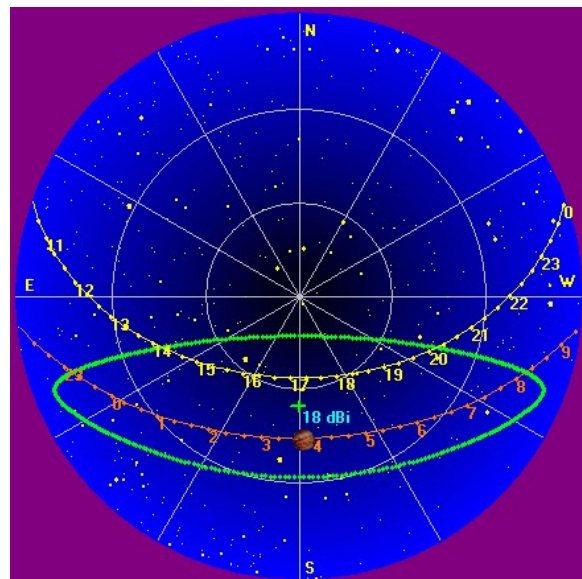
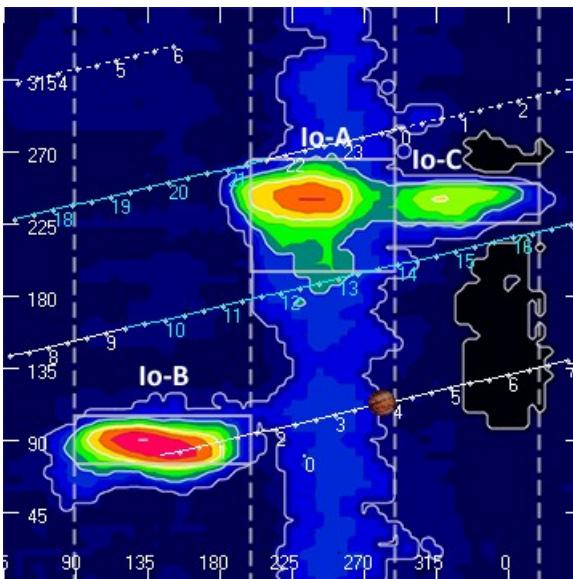
Observations made using:

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 @ 13'
 - a. 12' 6" phase cable - phased for 2016-17 season
 - b. Calibrated 19 April 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 19 April 2017
5. SDRPlay
 - a. RSP1 (2) and RSP2 (1)

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Beginning of Pass



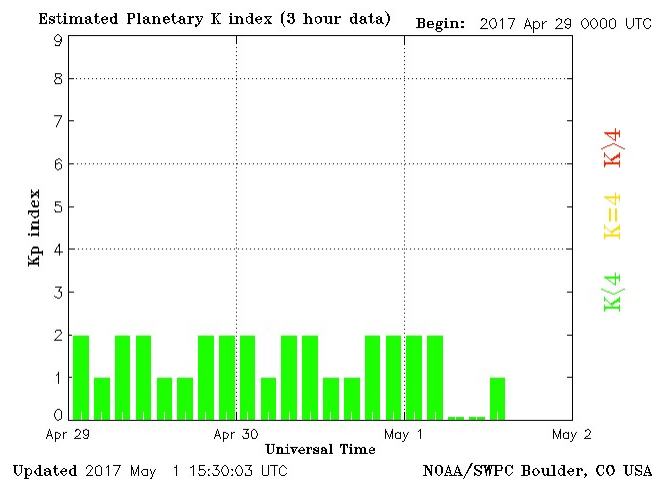
End of Pass

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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

<https://www.radiosky.com/jupmodes.html>



Non-Io-C with positive drift L-bursts and positive drift modulation lanes throughout. Frequency observed from 16 MHz to 18 MHz. Cross hatched modulation lanes at 0322 UT and again at 0339 UT.

Several very strong bursts at 0328:10 UT and 0343:19 UT might be S-bursts due to the intensity and size of the footprint, but resolution makes identification difficult.

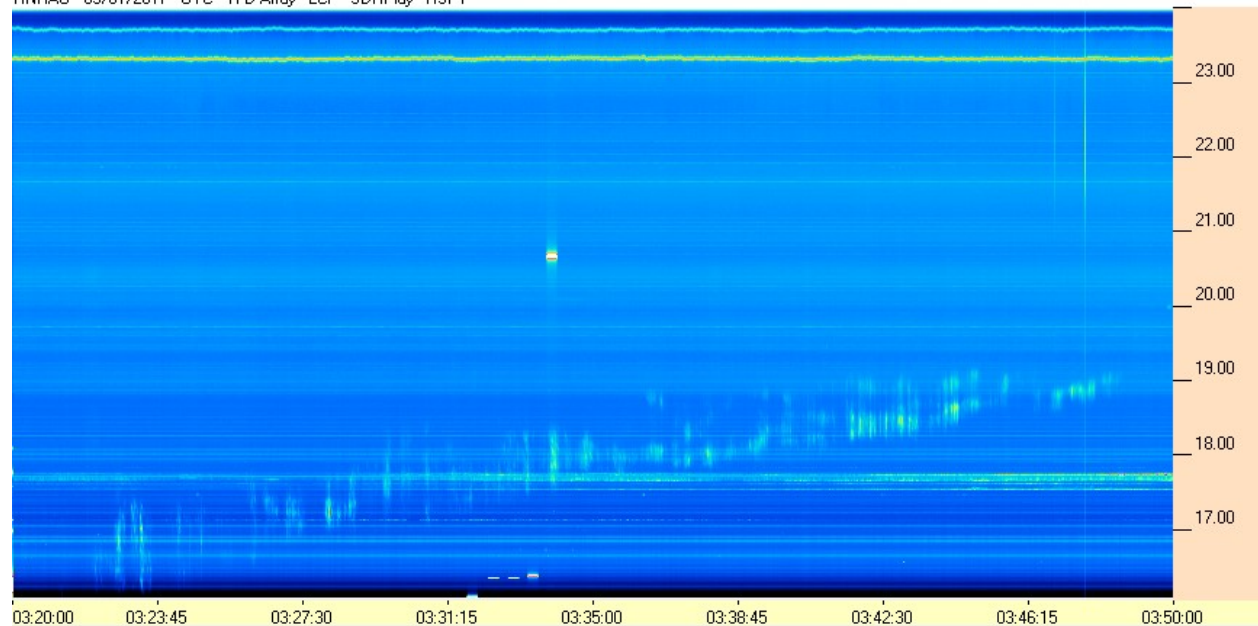
This emission was also observed with the FSX-8S and TFD antenna.

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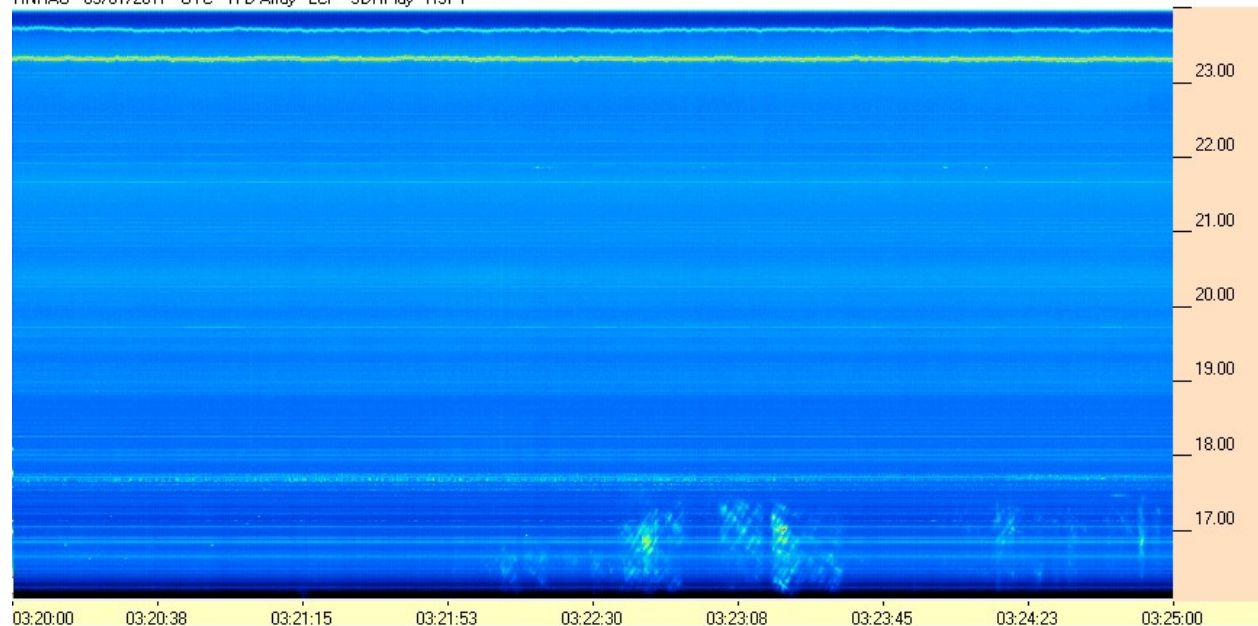


SDRPlay RSP1/TFD Pair

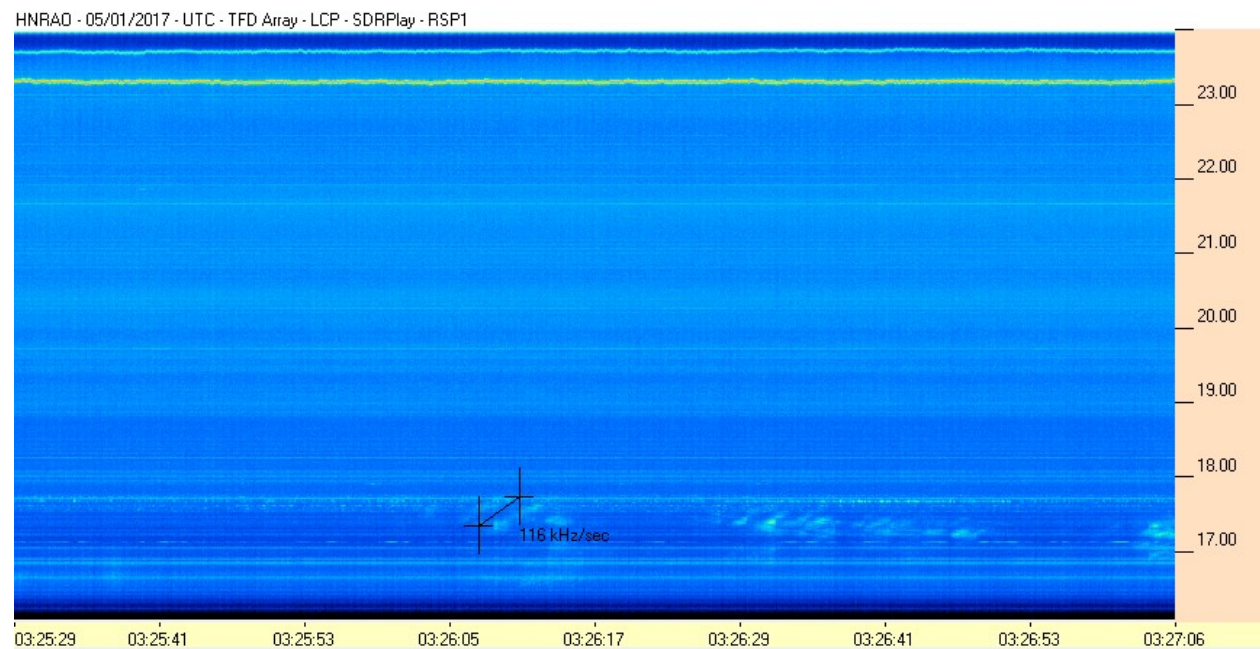
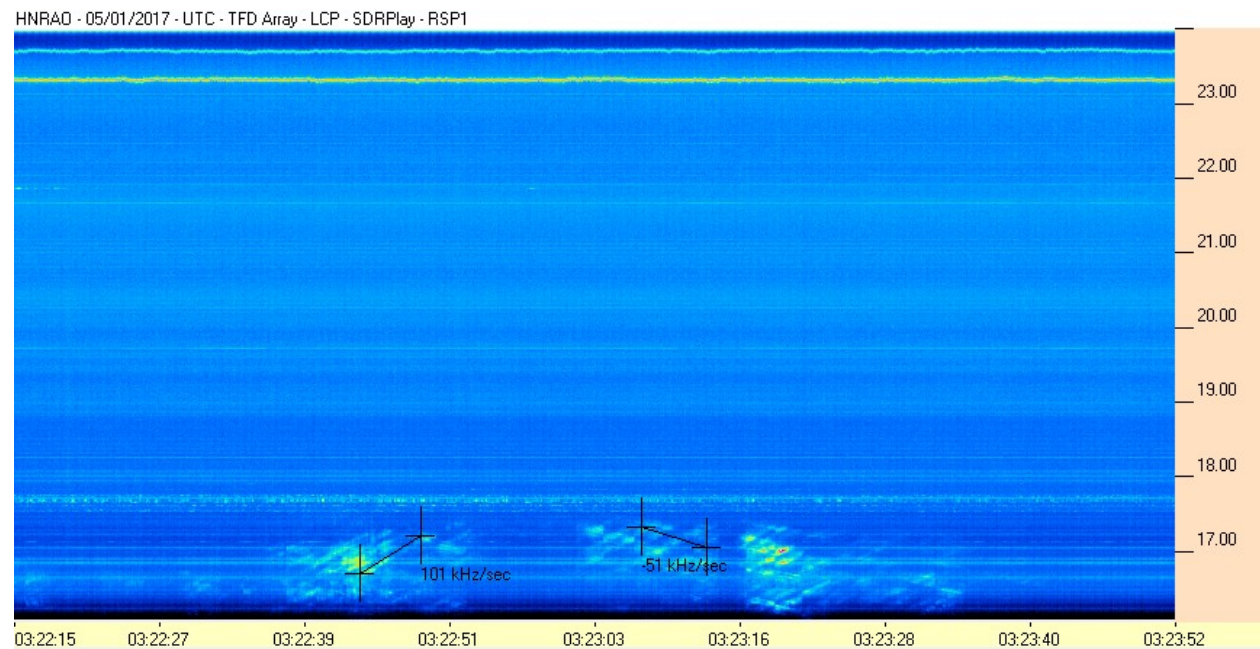
HNRAO - 05/01/2017 - UTC - TFD Array - LCP - SDRPlay - RSP1



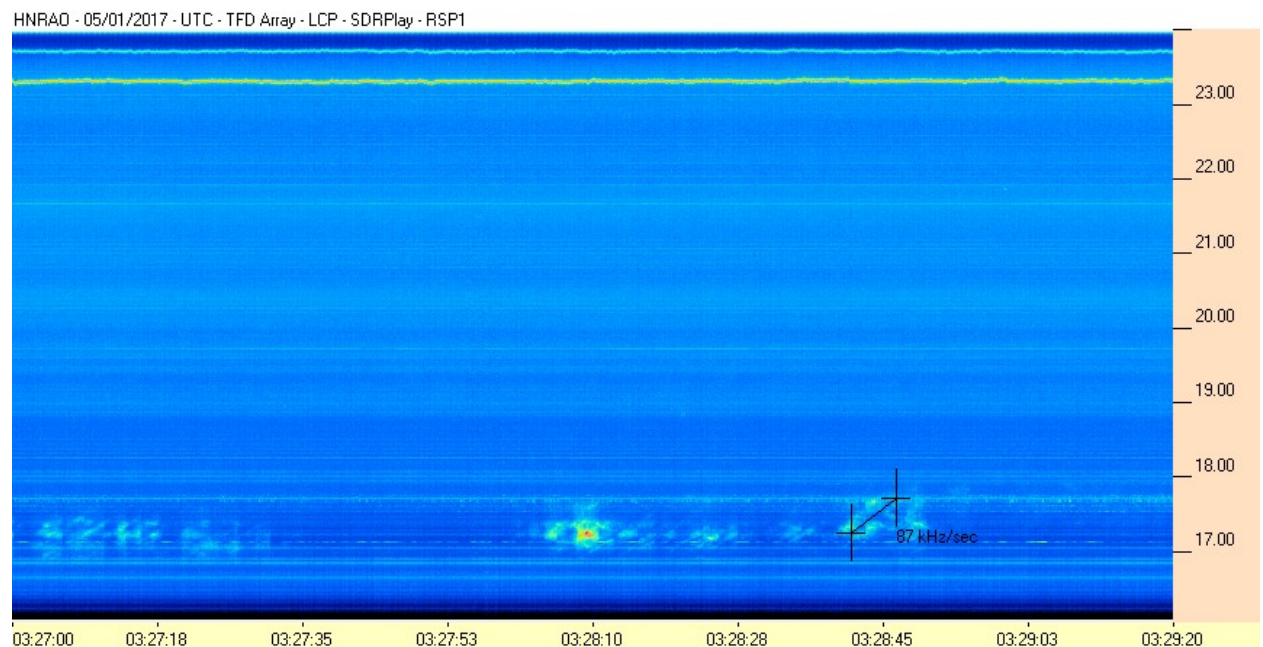
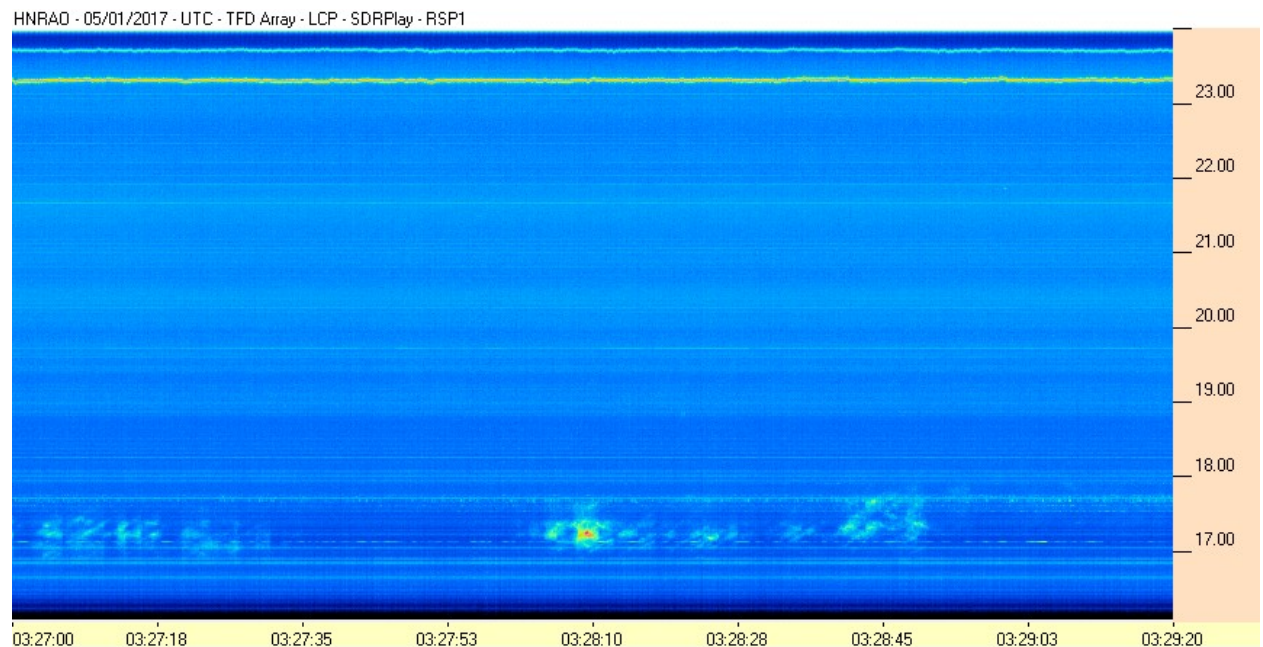
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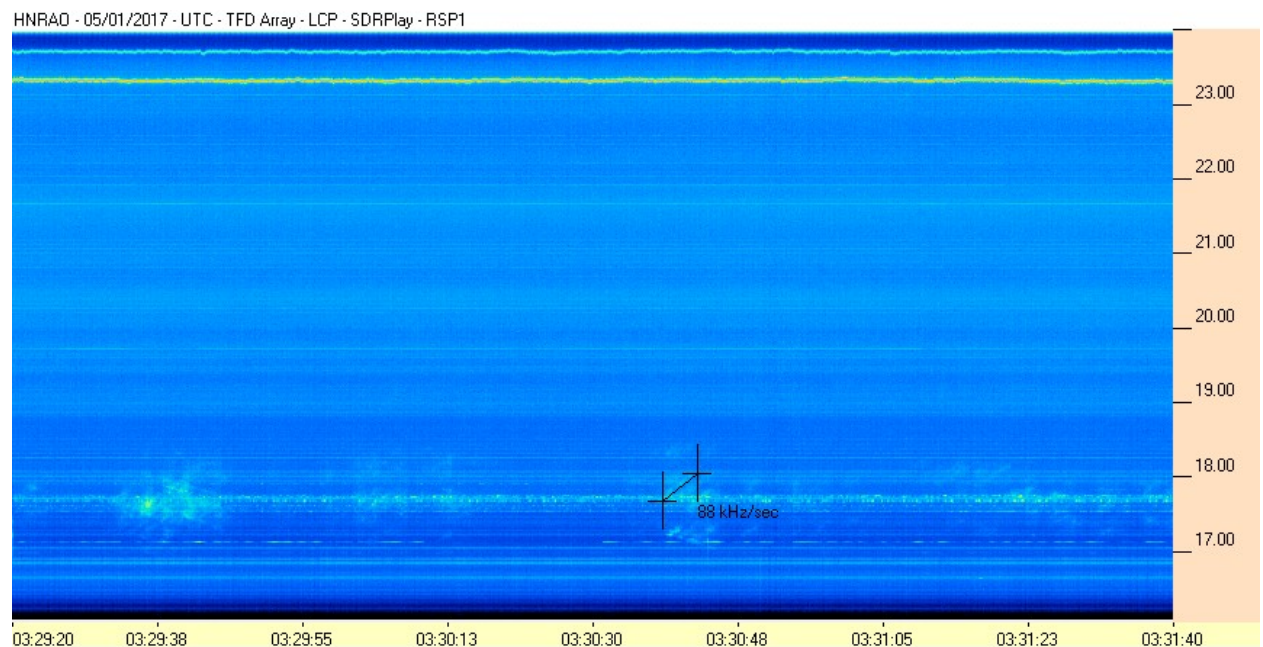
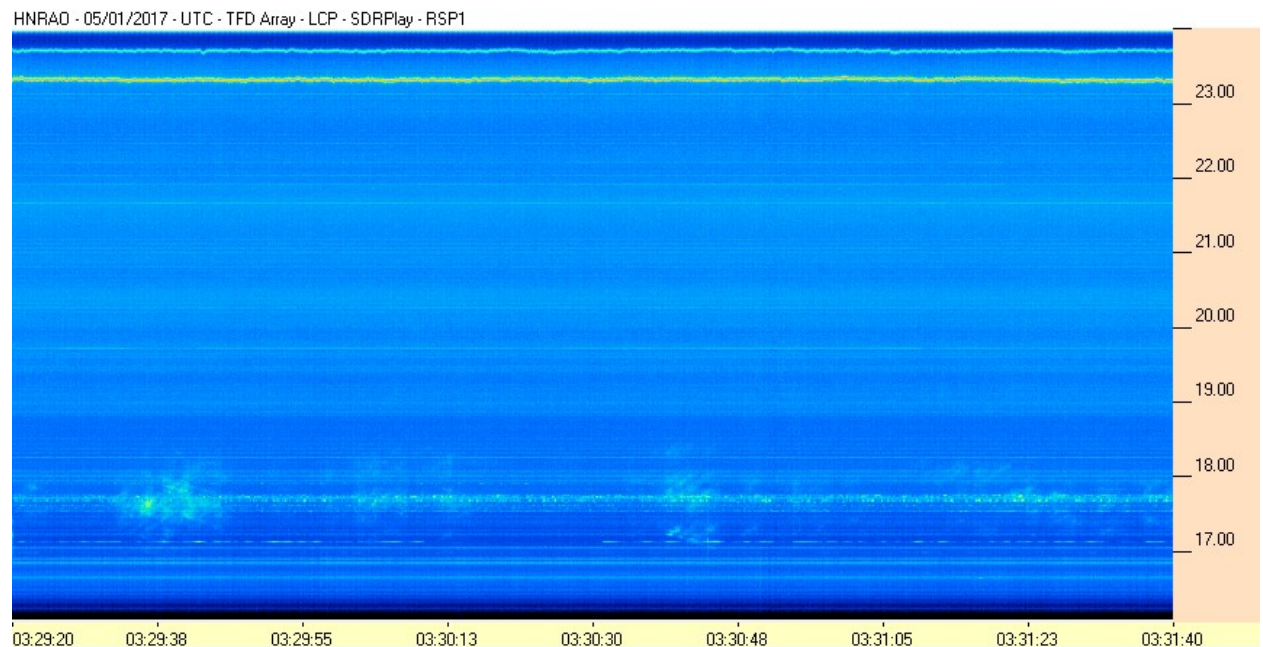
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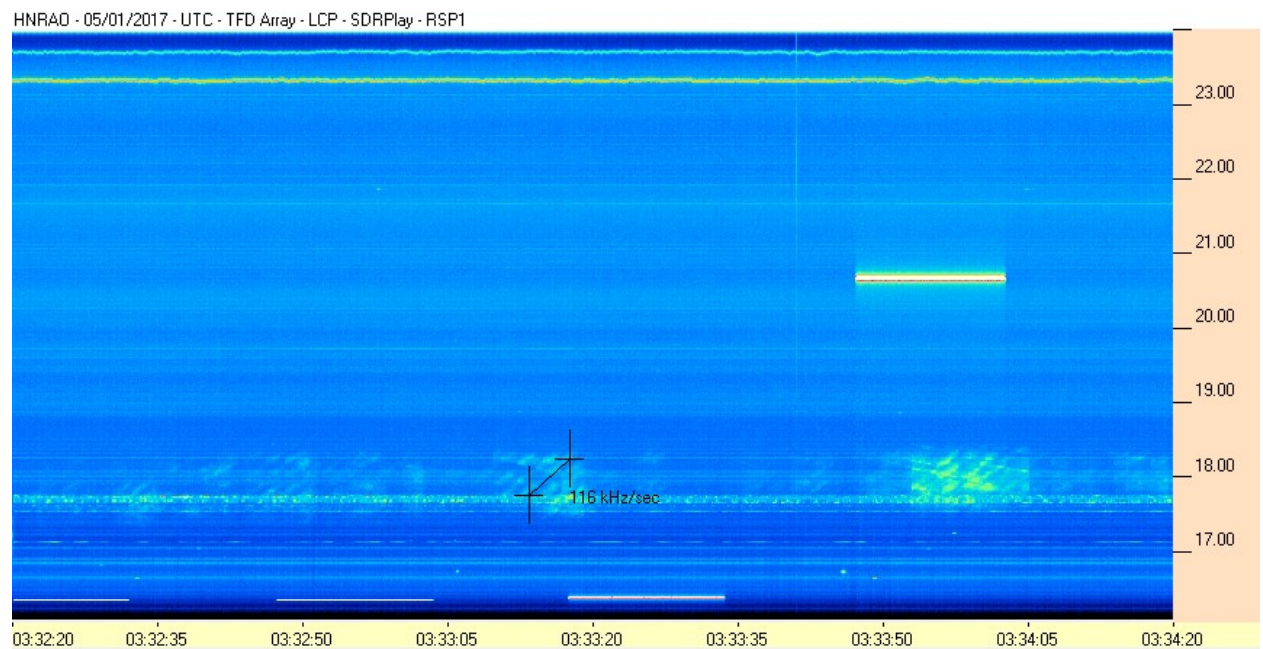
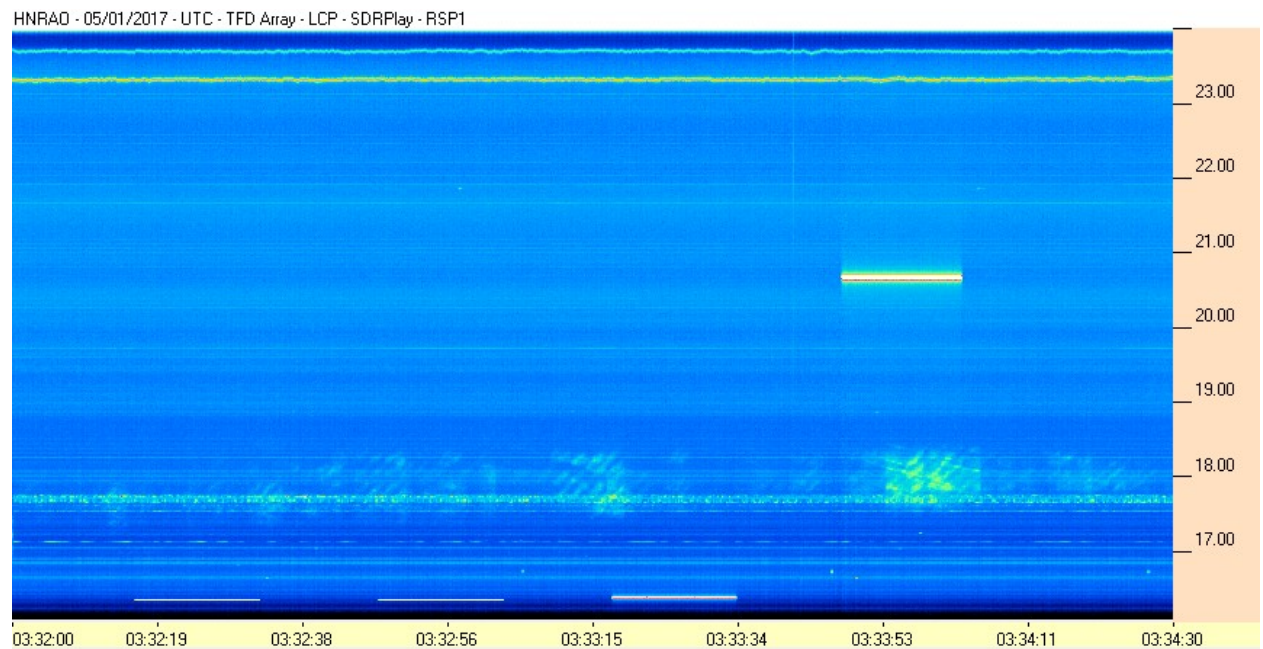
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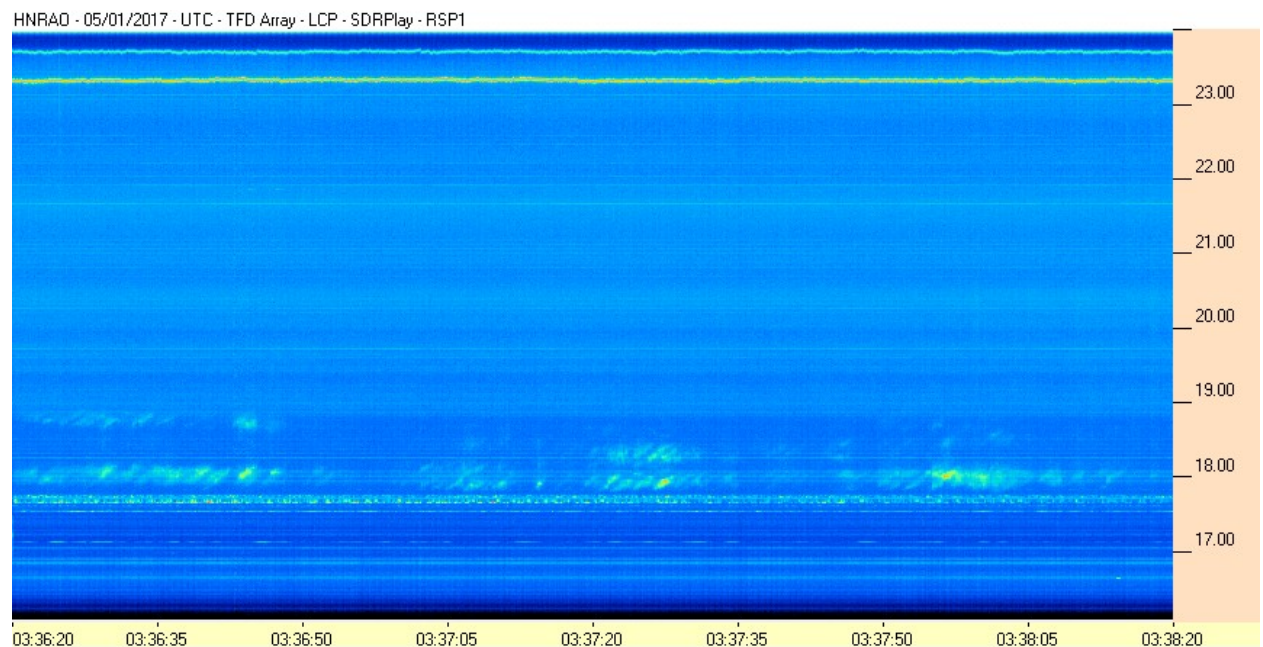
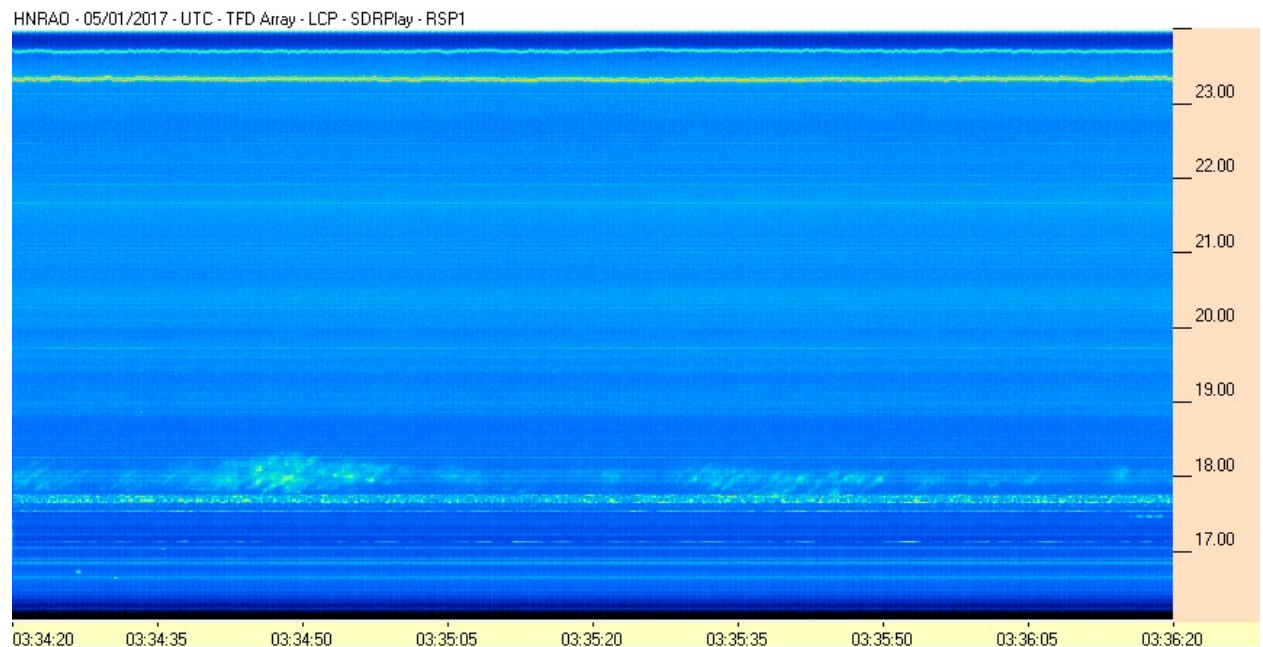
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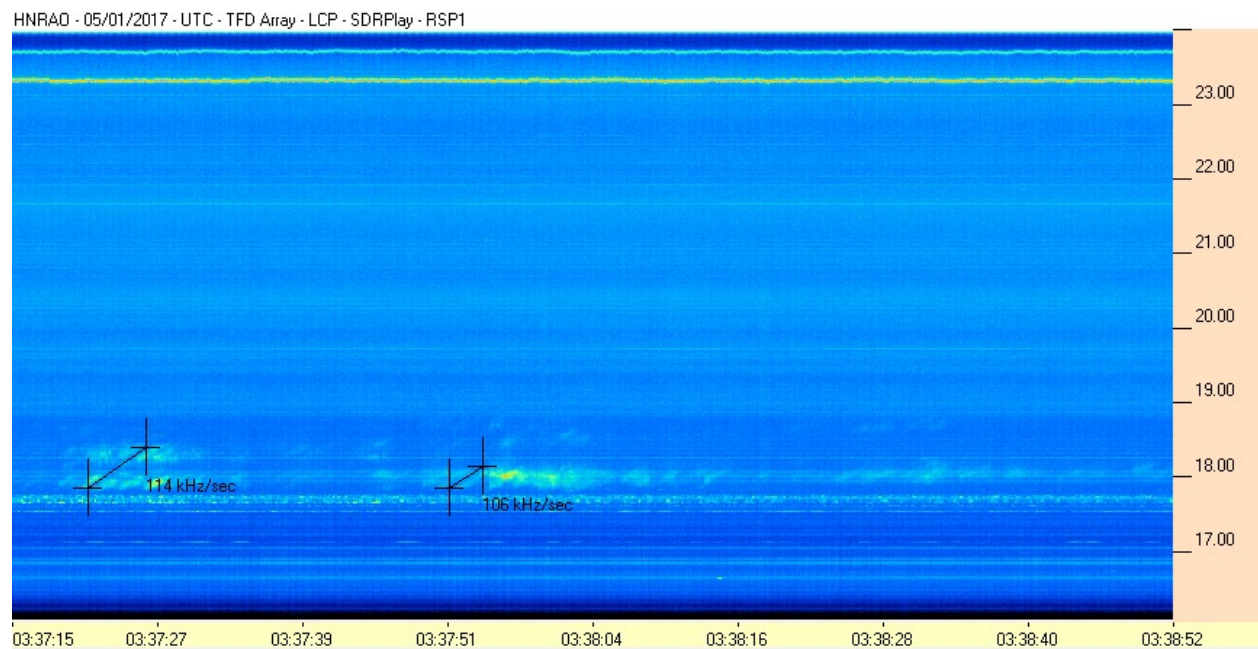
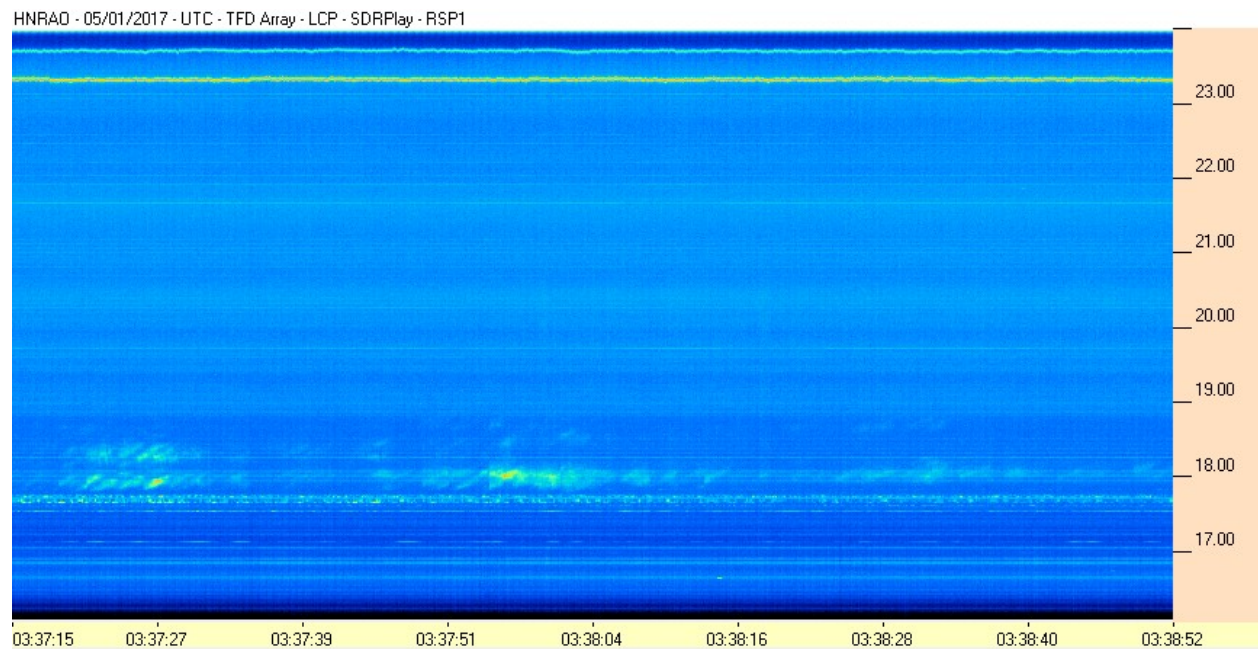
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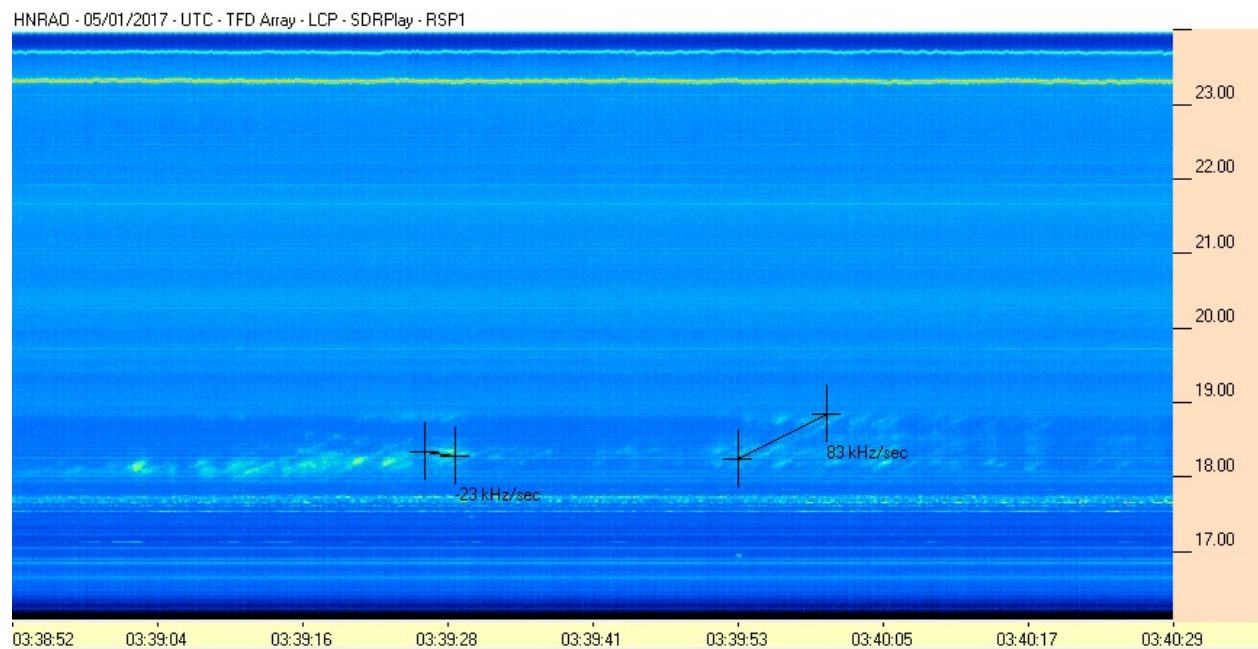
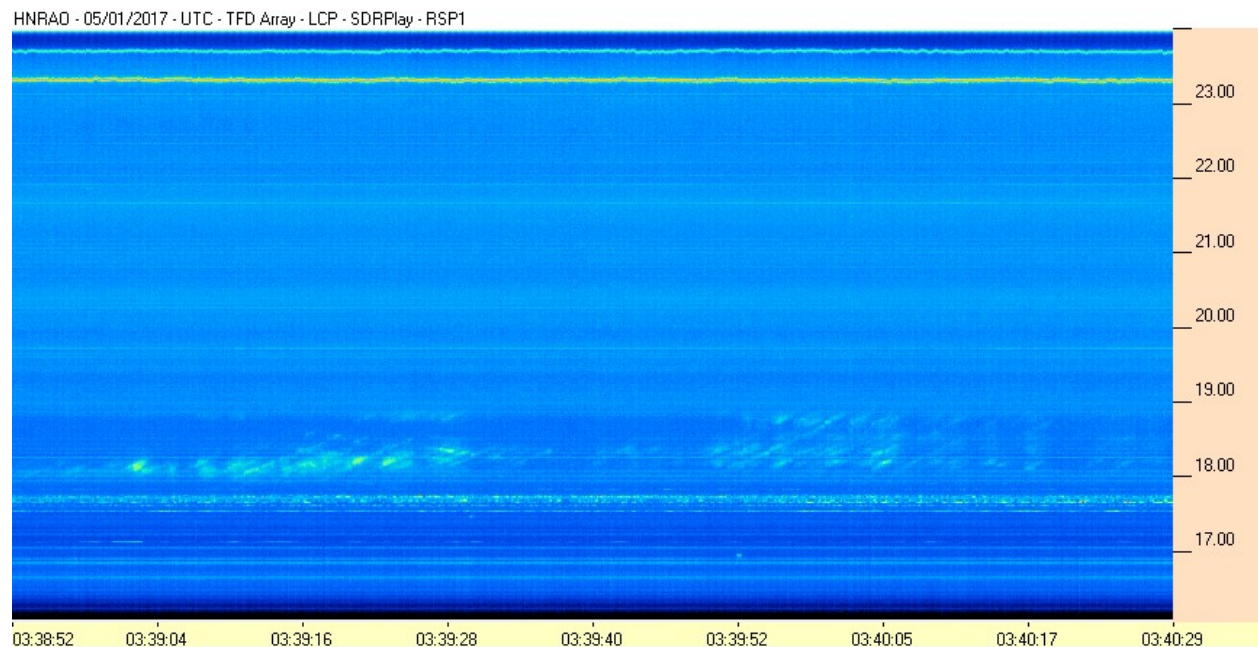
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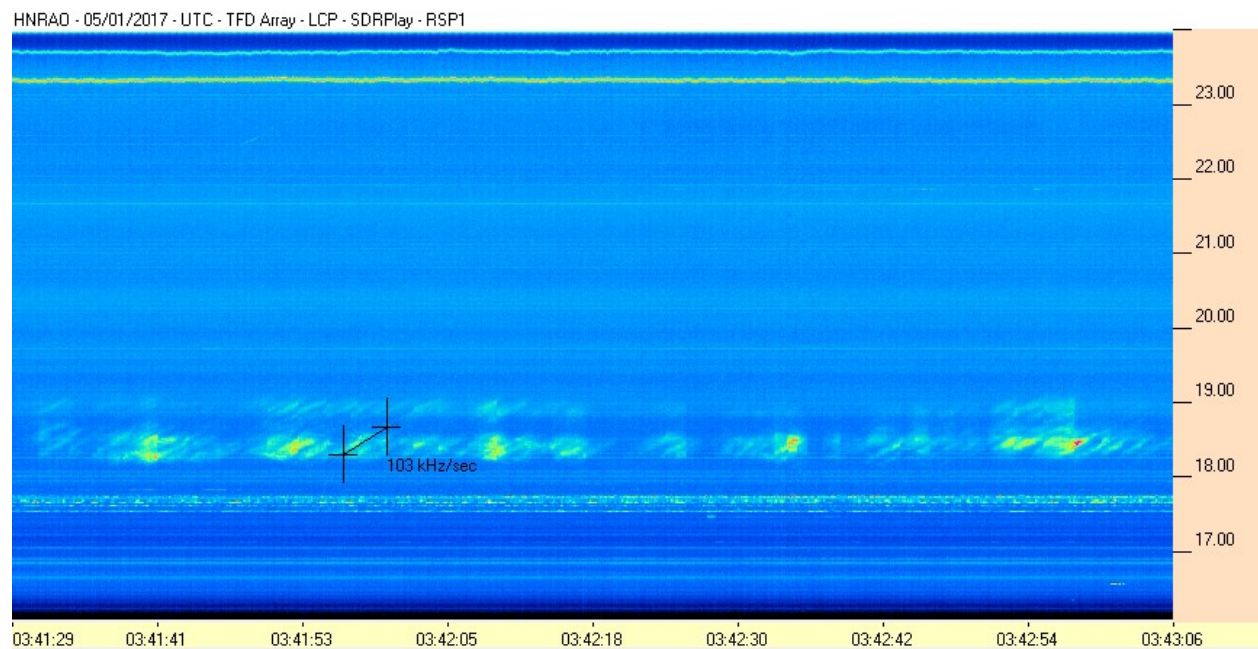
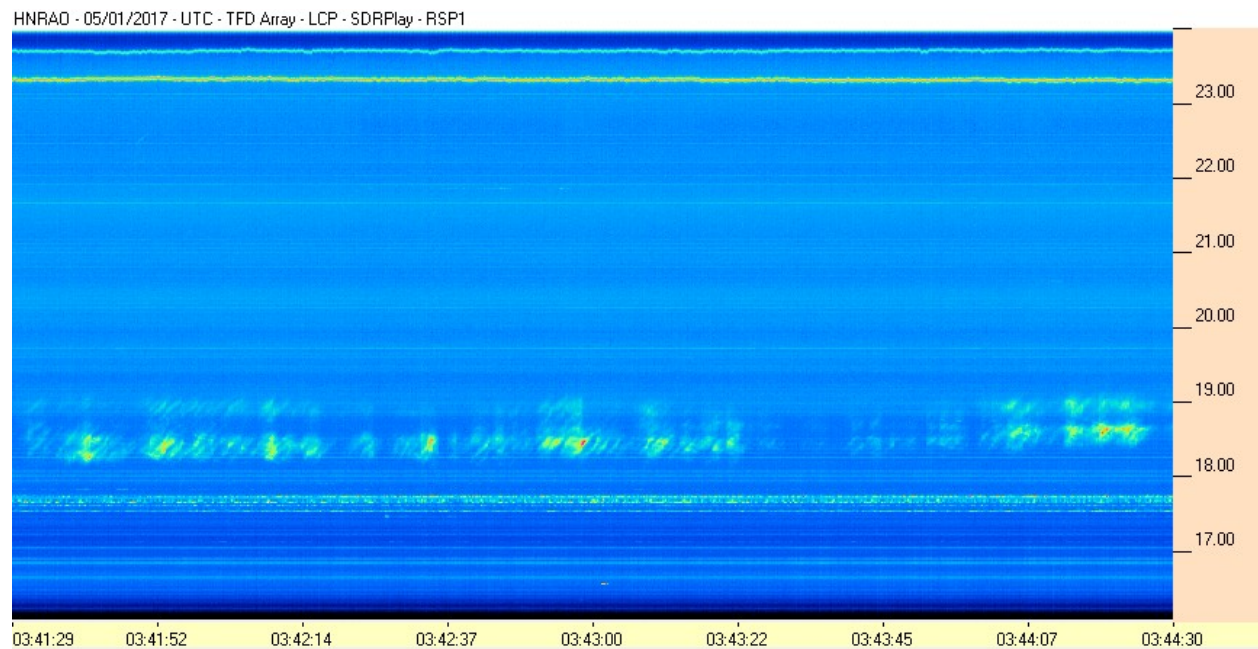
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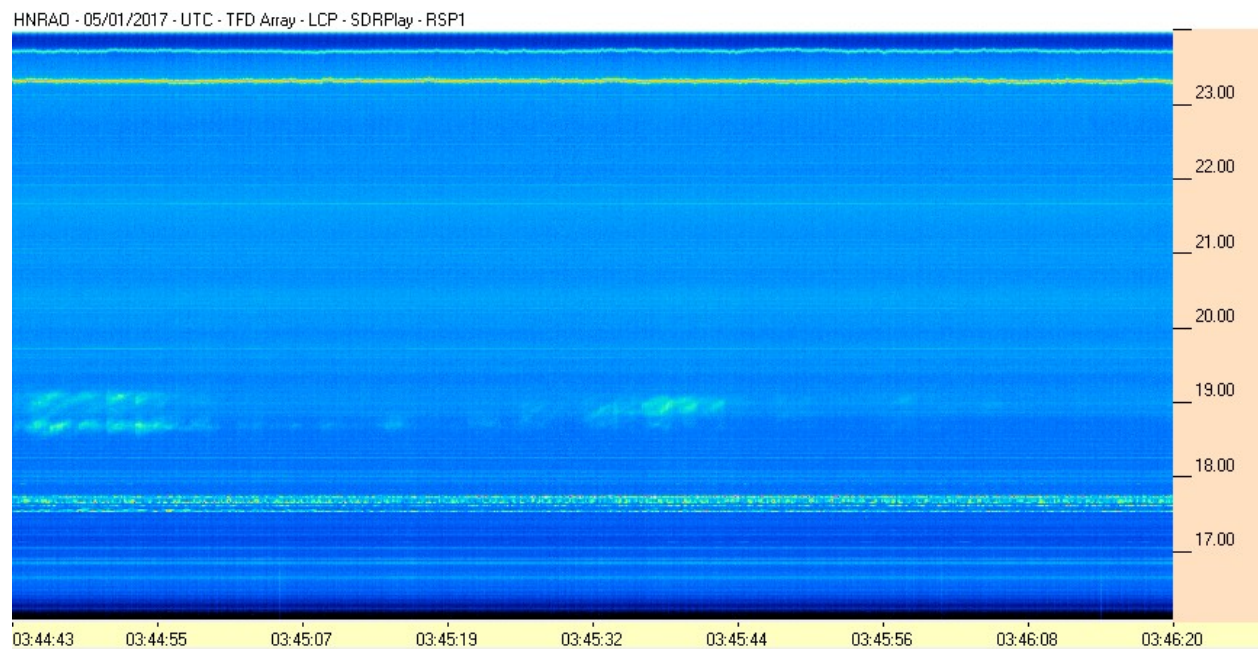
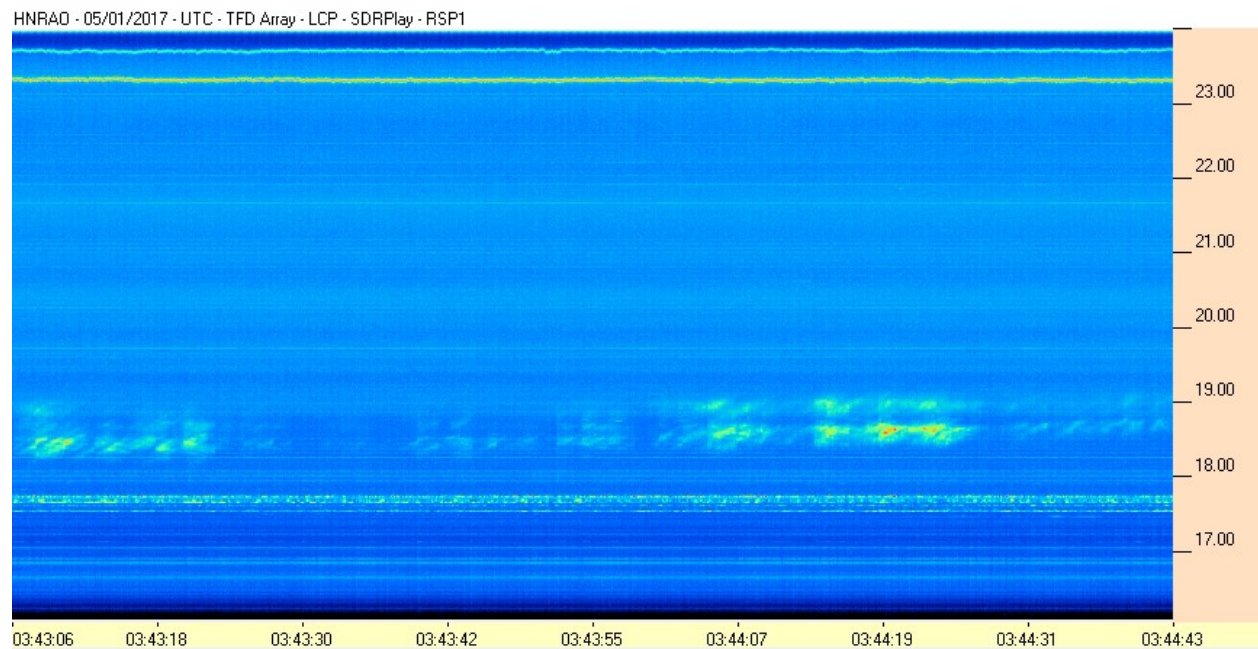
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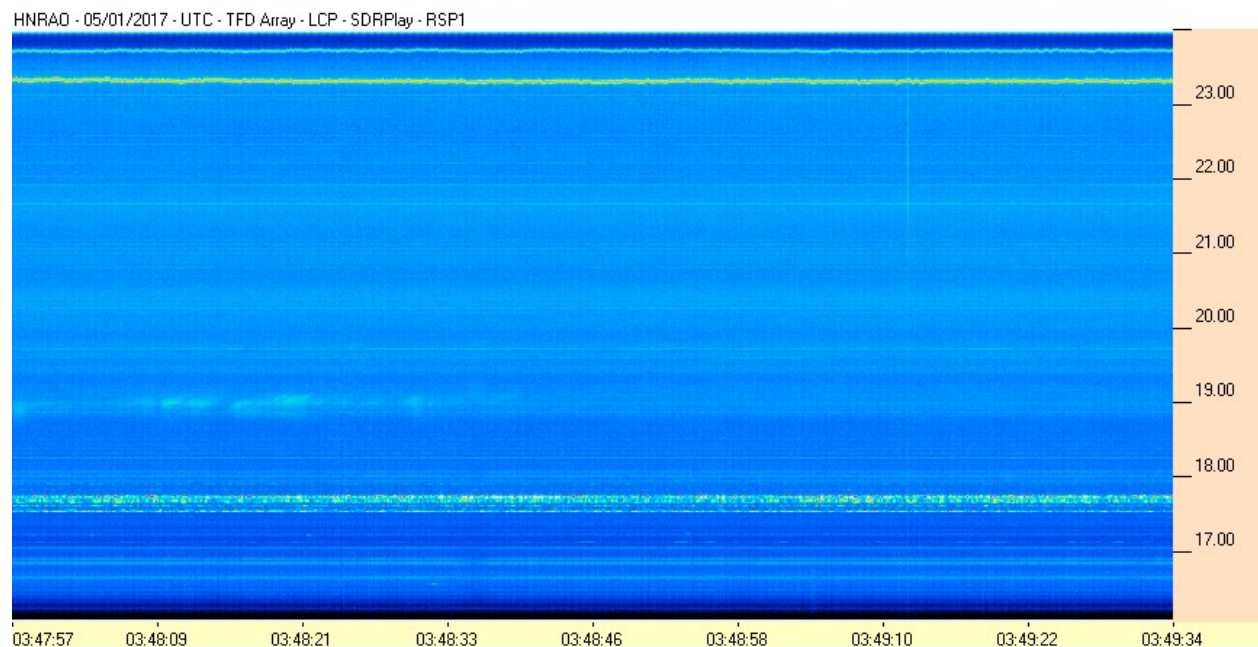
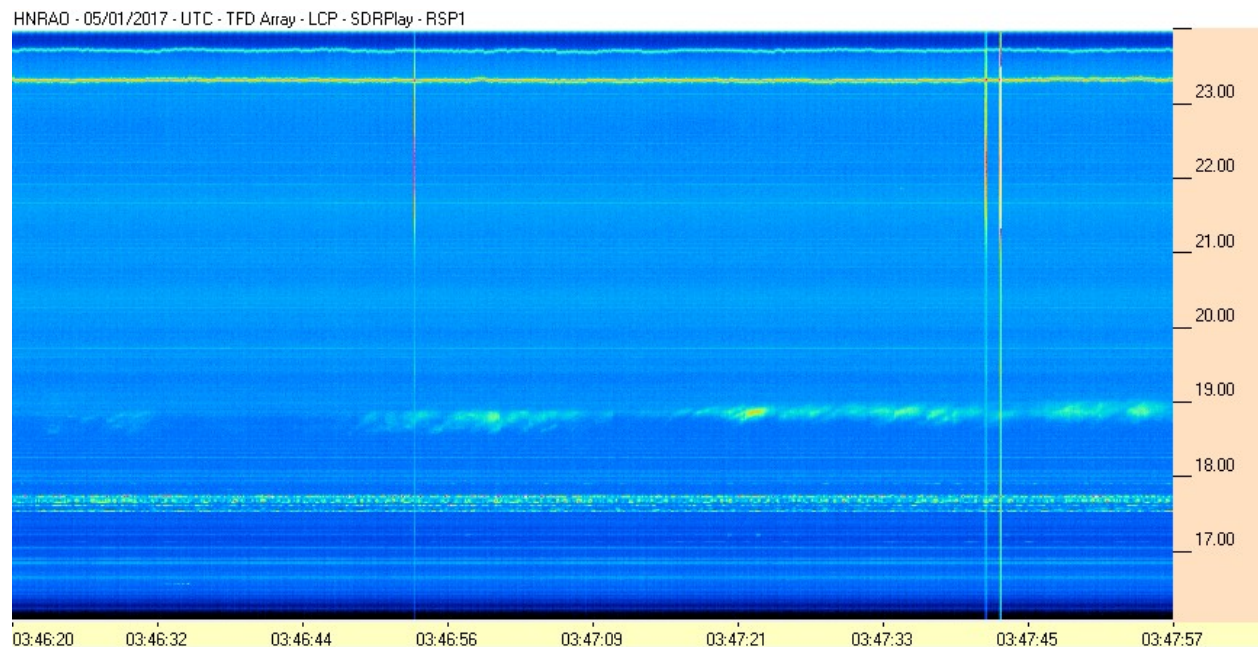
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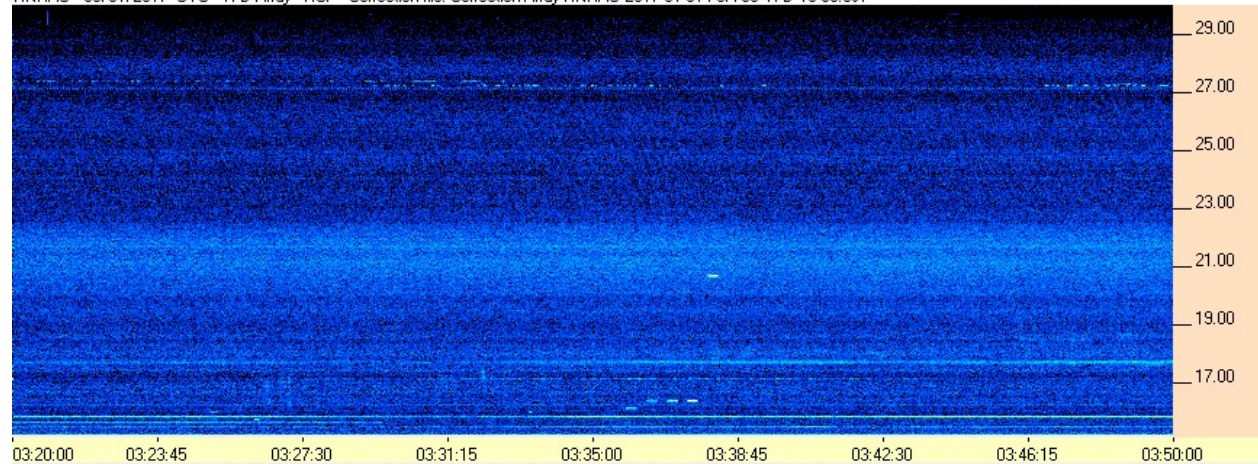


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FSX-8S/TFD Pair

HNRAO - 05/01/2017 UTC - TFD Array - RCP - Correction file: Correction Array HNRAO 2017 01 31 FSX-8S TFD 15-30.csv



HNRAO - 05/01/2017 UTC - TFD Array - LCP - Correction file: Correction Array HNRAO 2017 01 31 FSX-8S TFD 15-30.csv

