

HNRAO Observing Log
40.673181 N – 80.437885 W
EN90sq



Date: 9 December 2016

Object: Jupiter Io-C

Observer: JB

Start of pass:	1155 UT		
Jupiter Altitude:	36.3 degrees	Jupiter Azimuth:	142.8 degrees
Jupiter CML:	255.86	Jupiter Io Phase:	232.82
Jupiter RA:	13:07	Jupiter Dec:	-05:49
Hour Angle:	-01:57	Polarization	LHC
Sun Altitude:	-12.6 degrees	Sun Azimuth:	109.2 degrees
Sun RA:	16:59	Sun Dec:	-22.42

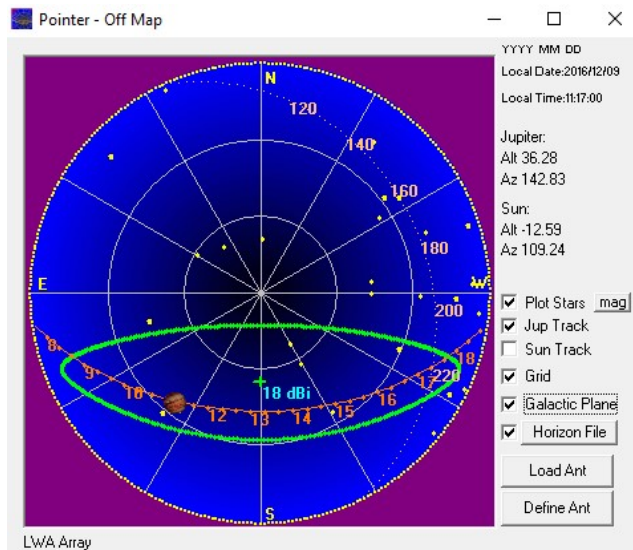
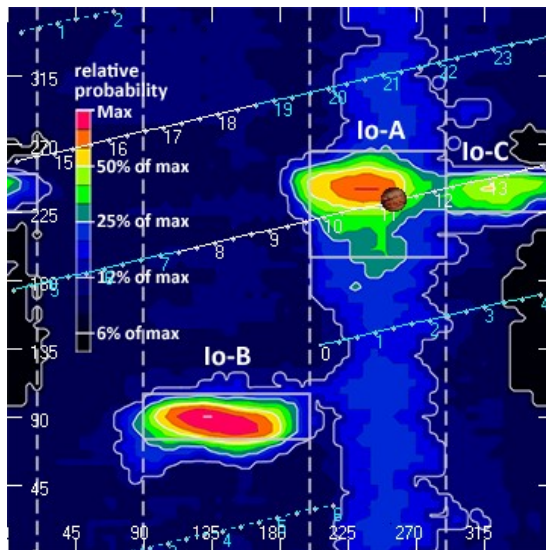
End of pass:	1358 UT		
Jupiter Altitude:	42.4 degrees	Jupiter Azimuth:	194.9 degrees
Jupiter CML:	353.18	Jupiter Io Phase	255.62
Hour Angle:	00:44		
Sun Altitude:	13.0 degrees	Sun Azimuth:	136.2 degrees

 Observations made using:

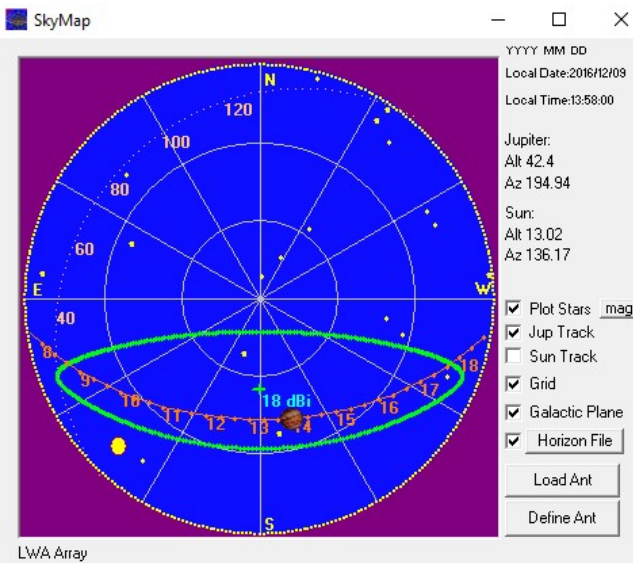
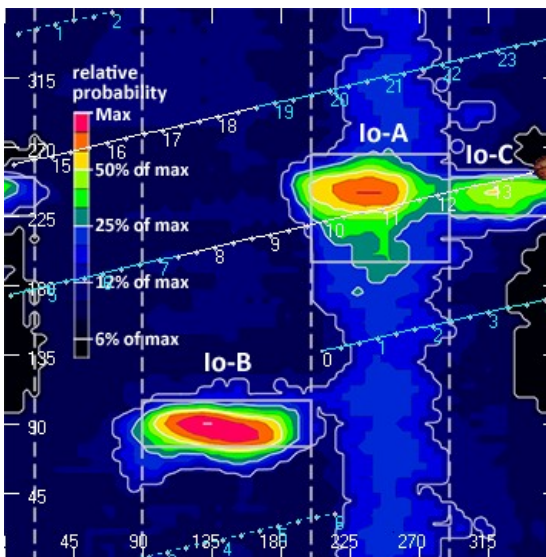
1. FSX-8S fed by the TFD array
 - a. Connect to array through HNRAO Multicoupler #1 and #2, port 2
 - i. HNRAO Multicoupler #1 – TFD/LCP
 - ii. HNRAO Multicoupler #2 – TFD/RCP
 - iii. Port 1 having 10 dB of gain, all other ports on Multicoupler have approximately 3 dB gain.
2. FSX-2 fed by the LWA array directly
 - a. LWA element configuration – **56 degrees**
3. JOVE 2 receiver fed by phased JOVE dipoles @ 10' – phased for 2016-17 season
 - a. Calibrated 28 Nov. 2016
 - b. Connected to dipoles through HNRAO Multicoupler #3, port 1.
4. Icom R75 receiver fed by experimental DDRR antenna directly.
 - a. Calibrated 28 Nov. 2016

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Beginning of Pass



End of Pass

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The Io-A pass began at approximately 0930-0945 UT. RFI from power lines and cable TV switching power supply evident but not overwhelming.

No apparent Io-A emissions evident in the FSX-8S or FSX-2 after reviewing the data. Other reporting stations may have different results.

Because this was the first official storm of the season, I took the liberty to change some settings on both the TFD and LWA during the Io-C pass to determine the best settings for the future.

The first indication of Io-C LCP is approximately 1155 UT, between 17 and 18 MHz. Last emissions appear to be at approximately 1357 UT when foreign broadcast stations began to dominate the receiver frontend.

A positive slope arc starting at 1217 UT below 16 MHz, reaching its apex at about 1314 UT, then beginning the downward part of the arc, passing below 16 MHz at approximately 1400 UT. Emissions were composed of near vertical L-bursts as well as S-bursts, some very strong.

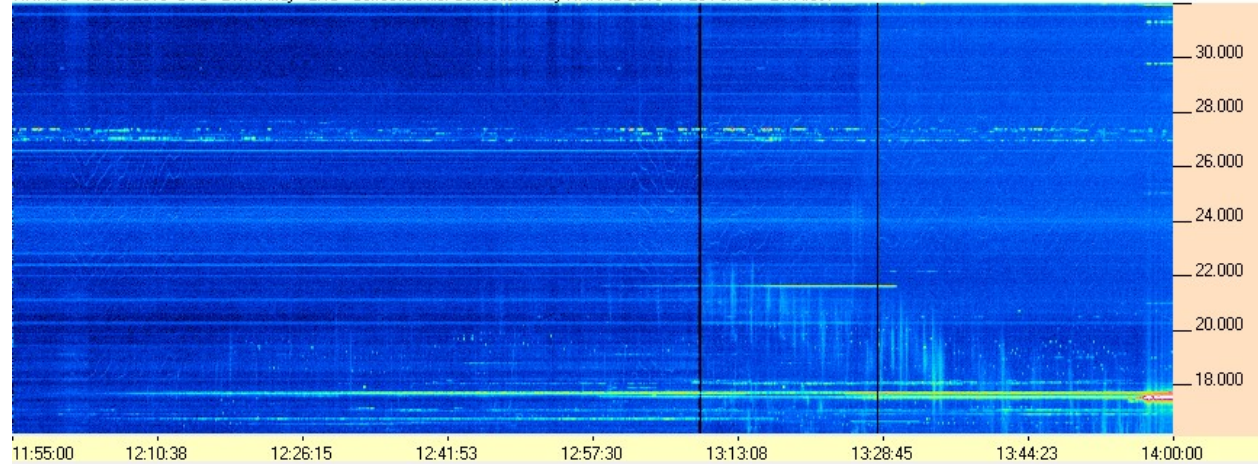
S-bursts were recorded on the JOVE 2 receiver/JOVE dipoles as well as the DDRR experimental antenna and Icom R75 receiver.

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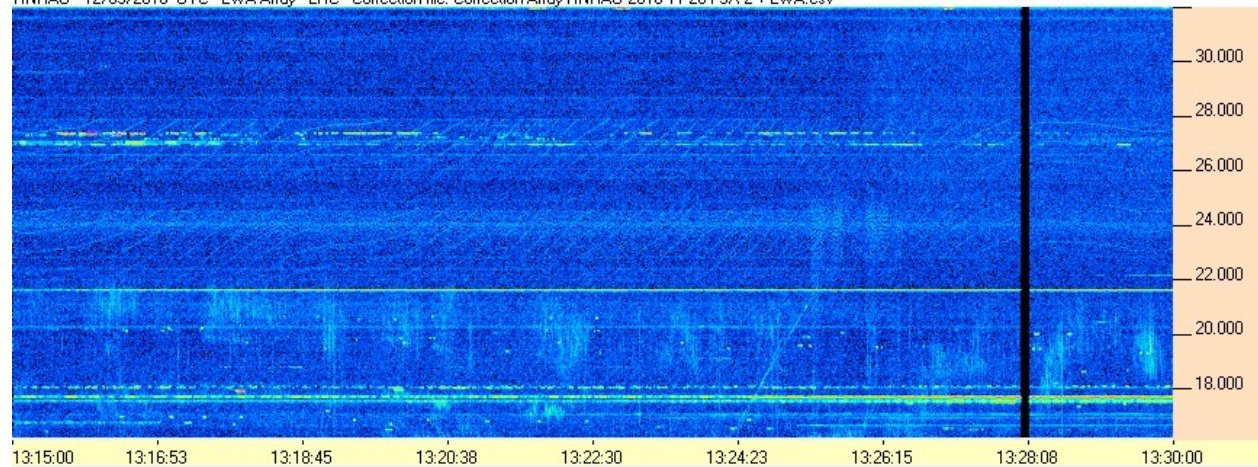


FSX-2/LWA

HNRAO - 12/09/2016 UTC - LWA Array - LHC - Correction file: Correction Array HNRAO 2016 11 20 FSX-2 + LWA.csv



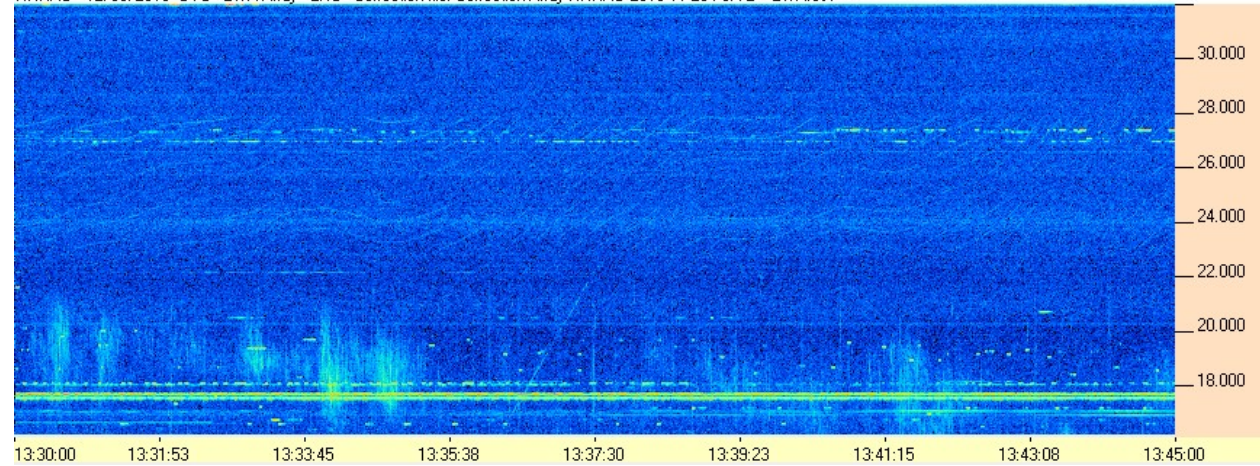
HNRAO - 12/09/2016 UTC - LWA Array - LHC - Correction file: Correction Array HNRAO 2016 11 20 FSX-2 + LWA.csv



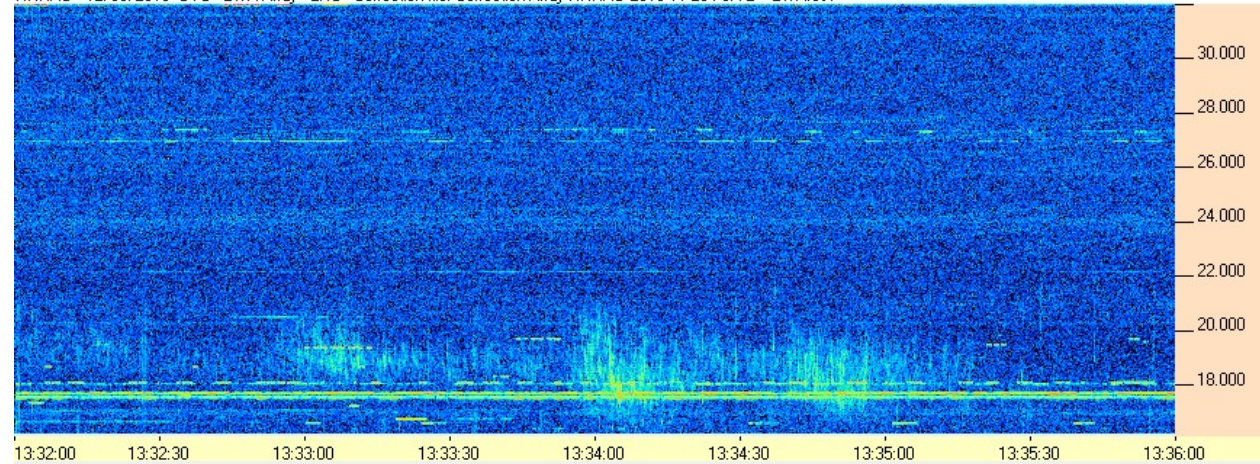
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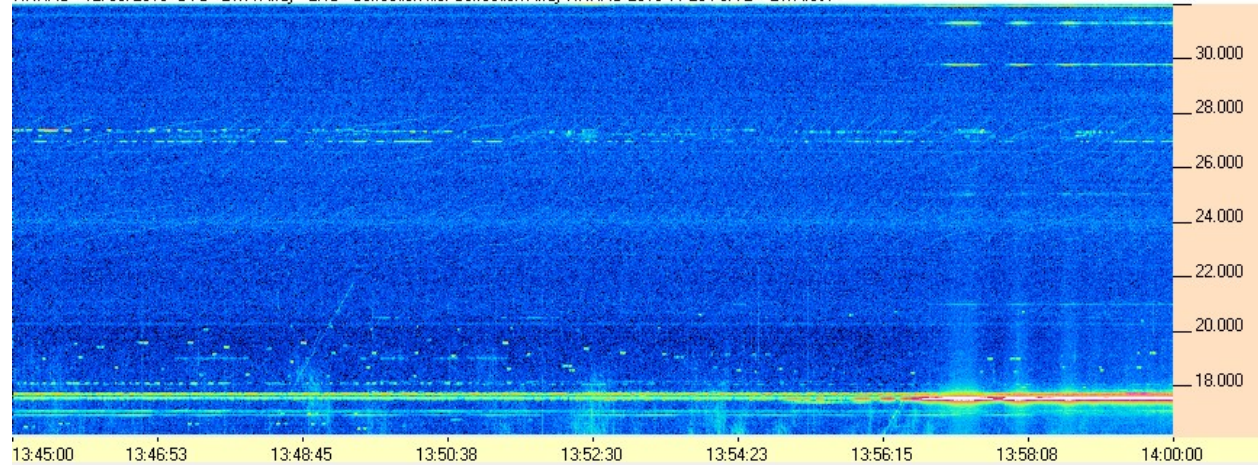
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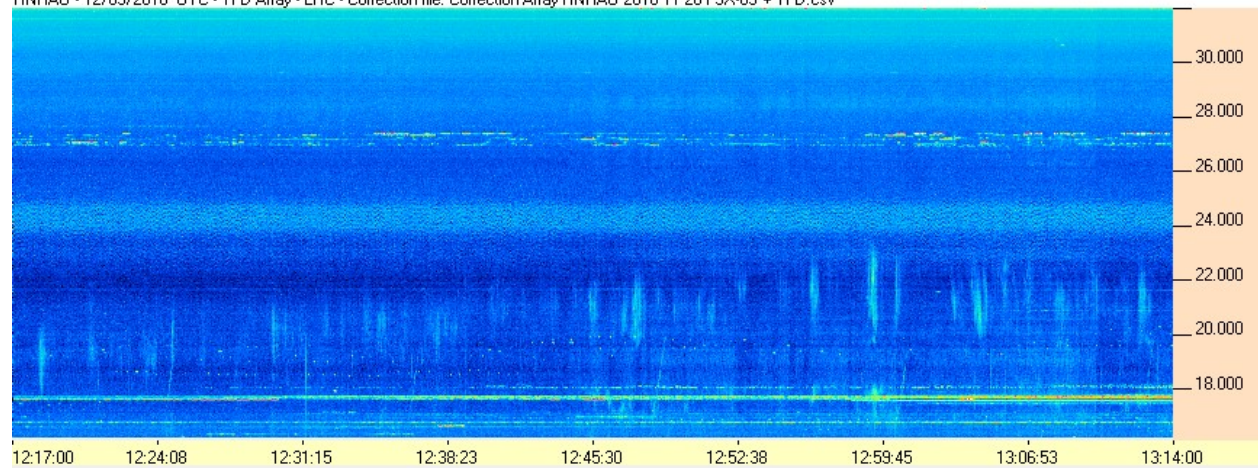


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FSX-8S/TFD

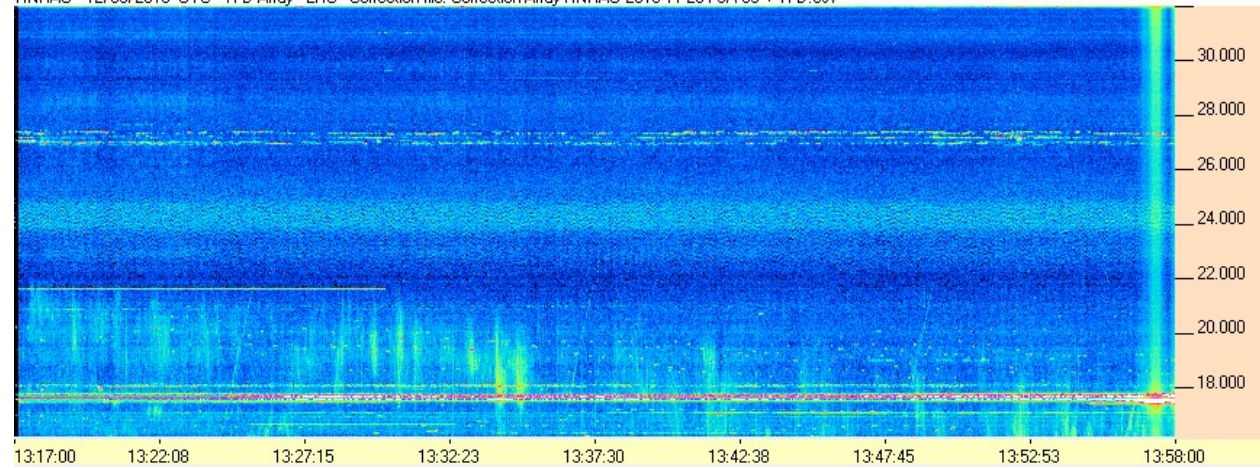
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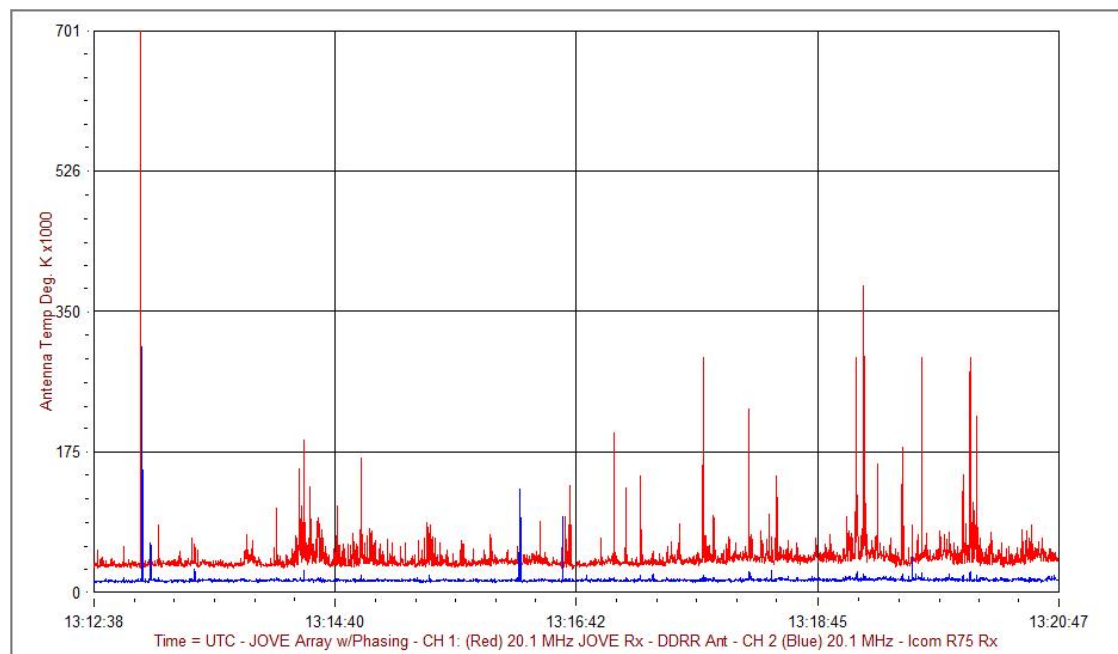
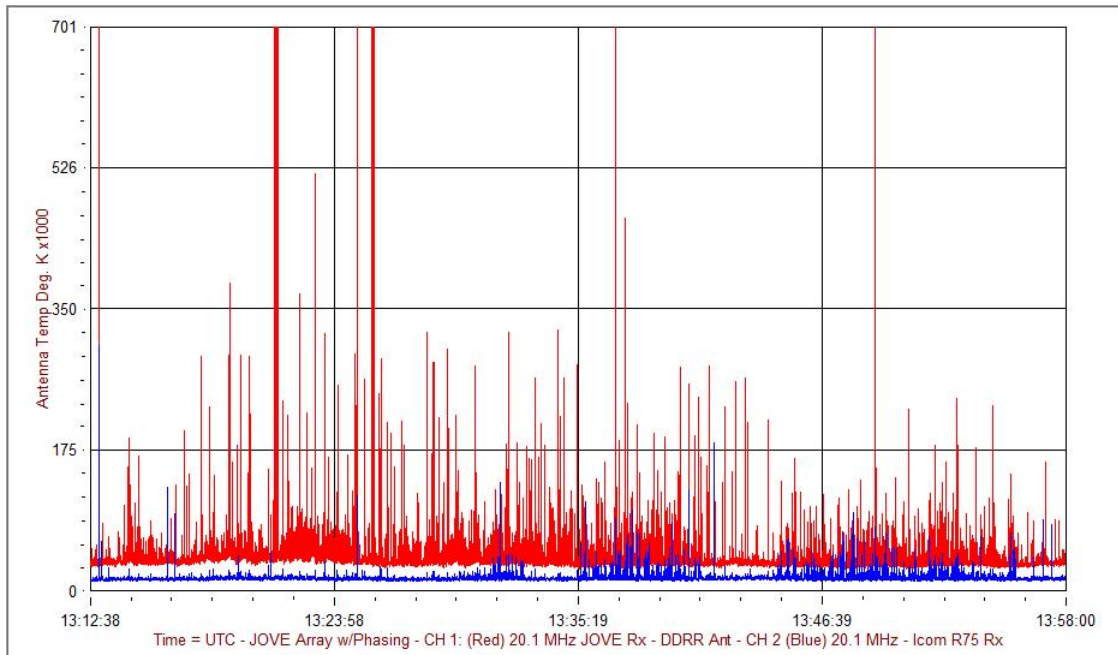
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Radio JOVE 2 receiver and dipoles - red trace
Icom R75 receiver - DDRR antenna blue trace



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