HNRAO Observing Log
40.673181 N – 80.437885 W
EN90sq

Date: 24 April 2017

Object: Jupiter – Non-Io-C

Observer: JB

Start of pass:	**0224 UT**	**Planetary K-index:**	**4**
Jupiter Altitude:	**37.9 degrees**	**Jupiter Azimuth:**	**144.2 degrees**
Jupiter CML:	**255.53**	**Jupiter Io Phase:**	**115.61**
Jupiter RA:	**13:02**	**Jupiter Dec:**	**-04:54**
Hour Angle:	**-01:50**	**Polarization**	**LCP**
Sun Altitude:	**-24.3 degrees**	**Sun Azimuth:**	**314.0 degrees**
Sun RA:	**02:00**	**Sun Dec:**	**12:15**

End of pass:	**0414 UT**		
Jupiter Altitude:	**44.4 degrees**	**Jupiter Azimuth:**	**180.0 degrees**
Jupiter CML:	**322.04**	**Jupiter Io Phase**	**131:16**
Hour Angle:	**-00:00**		
Sun Altitude:	**-35.3 degrees**	**Sun Azimuth:**	**342.3 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 @ 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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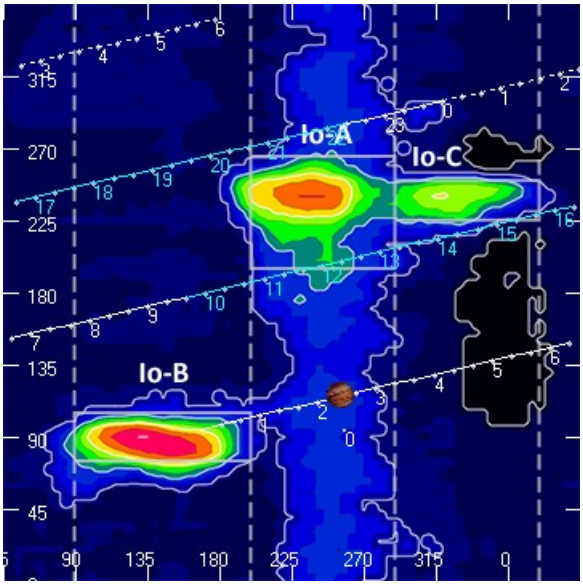
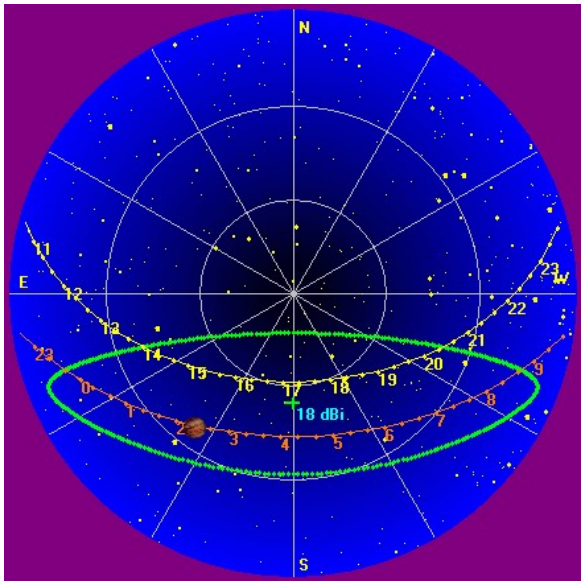
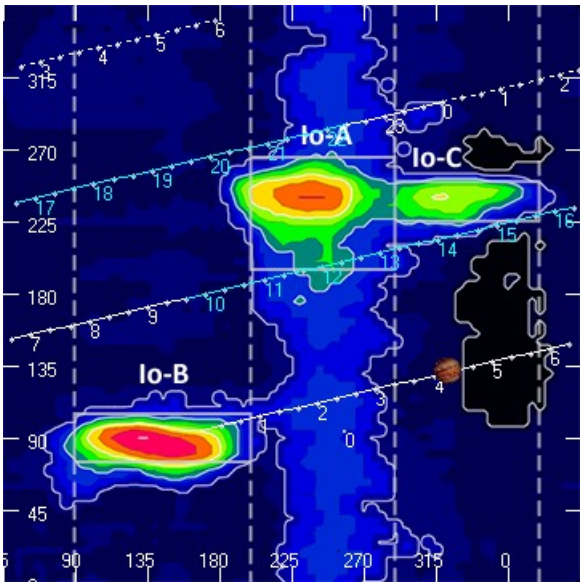
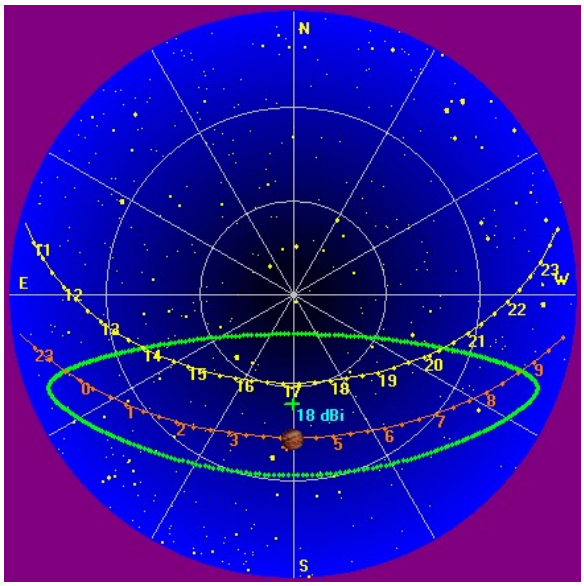




Beginning of Pass





End of Pass

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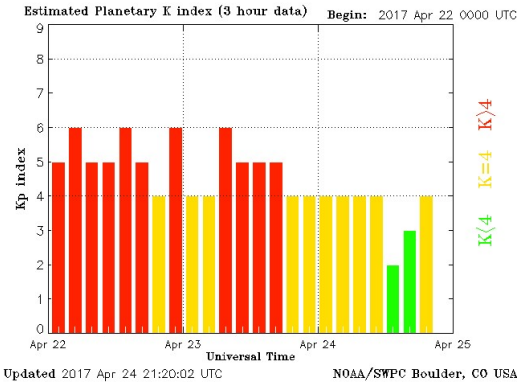

MODE	CML RANGE	Io RANGE	MAX F	POLAR	ARC	NOTES
Io-D	0-200	95-130	18	LH	Early	Also called "fourth source"
Io-B	(105 - 185)	(80-110)	39.5	RH	Early	Also called "early source"
non Io-B	80-200	0-360	38	RH	Early	Voyager info
Io-A	(200-270)	(205-260)	38	RH	Late	Also called "main source"
non-Io-A	(230-280)	0-360	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

A Non-Io-C pass, spanning 20 MHz to 16 MHz, starting well early of the accepted CML probability area. Composed of negative drifting LCP L-bursts. The ionosphere was beginning to quiet down, but early in the pass, some vertical lines were generated by broadcast stations below 15 MHz.

Modulation lanes were present and **seemed to** shift from negative to positive and back to negative drift but were difficult to resolve. It appears that there was a negative drift to the modulation lanes at the beginning, and a change to positive drift later in the pass, only to change to negative drift near the end.

This Non-Io-C storm was preceded by a strong RCP Non-Io-A storm which began at 0120 UT and ended at 0317 UT.

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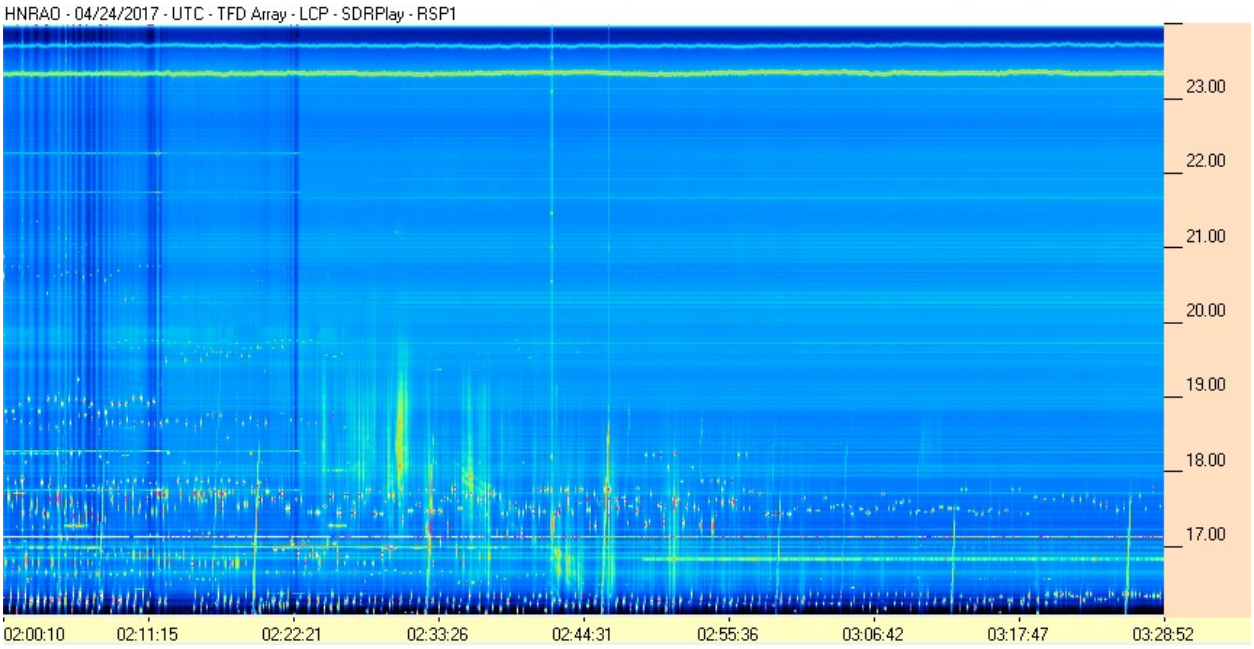

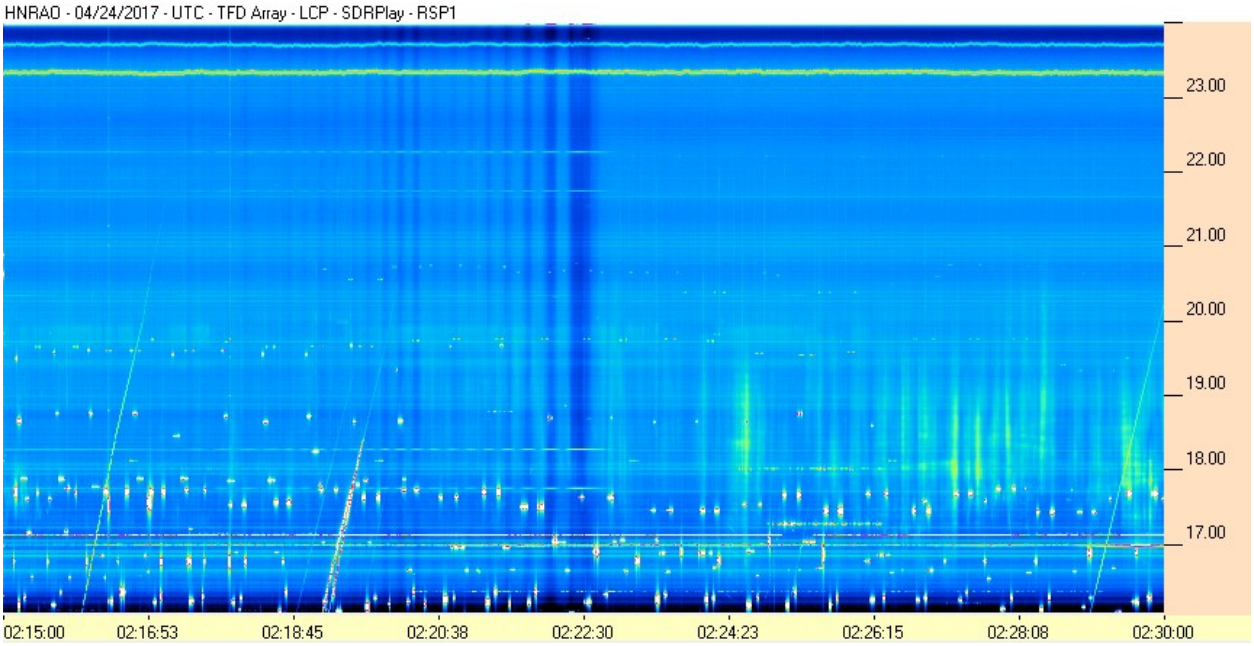

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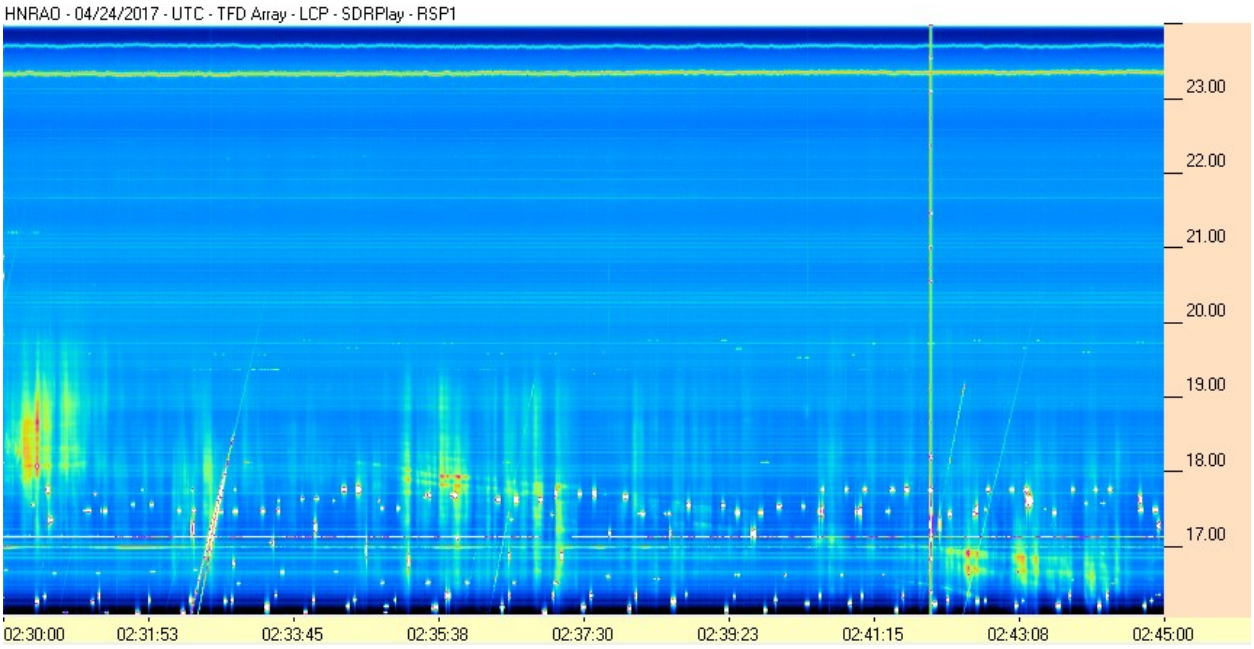

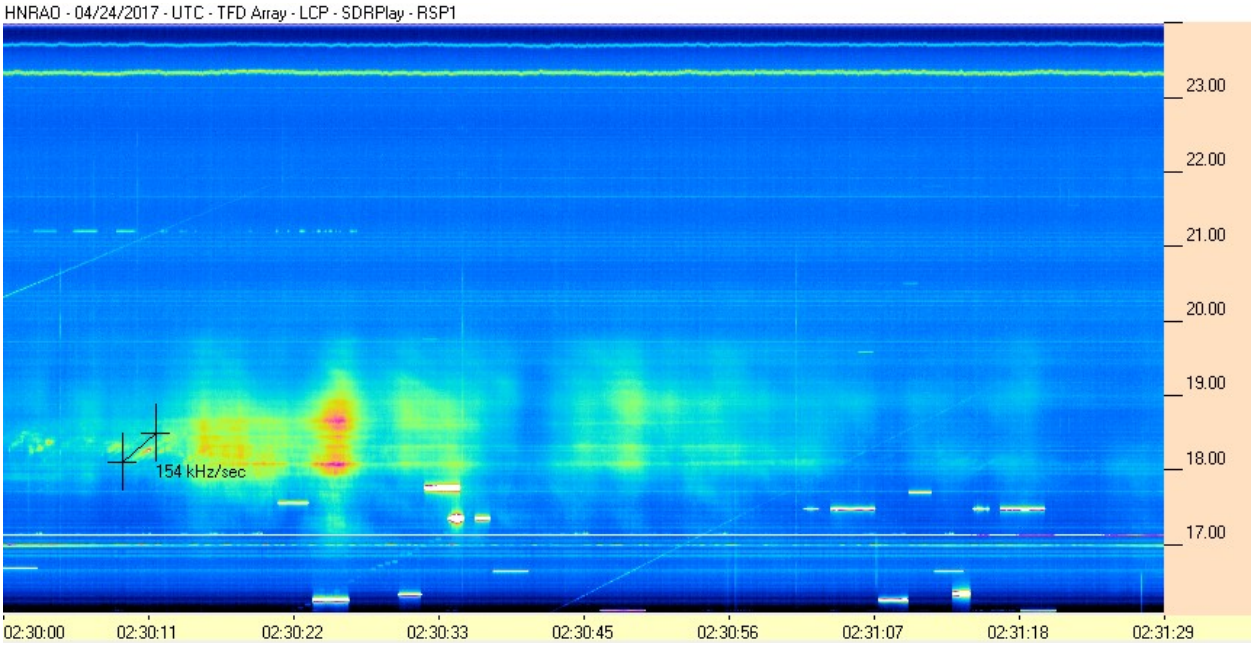

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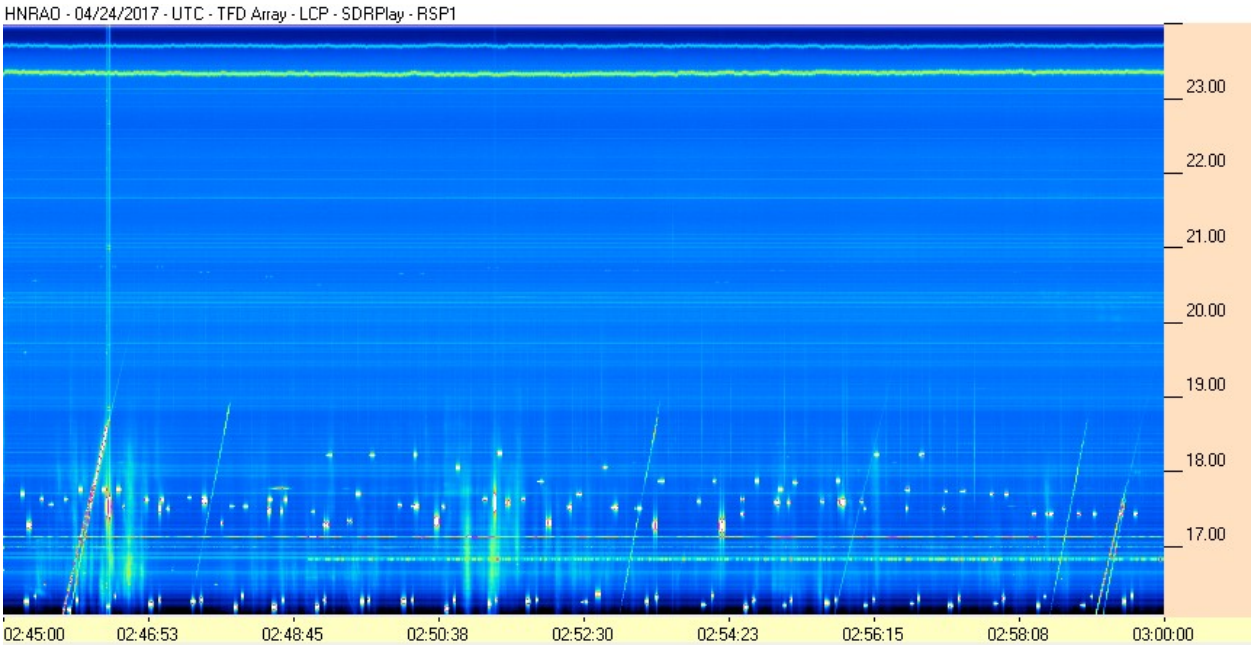

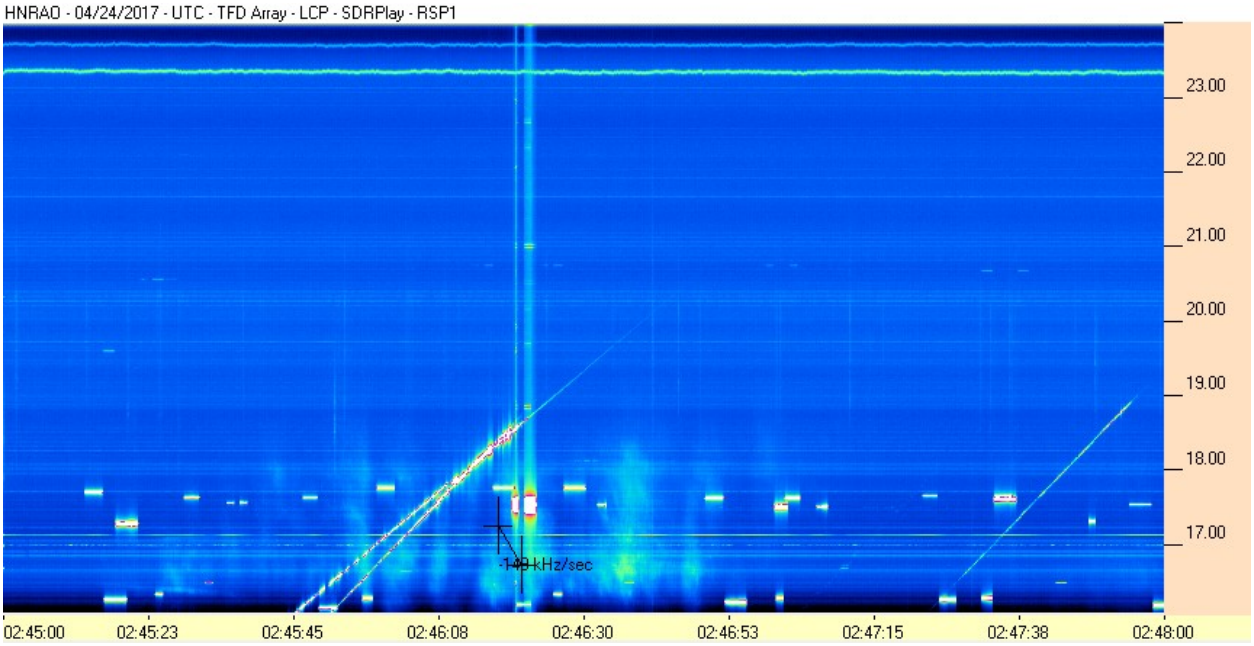

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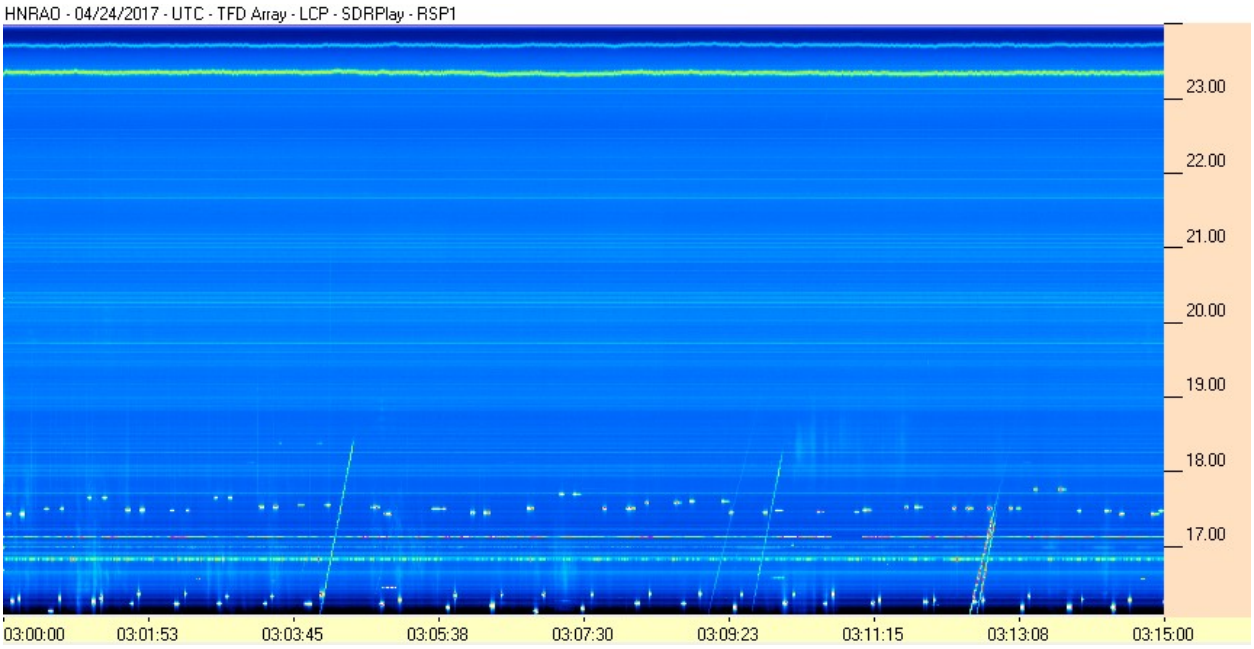
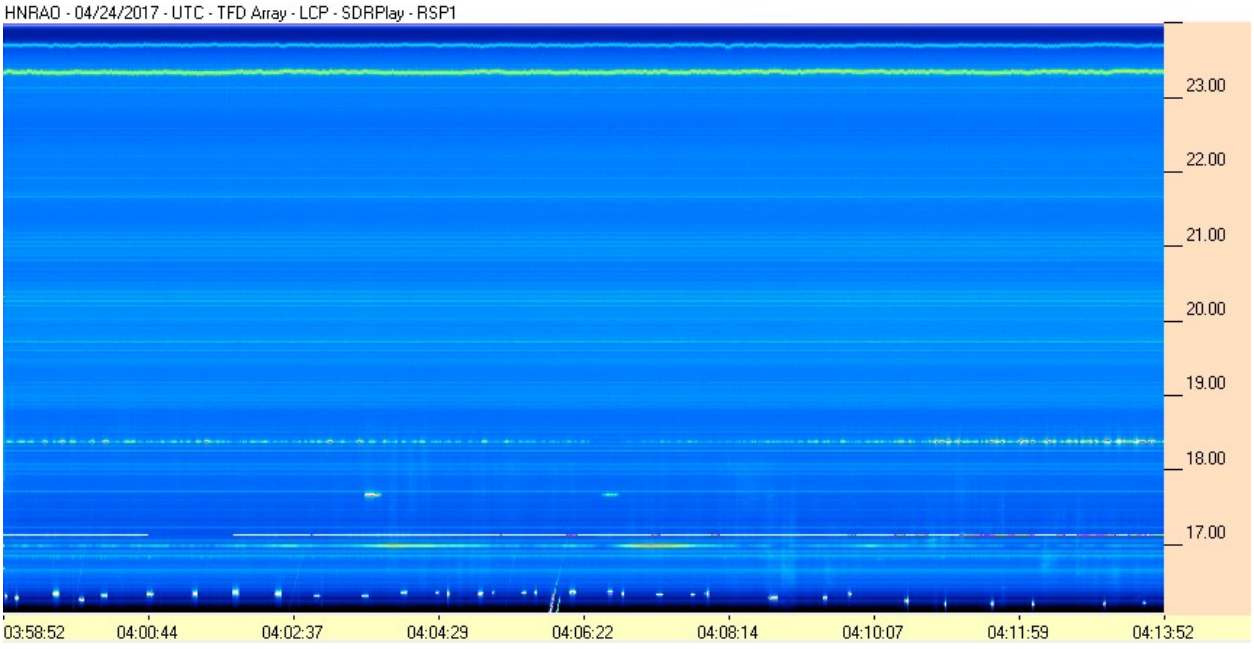
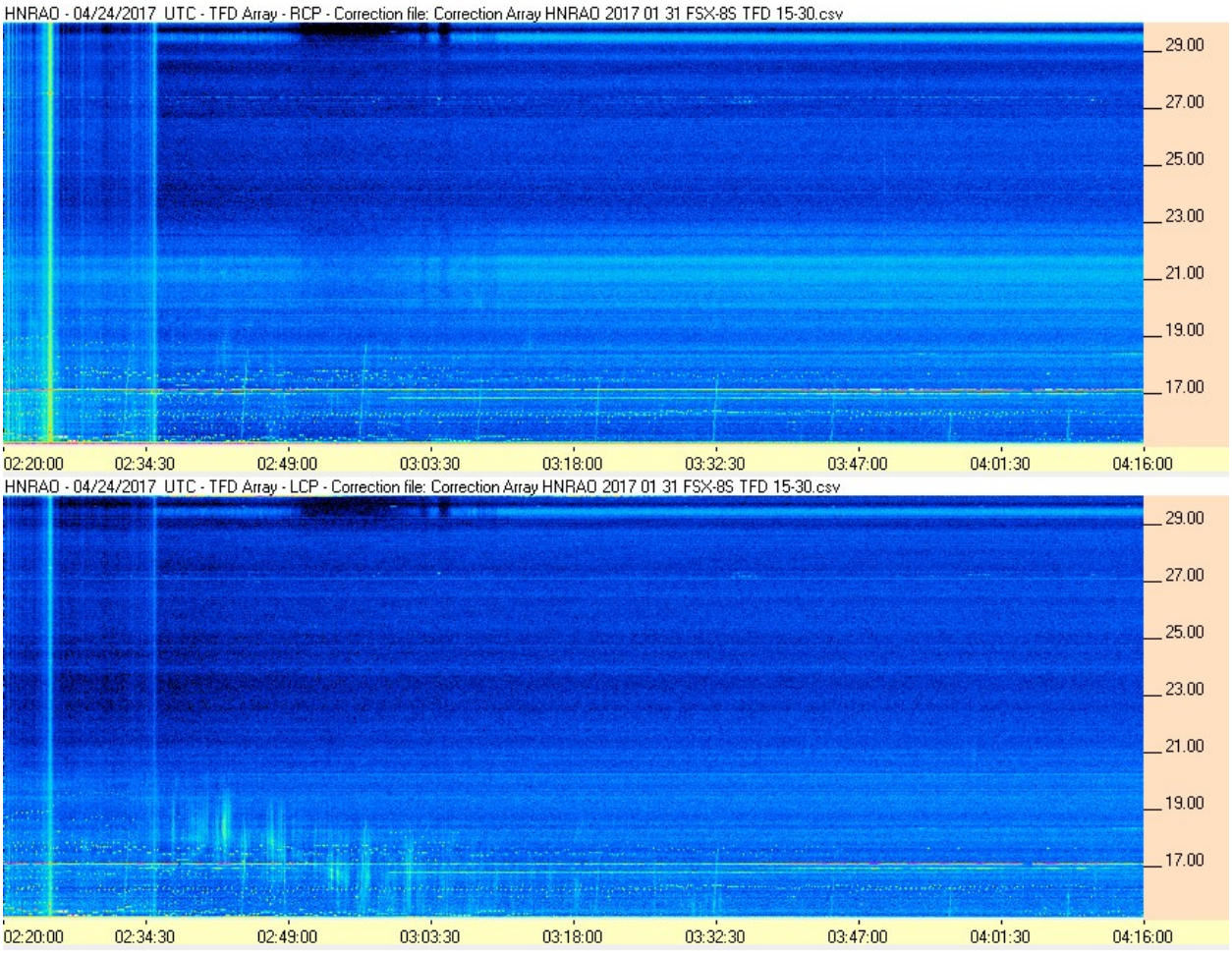




FSX-8S/TFD Pair



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