

HNRAO Observing Log
40.673181 N – 80.437885 W
EN90sq



Date: 4 February 2017

Object: Jupiter – Io-C

Observer: JB

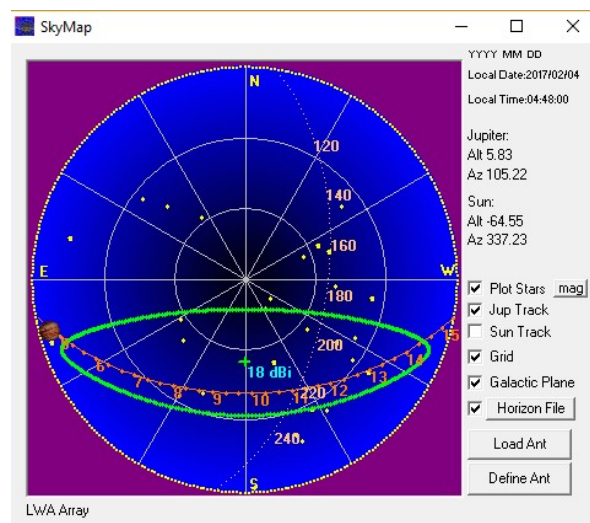
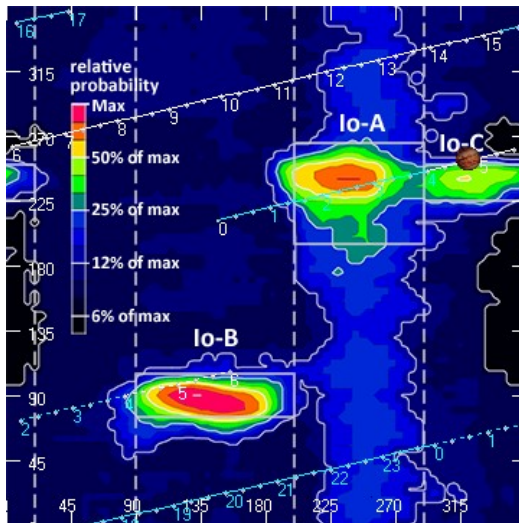
Start of pass:	0448 UT		
Jupiter Altitude:	05.8 degrees	Jupiter Azimuth:	105.2 degrees
Jupiter CML:	320.76	Jupiter Io Phase:	253.17
Jupiter RA:	13:27	Jupiter Dec:	-07:34
Hour Angle:	-05:02	Polarization	LHC
Sun Altitude:	-64.6 degrees	Sun Azimuth:	337.2 degrees
Sun RA:	21:04	Sun Dec:	-16:44

End of pass:	0457 UT		
Jupiter Altitude:	07.5 degrees	Jupiter Azimuth:	106.7 degrees
Jupiter CML:	326.2	Jupiter Io Phase	254.45
Hour Angle:	-04:53		
Sun Altitude:	-65.1 degrees	Sun Azimuth:	342.1 degrees

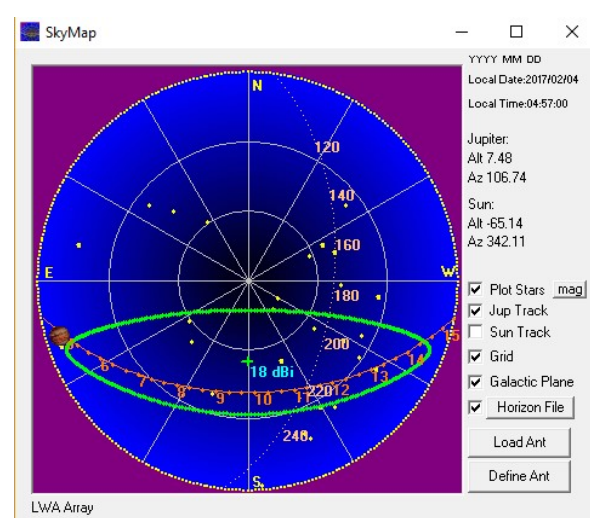
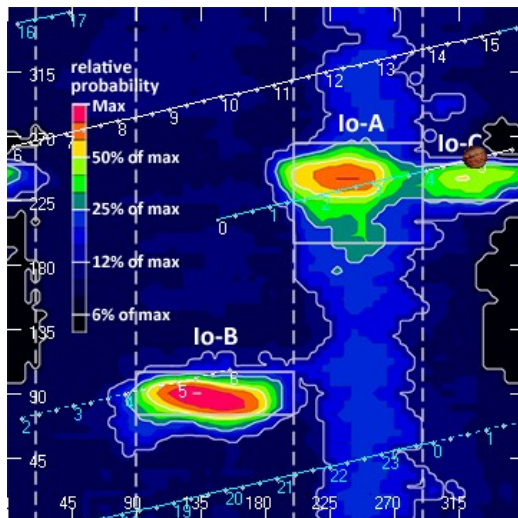
Observations made using:

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' – phased for 2016-17 season
 - a. Calibrated 4 February 2017
 - b. 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 4 February 2017

HNRAO Observing Log
40.673181 N – 80.437885 W
EN90sq



Beginning of Pass



End of pass

HNRAO Observing Log
40.673181 N – 80.437885 W
EN90sq



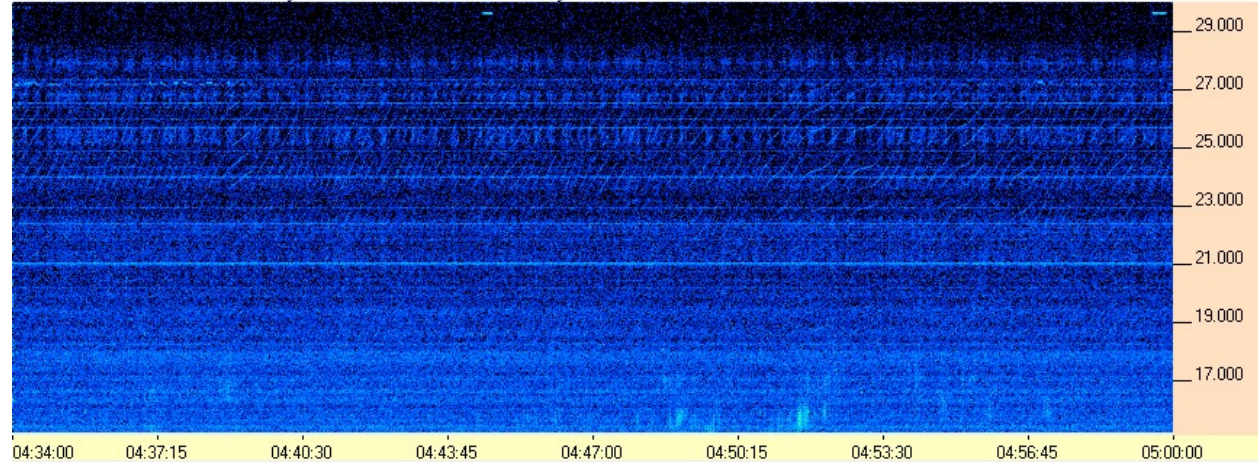
An unusual occurrence to be sure. A very weak, and brief Io-C emissions, with Jupiter only 6 degrees above the horizon at the beginning of the event. Io-C is LHC emissions. But I first noticed the emissions on the RHC plot. In fact, both the FSX-2/LWA and FSX-8S/TFD pairs saw this in RHC. The FSX-8S/TFD also saw it in LHC. It appears that under certain circumstances, such as Jupiter's height above the horizon, antenna orientation, and possibly ionospheric conditions, the polarity can get flipped. So, even though the emissions were shown on both the RHC and LHC plots, it's only LHC emission. Spanning 15-17 MHz, they appear to be L-bursts, but resolution makes that difficult for positive identification. Other than Jupiter's position when this happened, there was nothing special.

HNRAO Observing Log
40.673181 N – 80.437885 W
EN90sq

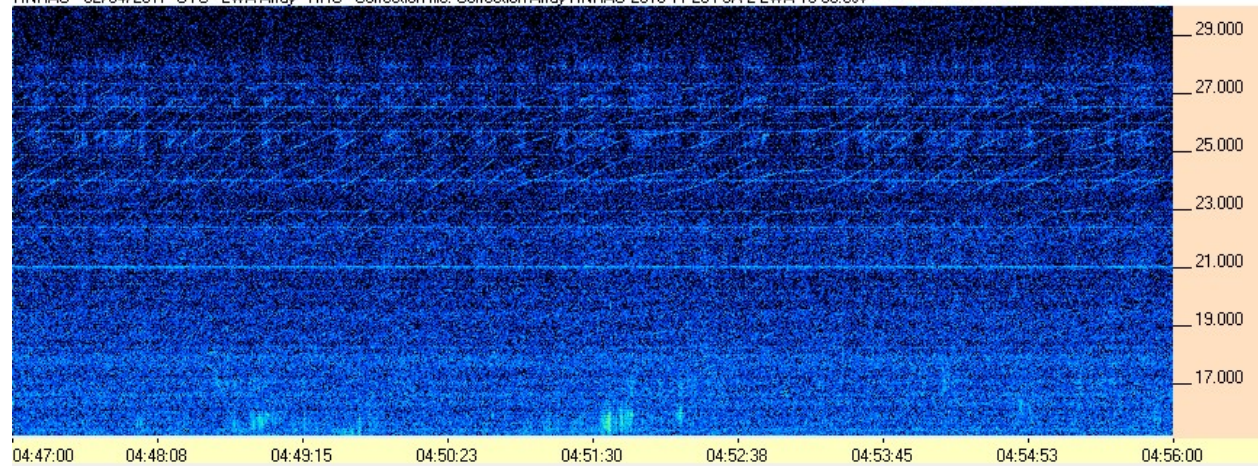


FSX-2/LWA Pair

HNRAO - 02/04/2017 UTC - LWA Array - RHC - Correction file: Correction Array HNRAO 2016 11 20 FSX-2 LWA 15-30.csv



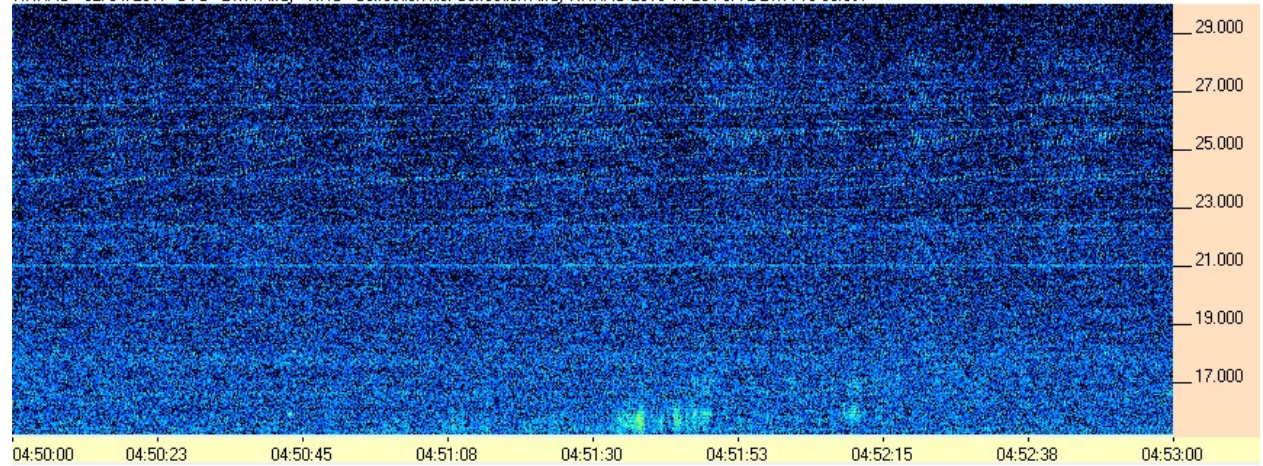
HNRAO - 02/04/2017 UTC - LWA Array - RHC - Correction file: Correction Array HNRAO 2016 11 20 FSX-2 LWA 15-30.csv



HNRAO Observing Log
40.673181 N – 80.437885 W
EN90sq



HNRAO - 02/04/2017 UTC - LWA Array - RHC - Correction file: Correction Array HNRAO 2016 11 20 FSX-2 LWA 15-30.csv

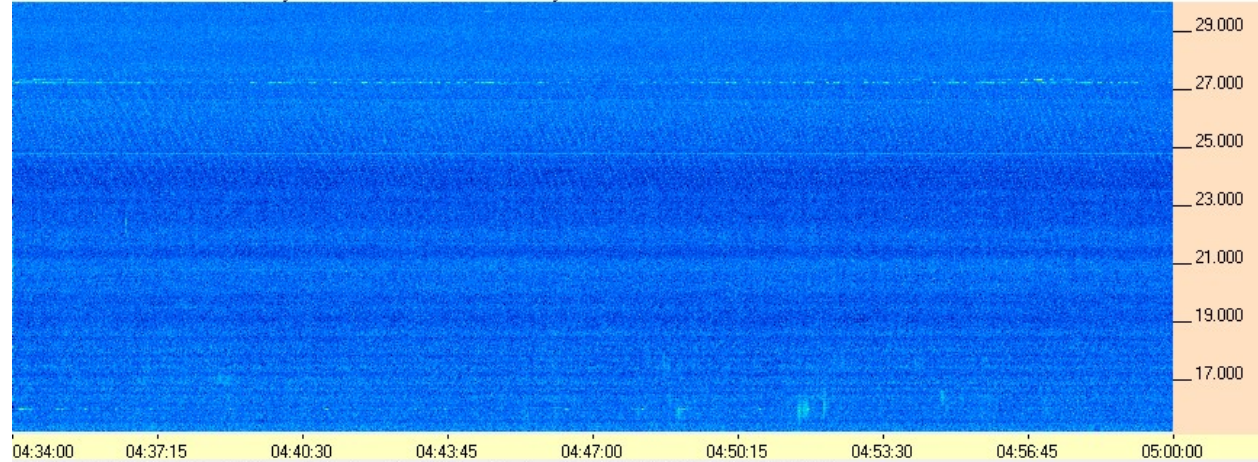


HNRAO Observing Log
40.673181 N – 80.437885 W
EN90sq

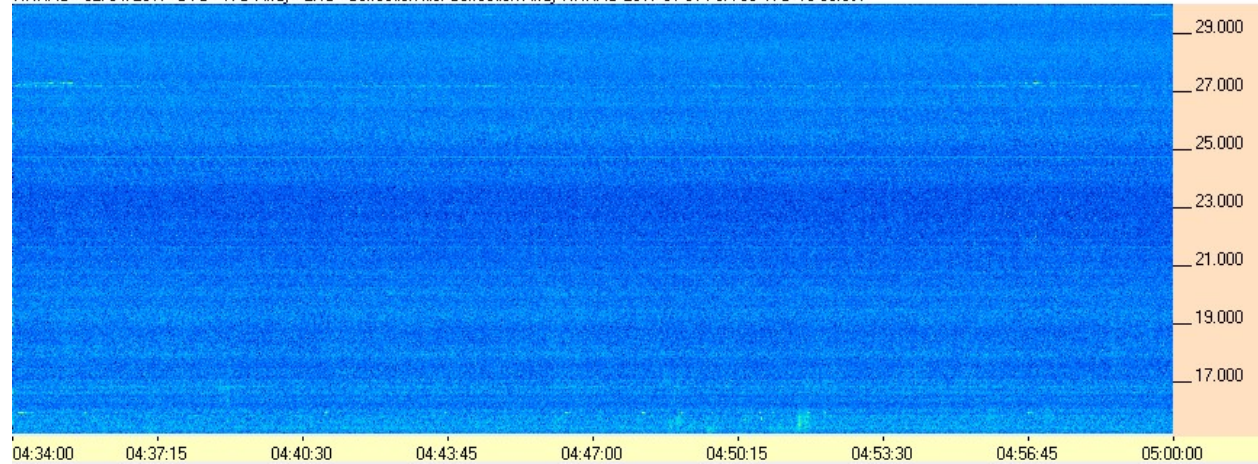


FSX-8S/TFD Pair

HNRAO - 02/04/2017 UTC - TFD Array - RHC - Correction file: Correction Array HNRAO 2017 01 31 FSX-8S TFD 15-30.csv



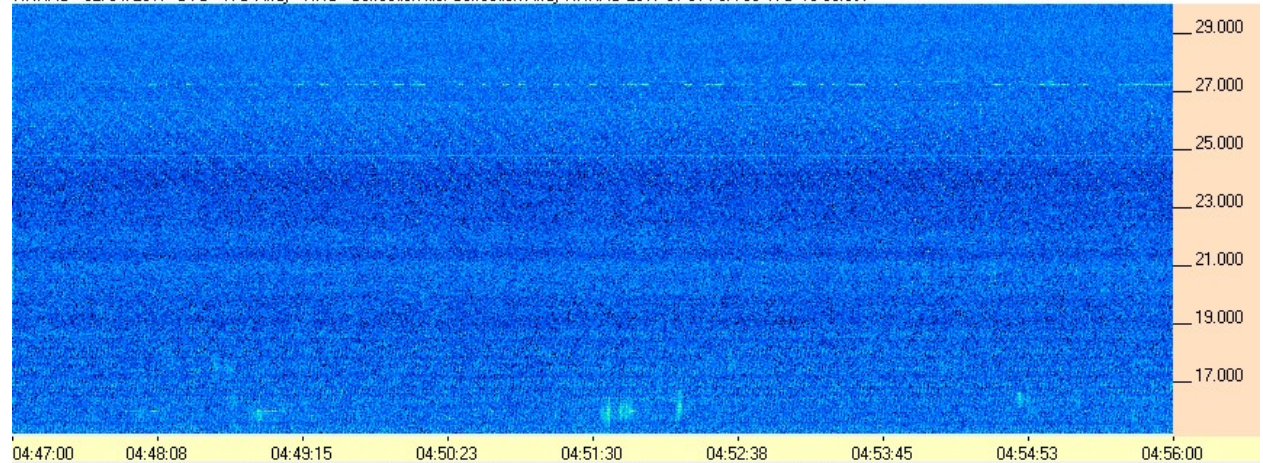
HNRAO - 02/04/2017 UTC - TFD Array - LHC - Correction file: Correction Array HNRAO 2017 01 31 FSX-8S TFD 15-30.csv



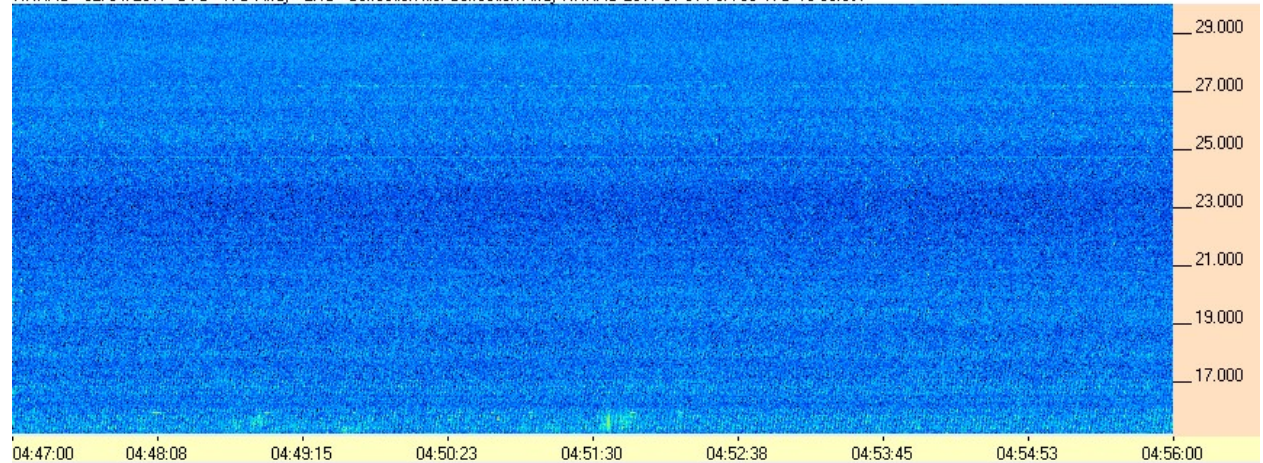
HNRAO Observing Log
40.673181 N – 80.437885 W
EN90sq



HNRAO - 02/04/2017 UTC - TFD Array - RHC - Correction file: Correction Array HNRAO 2017 01 31 FSX-8S TFD 15-30.csv



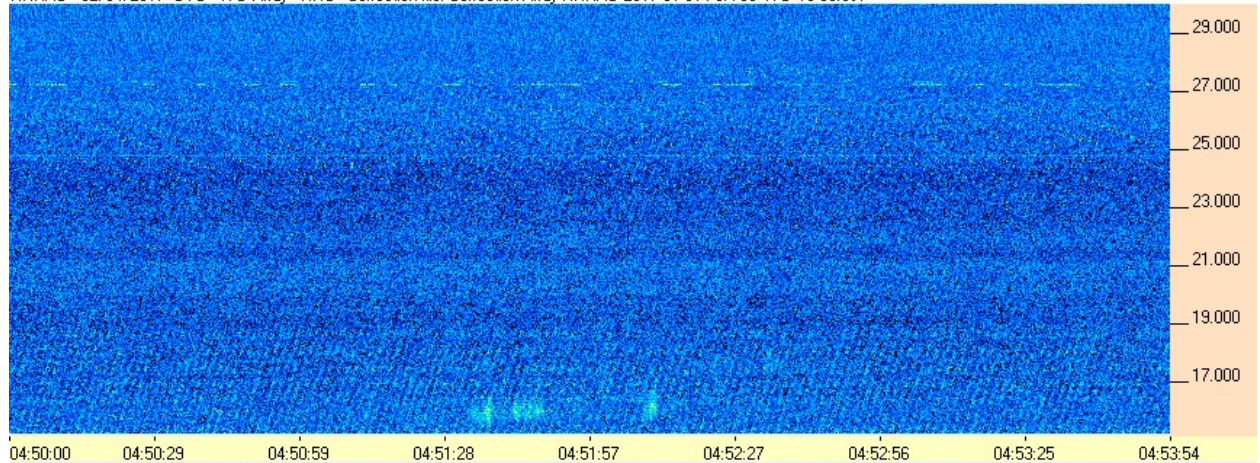
HNRAO - 02/04/2017 UTC - TFD Array - LHC - Correction file: Correction Array HNRAO 2017 01 31 FSX-8S TFD 15-30.csv



HNRAO Observing Log
40.673181 N – 80.437885 W
EN90sq



HNRAO - 02/04/2017 UTC - TFD Array - RHC - Correction file: Correction Array HNRAO 2017 01 31 FSX-8S TFD 15-30.csv



HNRAO - 02/04/2017 UTC - TFD Array - LHC - Correction file: Correction Array HNRAO 2017 01 31 FSX-8S TFD 15-30.csv

