HNRAO Observing Log
40.673181 N – 80.437885 W
EN90sq

Date: 9 February 2017

Object: Jupiter – Io-A

Observer: JB

Start of pass:	**1042 UT**		
Jupiter Altitude:	**39.0 degrees**	**Jupiter Azimuth:**	**203.3 degrees**
Jupiter CML:	**207.84**	**Jupiter Io Phase:**	**240.67**
Jupiter RA:	**13:27**	**Jupiter Dec:**	**-07:33**
Hour Angle:	**01:12**	**Polarization**	**RHC**
Sun Altitude:	**-18.5 degrees**	**Sun Azimuth:**	**094.3 degrees**
Sun RA:	**21:26**	**Sun Dec:**	**-15:08**

End of pass:	**1127 UT**		
Jupiter Altitude:	**34.7 degrees**	**Jupiter Azimuth:**	**101.4 degrees**
Jupiter CML:	**235.05**	**Jupiter Io Phase**	**247.08**
Hour Angle:	**01:57**		
Sun Altitude:	**-10.1 degrees**	**Sun Azimuth:**	**101.4 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
    b. Polarization changed manually.
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. 3.2 dB loss between Multicoupler and dipoles.
4. Icom R75 receiver fed by experimental DDRR antenna directly.
    a. Calibrated 4 February 2017

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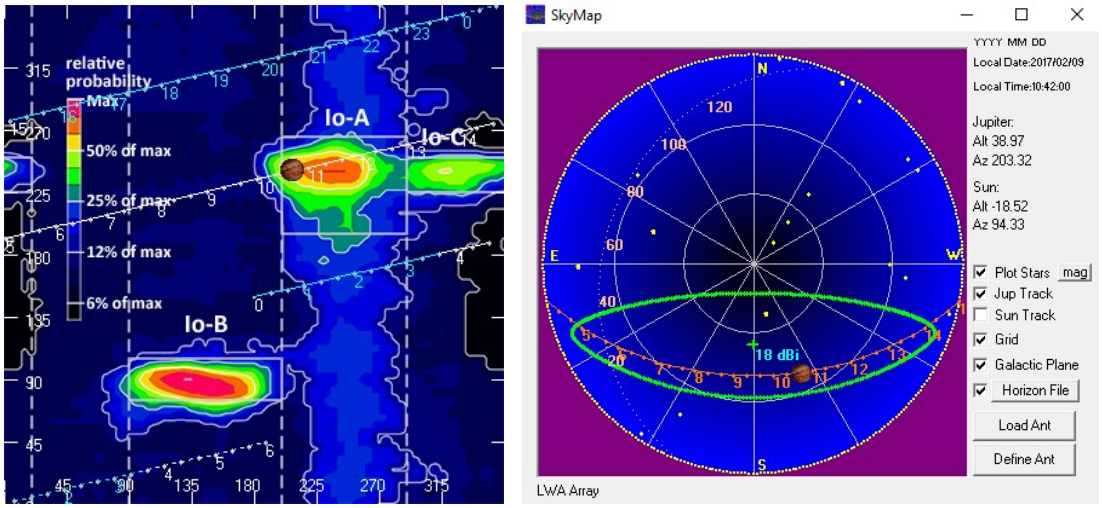
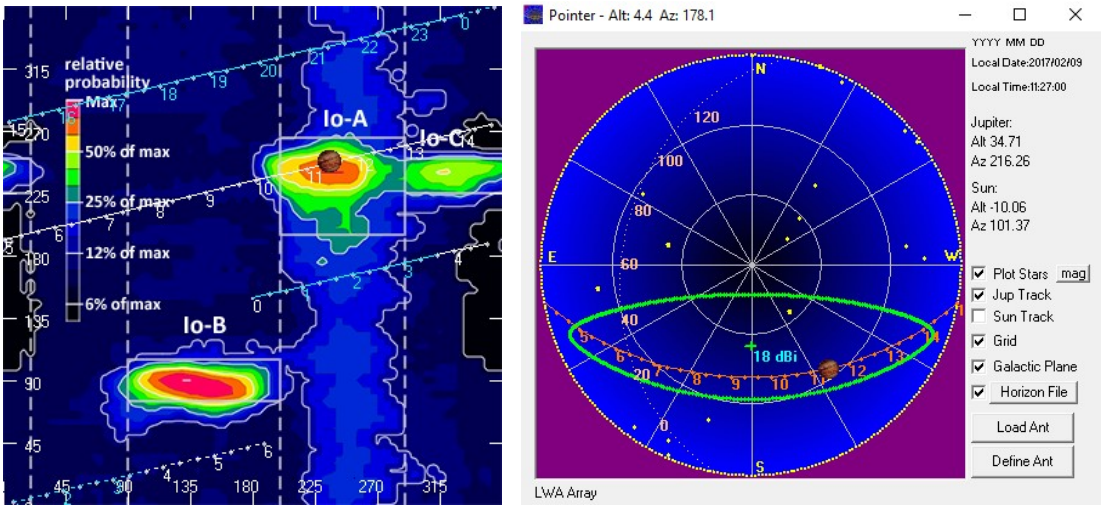


Beginning of Pass



End of Pass

Keeping in line with the Jupiter season to date, it was weak and unremarkable. Given that it was a near center pass of Io-A, I was expecting strong emissions. What little I could make out were L-bursts with a negative slope. The frequency range observed here spanned 17-15 MHz. AJ4CO fared better being 3 dB higher in gain than my observatory, but his too were weak. His report will follow at some point. There were no emissions observed here at the Radio JOVE frequency, however, other observatories might show differently.

In a paper written by James Warwick published in 1962, "Dynamic Spectra of Jupiter's Decametric Emission, 1961", he suggested there was a strong correlation between their observations of solar emissions and Jupiter emissions. He goes on to say that "the probability of our observing Jupiter was much higher following solar activity". He also points out that Carr et al. (1960) conducted a similar study using the geomagnetic *K* indices as a measure of solar activity. He points out that there was considerable debate if the two events were connected. Given the current solar inactivity and the poor Jupiter events this season, it might be worth a second look.

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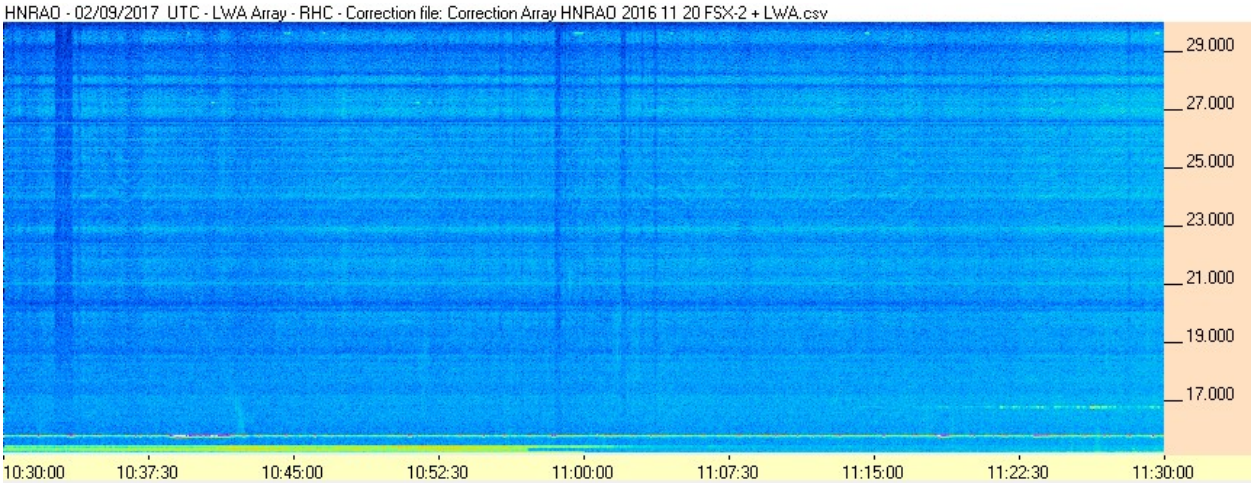
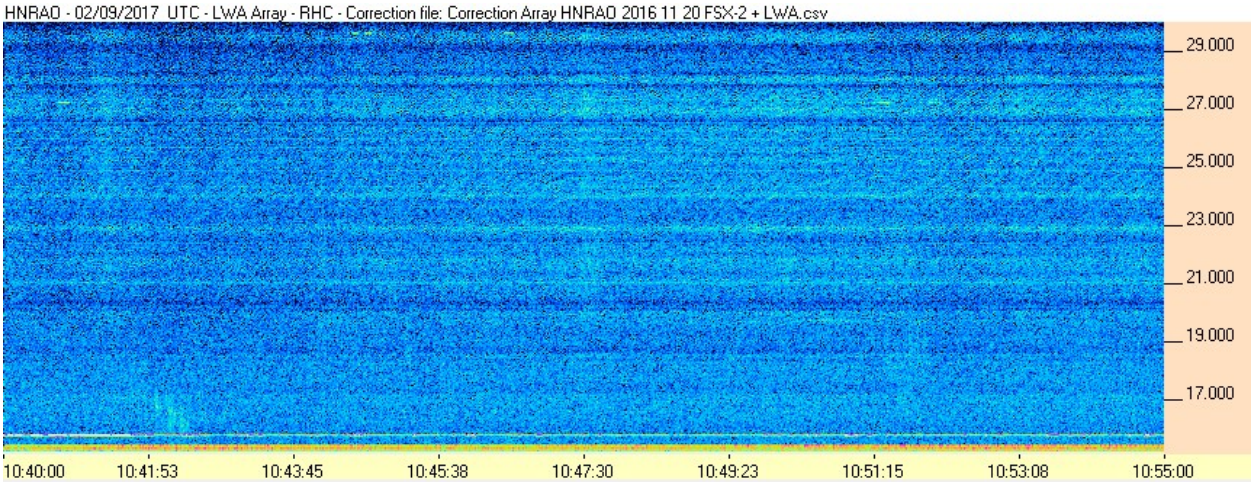
FSX-2/LWA Pair





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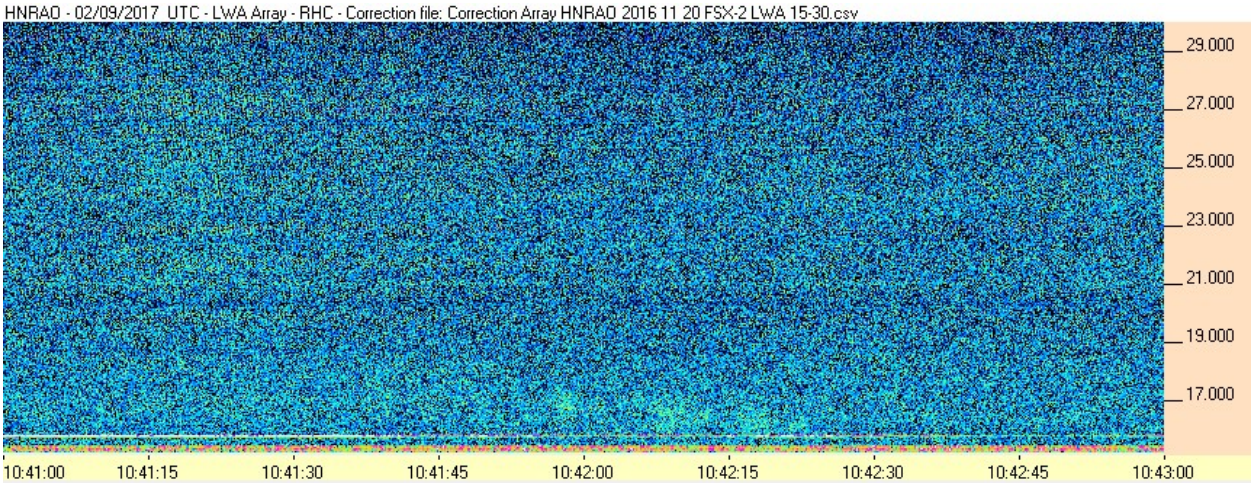

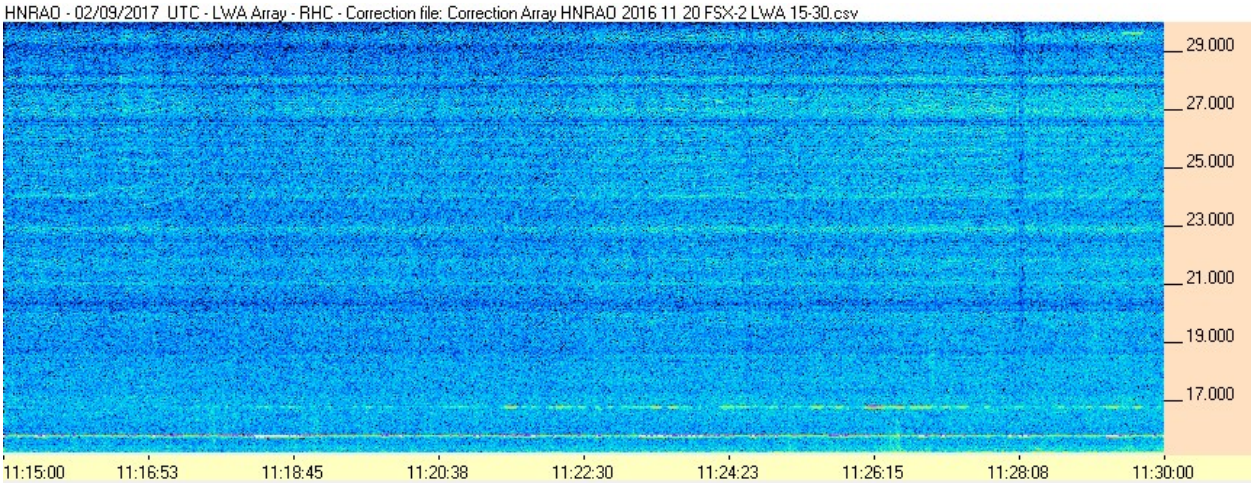

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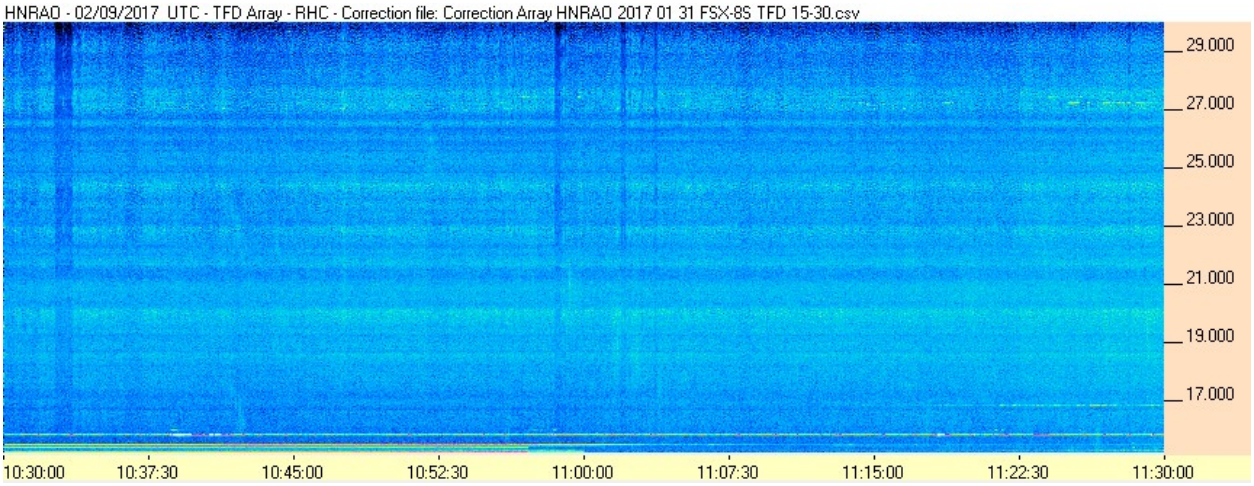
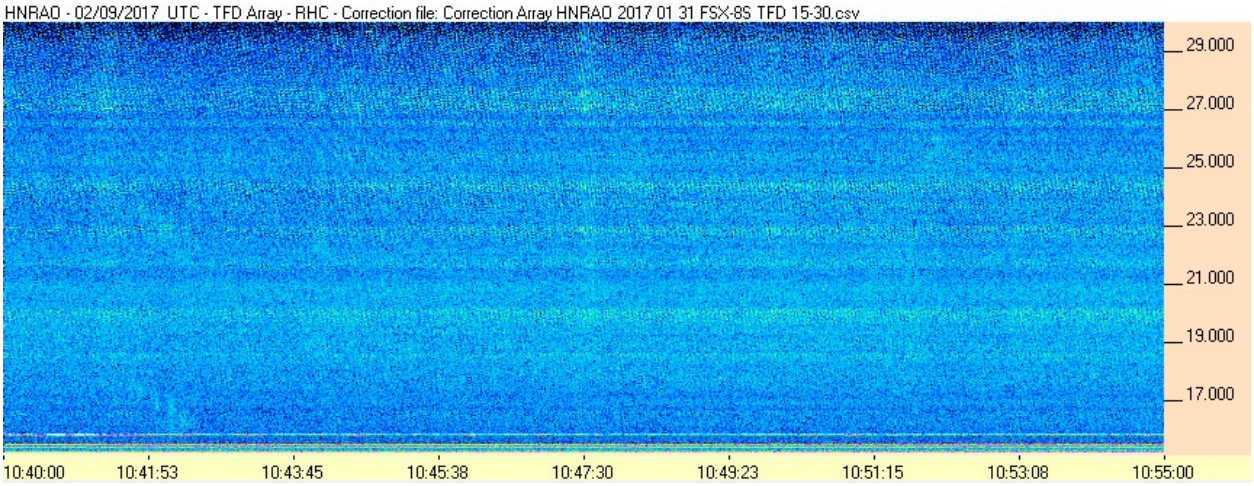
FSX-8S/TFD Pair





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