HNRAO Observing Log
40.673181 N – 80.437885 W
EN90sq

Date: 28 April 2017

Object: Jupiter – Io-C

Observer: Unattended

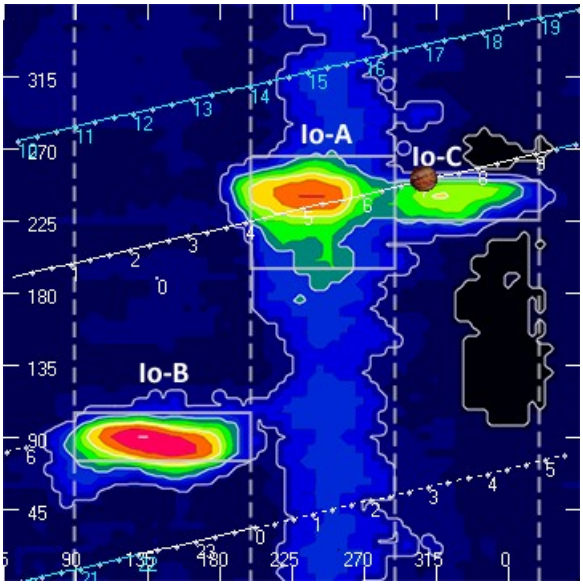
Start of pass:	**0705 UT**	**Planetary K-index:**	
Jupiter Altitude:	**27.4 degrees**	**Jupiter Azimuth:**	**235.5 degrees**
Jupiter CML:	**307.92**	**Jupiter Io Phase:**	**250.48**
Jupiter RA:	**13:00**	**Jupiter Dec:**	**-04:43**
Hour Angle:	**03:09**	**Polarization**	**LCP**
Sun Altitude:	**-29.7 degrees**	**Sun Azimuth:**	**13:53 degrees**
Sun RA:	**02:16**	**Sun Dec:**	**13:38**

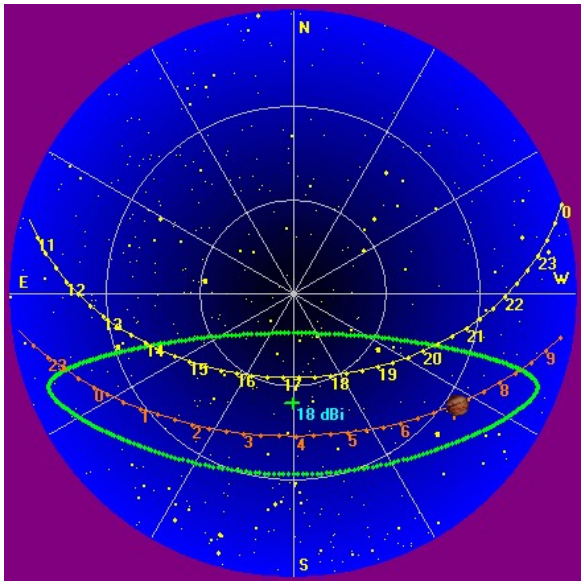
End of pass:	**0802 UT**		
Jupiter Altitude:	**17.9 degrees**	**Jupiter Azimuth:**	**247.0 degrees**
Jupiter CML:	**342.39**	**Jupiter Io Phase**	**258.59**
Hour Angle:	**04:06**		
Sun Altitude:	**-22.9 degrees**	**Sun Azimuth:**	**045.5 degrees**

Observations made using:

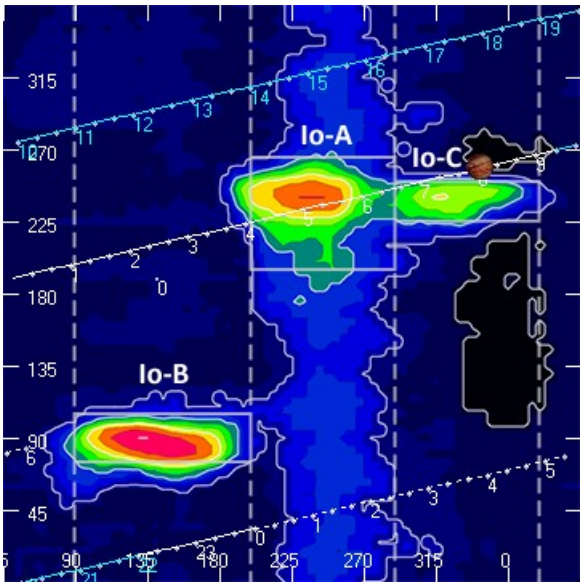
1. FSX-8S fed by the TFD array
    a. 7.7 dB loss between TFD and Multicouplers.
    b. Connect to array through HNRAO Multicoupler #1 and #2, port 2
        i. HNRAO Multicoupler #1 – TFD/LCP
        ii. HNRAO Multicoupler #2 – TFD/RCP
            1. Port 1 having 10 dB of gain, all other ports have 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 @ 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)

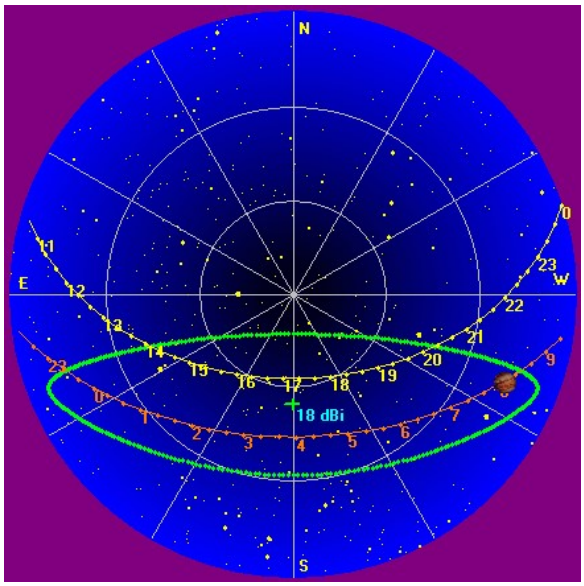
HNRAO Observing Log
40.673181 N – 80.437885 W
EN90sq





Beginning of Pass





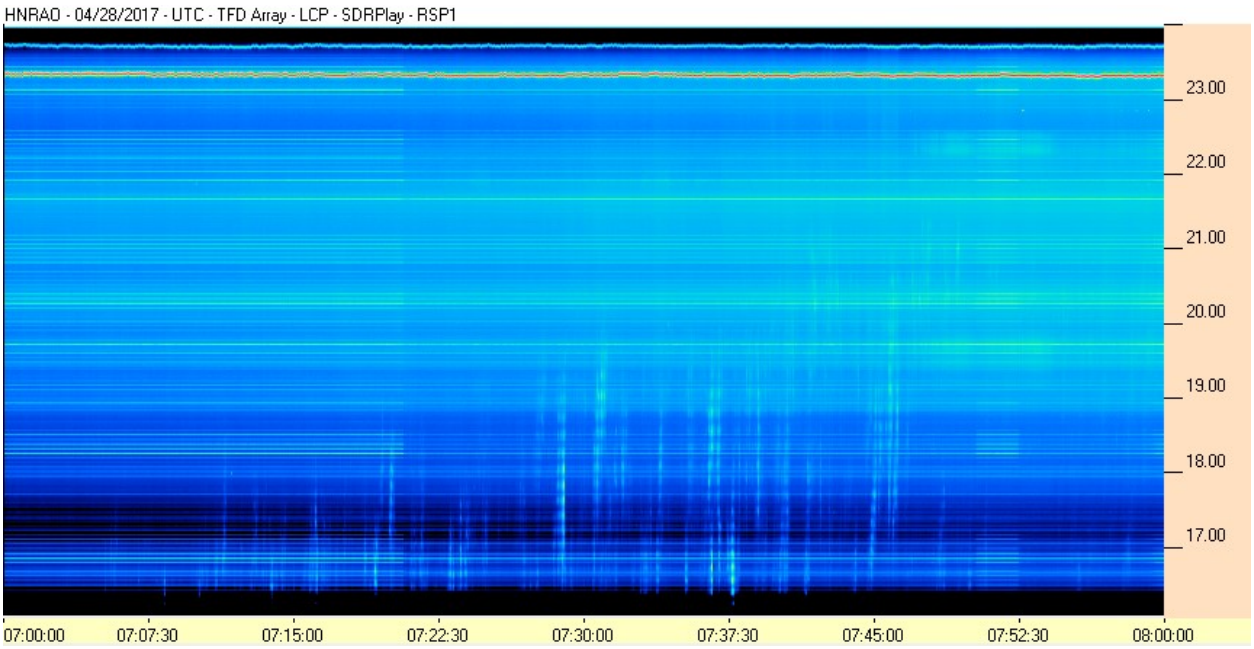
End of Pass

An Io-c storm that was preceded by an Io-D, then an Io-A storm. Positive drift L-bursts with negative drift modulation lanes. As has been noted in previous storms, modulation lane drift rate changes with frequency. Drift rates are higher at higher frequencies.

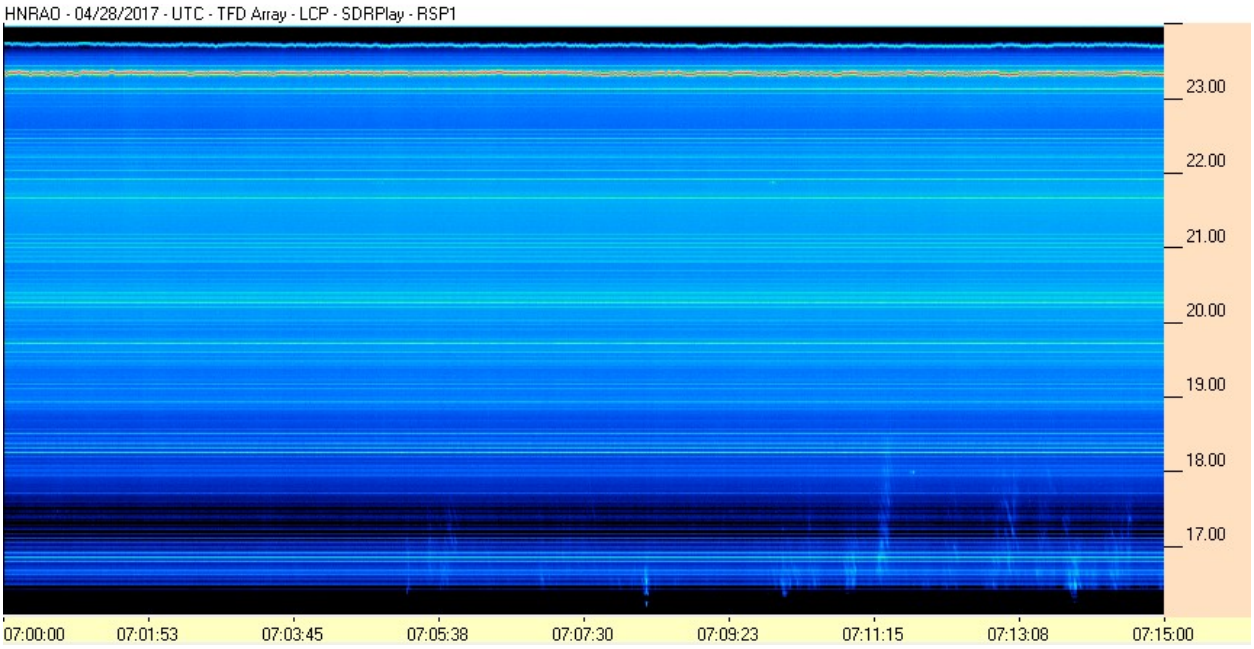
From 0719 UT to 0720 UT, two groups of modulation lanes have substantially different drift rates at very close to the same frequencies.

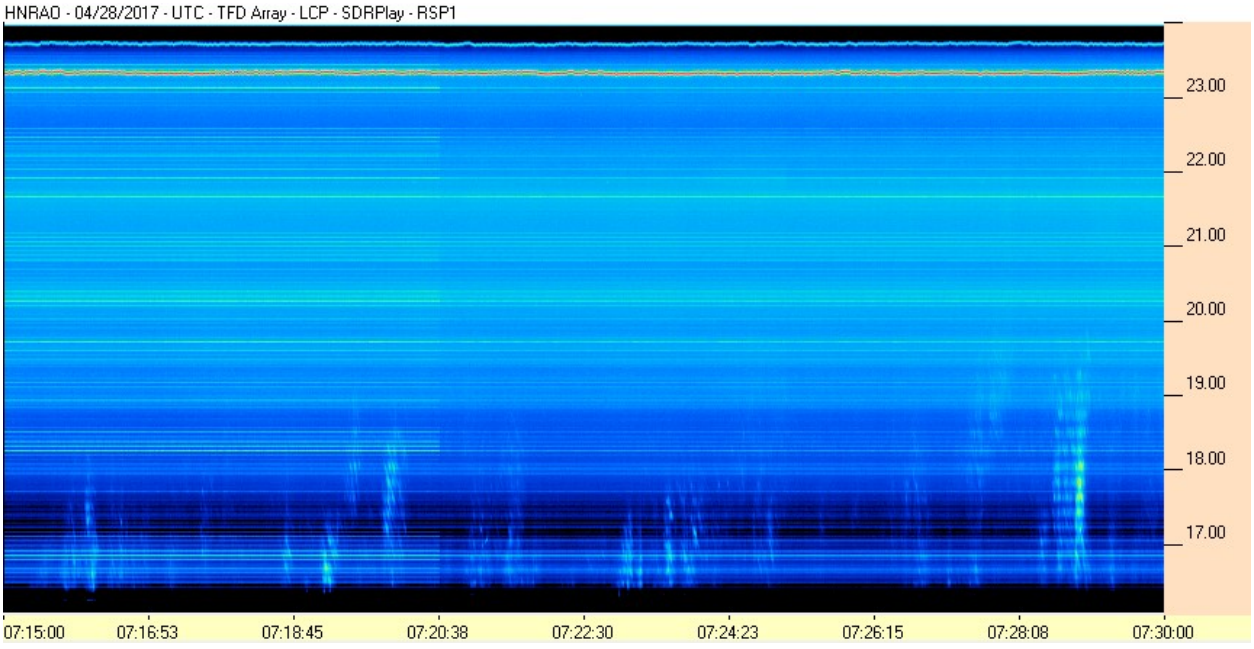
Overall, the modulation lanes, while present, were not as well defined as those seen in other Jupiter storms.

SDRPlay RSP1/TFD Pair

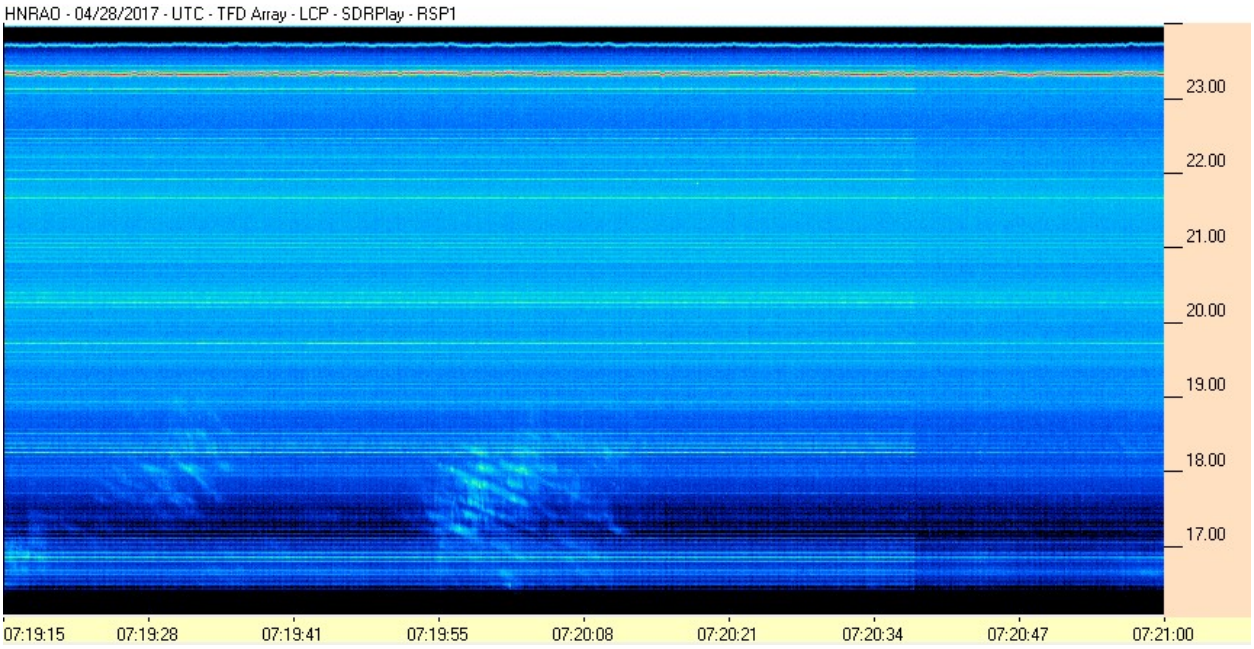


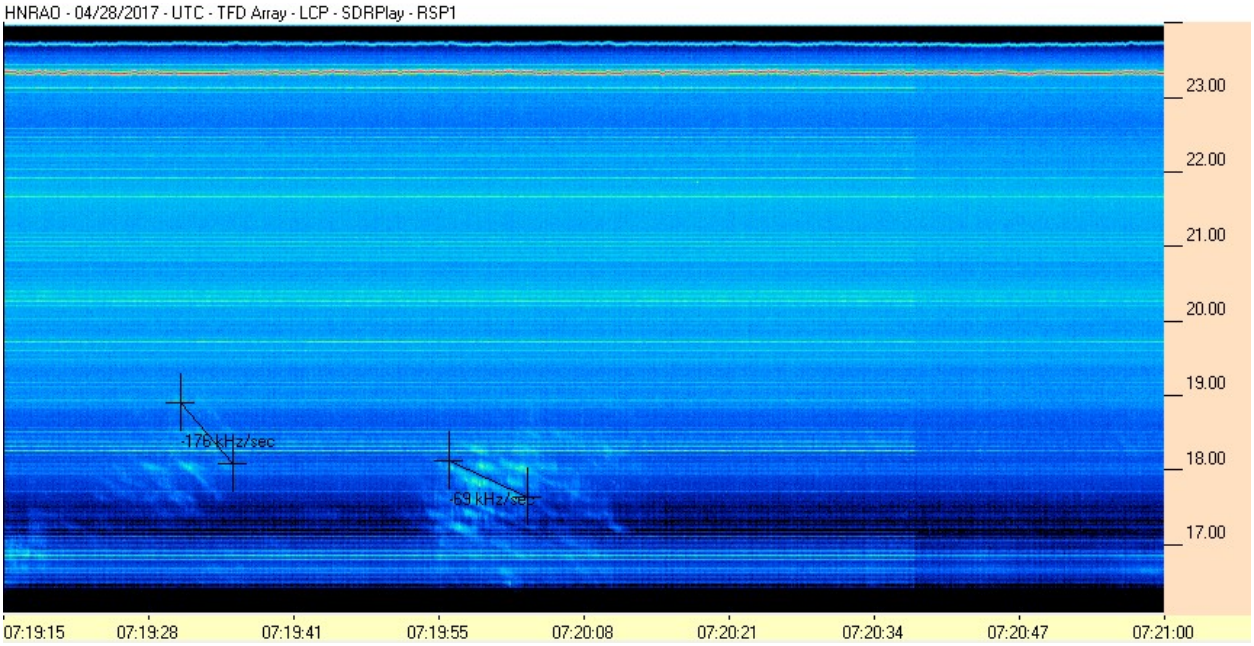
HNRAO Observing Log
40.673181 N – 80.437885 W
EN90sq



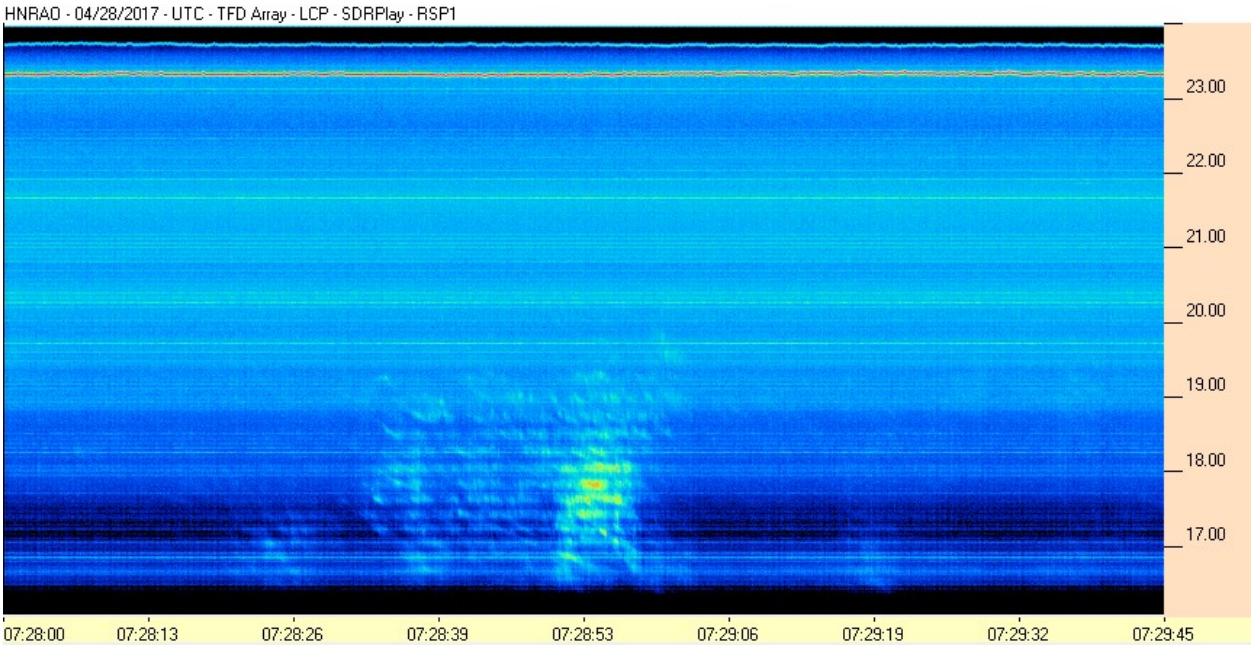


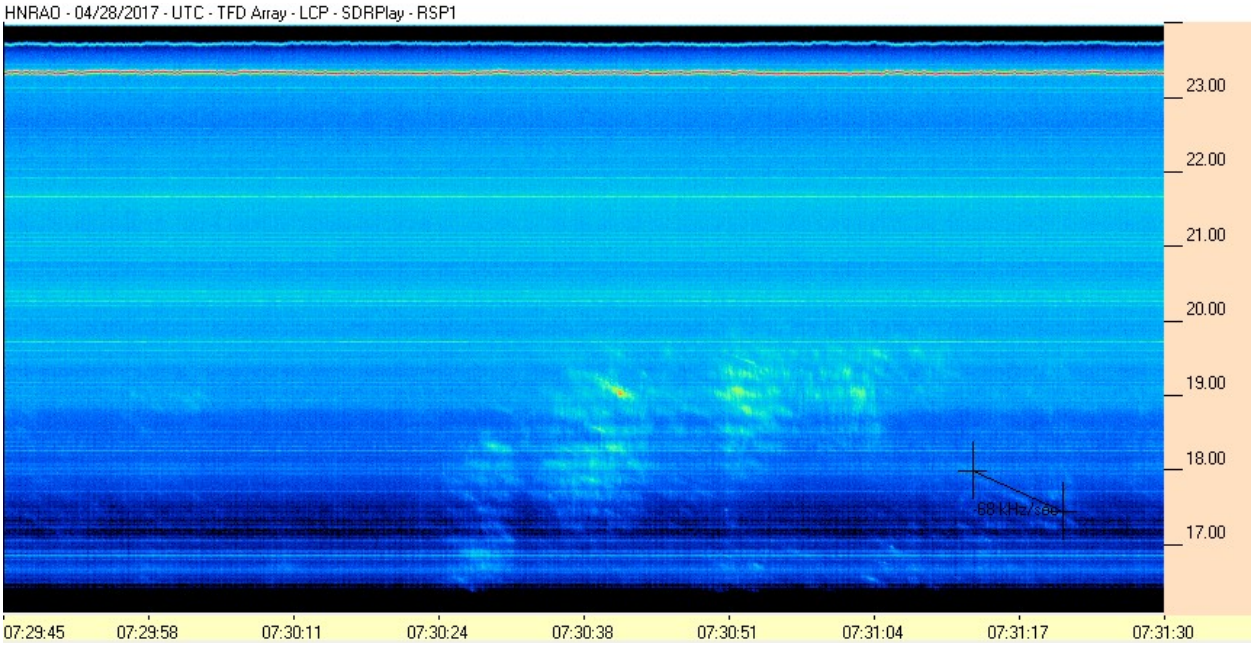
HNRAO Observing Log
40.673181 N – 80.437885 W
EN90sq



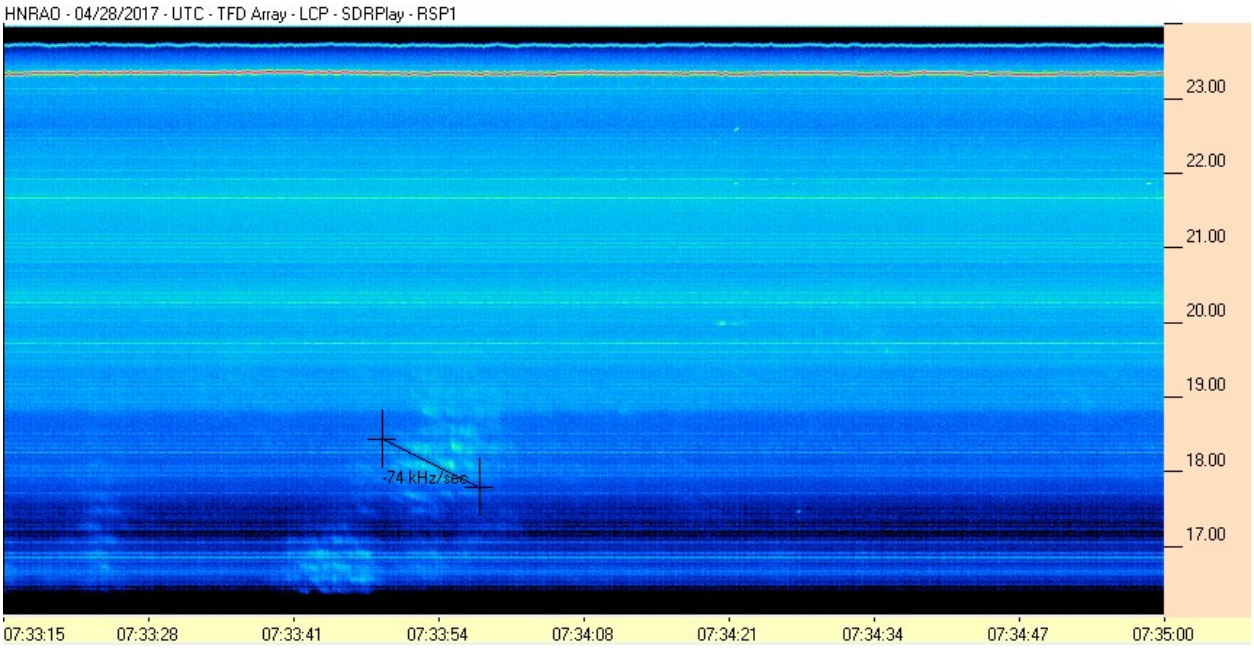


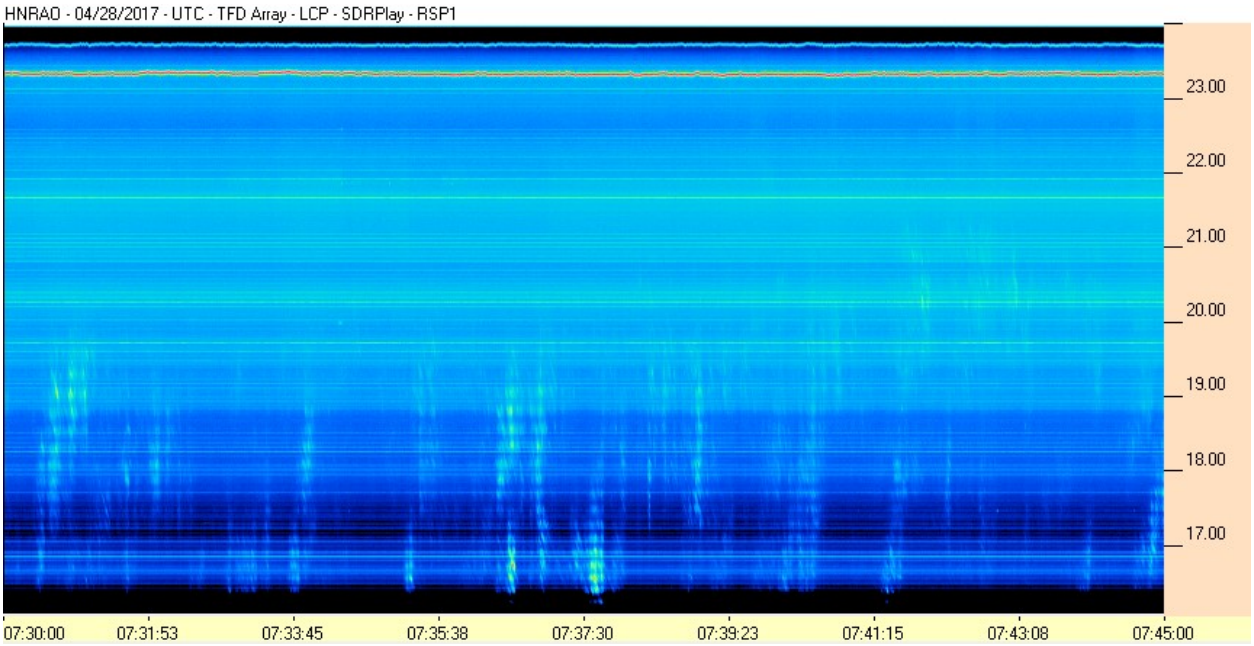
HNRAO Observing Log
40.673181 N – 80.437885 W
EN90sq



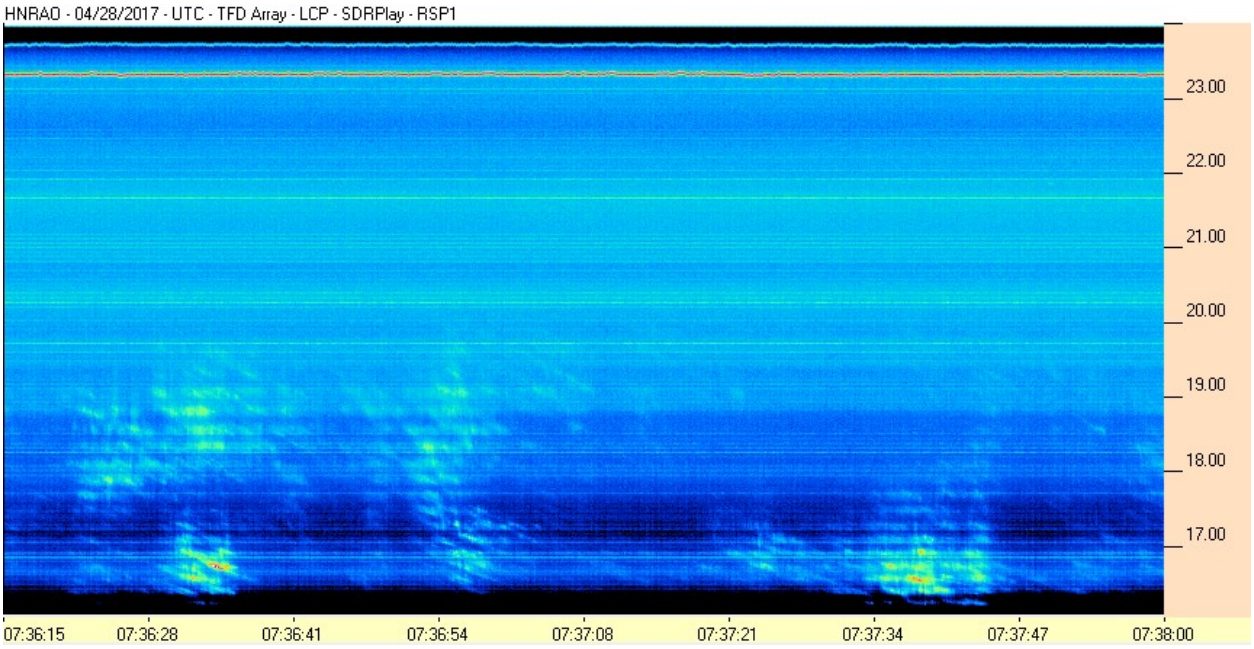


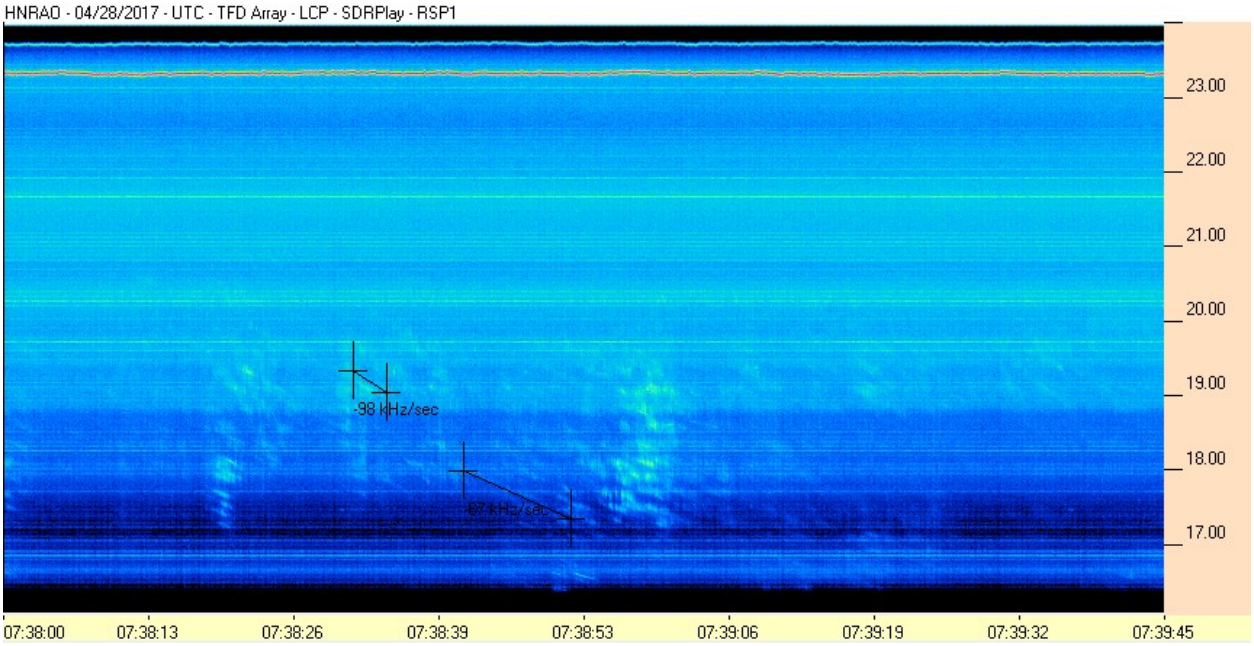
HNRAO Observing Log
40.673181 N – 80.437885 W
EN90sq



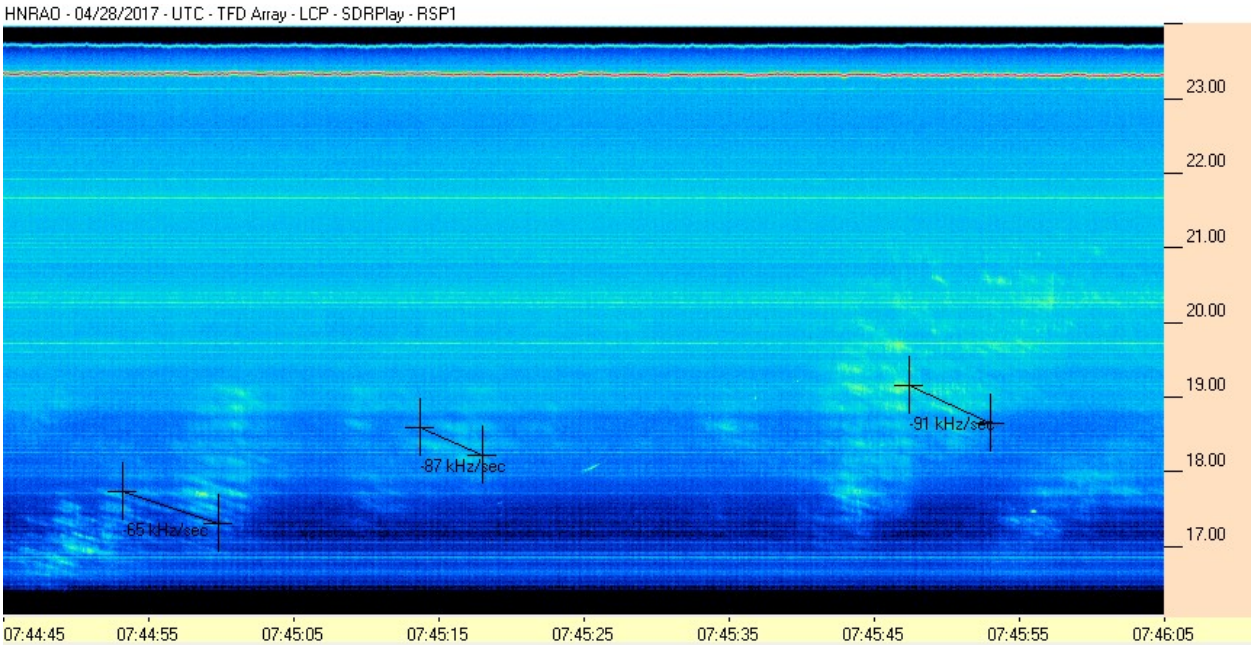


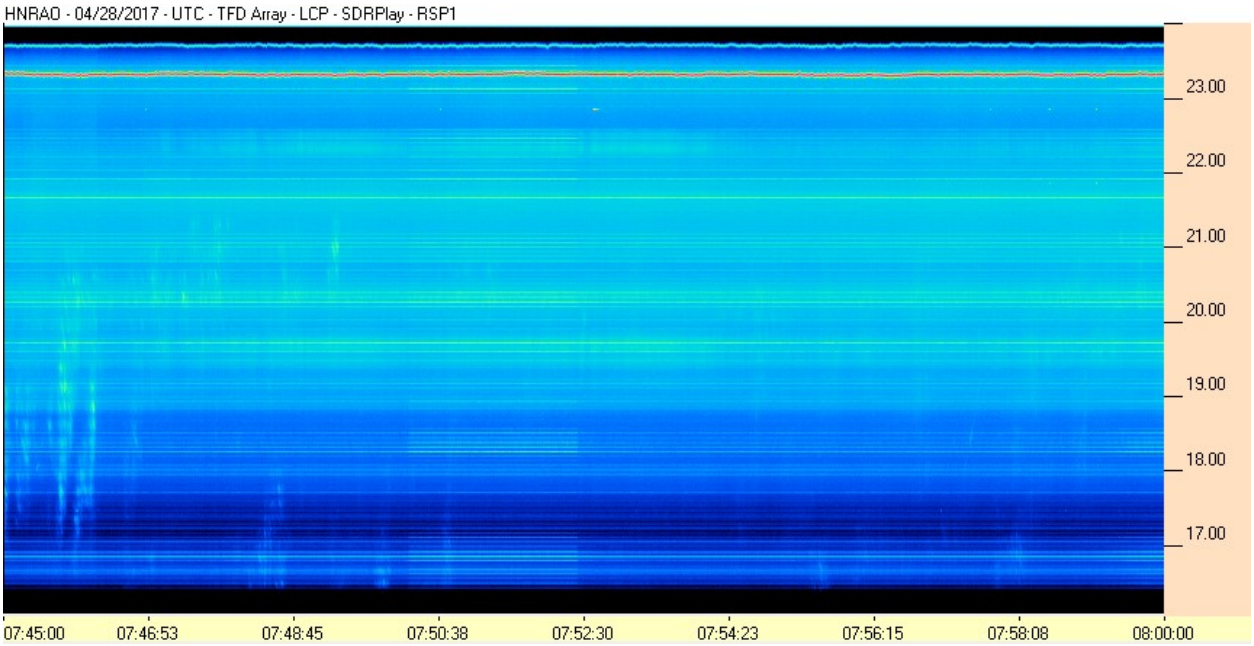
HNRAO Observing Log
40.673181 N – 80.437885 W
EN90sq

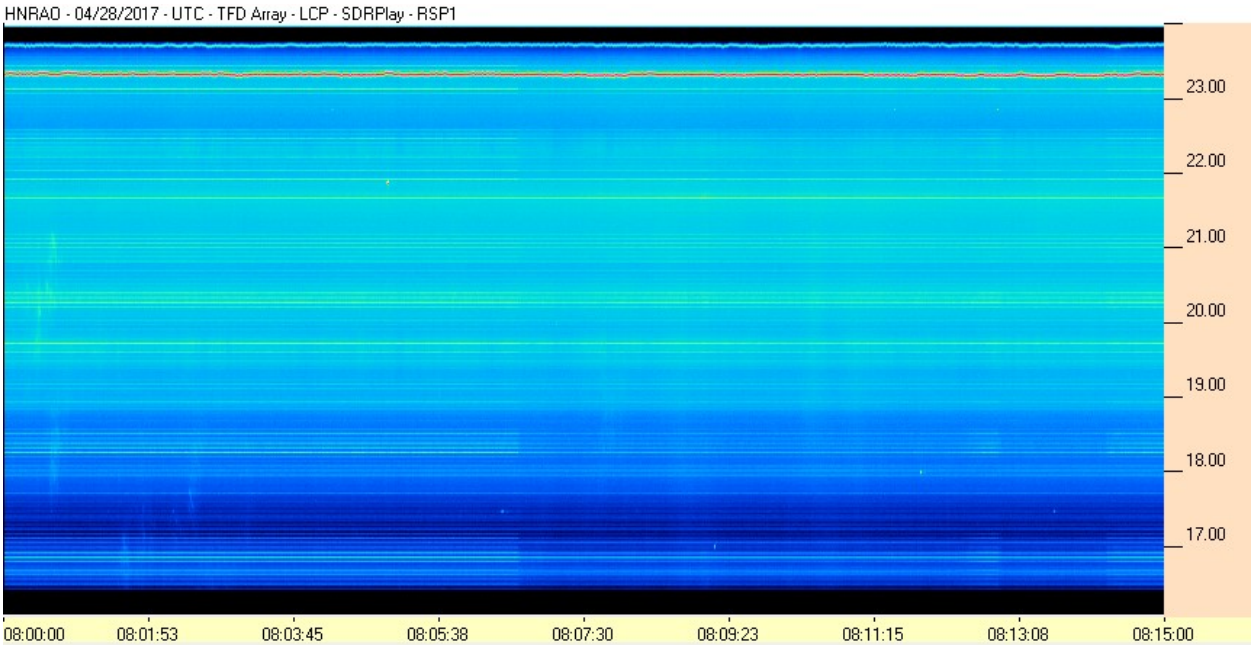




HNRAO Observing Log
40.673181 N – 80.437885 W
EN90sq






HNRAO - 04/28/2017 - UTC - TFD Array - LCP - SDRPlay - RSP1
23.00
22.00
21.00
20.00
19.00
18.00
17.00
08:00:00
08:01:53
08:03:45
08:05:38
08:07:30
08:09:23
08:11:15
08:13:08
08:15:00

FSX-8S/TFD pair