

HNRAO Observing Log
40.673181 N – 80.437885 W
EN90sq



Date: 20 February 2017

Object: Jupiter – Non-Io-A

Observer: JB

Start of pass:	0522 UT	Planetary K-index:	3
Jupiter Altitude:	22.8 degrees	Jupiter Azimuth:	123.2 degrees
Jupiter CML:	231.31	Jupiter Io Phase:	274.62
Jupiter RA:	13:26	Jupiter Dec:	-07:26
Hour Angle:	-03:24	Polarization	RCP
Sun Altitude:	-60.8 degrees	Sun Azimuth:	356.9 degrees
Sun RA:	22:08	Sun Dec:	-11:31

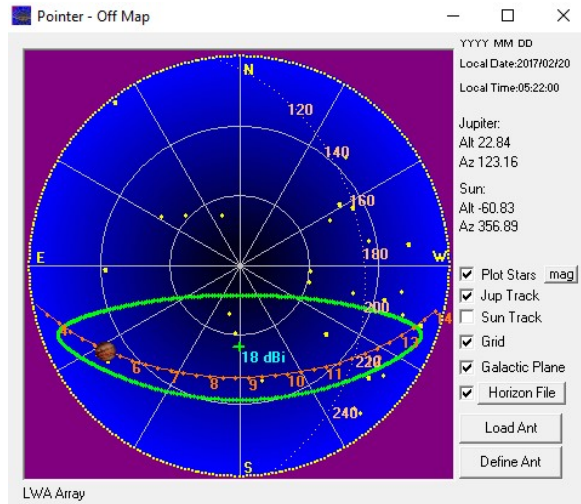
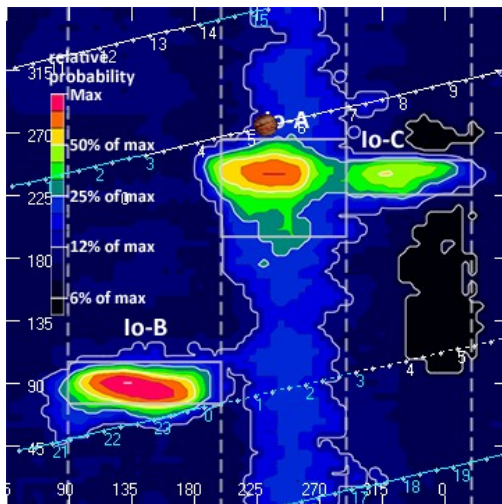
End of pass:	0639 UT		
Jupiter Altitude:	33.7 degrees	Jupiter Azimuth:	141.1 degrees
Jupiter CML:	277.87	Jupiter Io Phase	285.59
Hour Angle:	-02:07		
Sun Altitude:	-56.9 degrees	Sun Azimuth:	033.1 degrees

Observations made using:

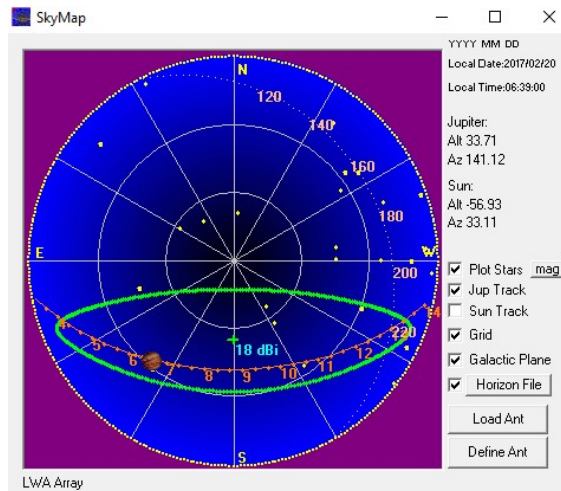
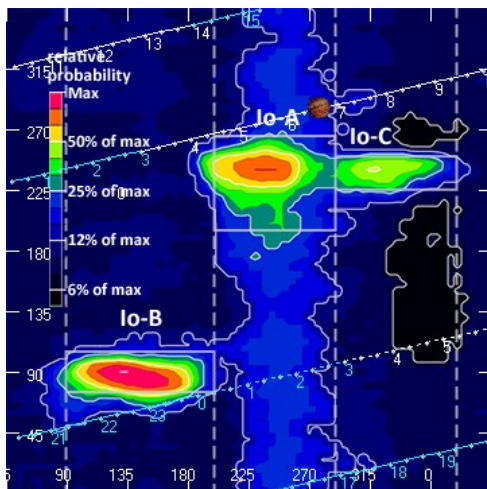
1. FSX-8S fed by the TFD array
 - a. 7.7 dB loss between TFD and Multicouplers.
 - b. Connect to array through HNRAO Multicoupler #1 and #2, port 2
 - i. HNRAO Multicoupler #1 – TFD/LCP
 - ii. HNRAO Multicoupler #2 – TFD/RCP
 1. Port 1 having 10 dB of gain, all other ports have 3 dB gain.
2. FSX-2 fed by the LWA array directly
 - a. LWA element configuration – 90 degrees
3. JOVE 2 receiver fed by phased JOVE dipoles @ 10'
 - a. 12' phase cable - phased for 2016-17 season
 - b. Calibrated 4 February 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 4 February 2017

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Beginning of Pass



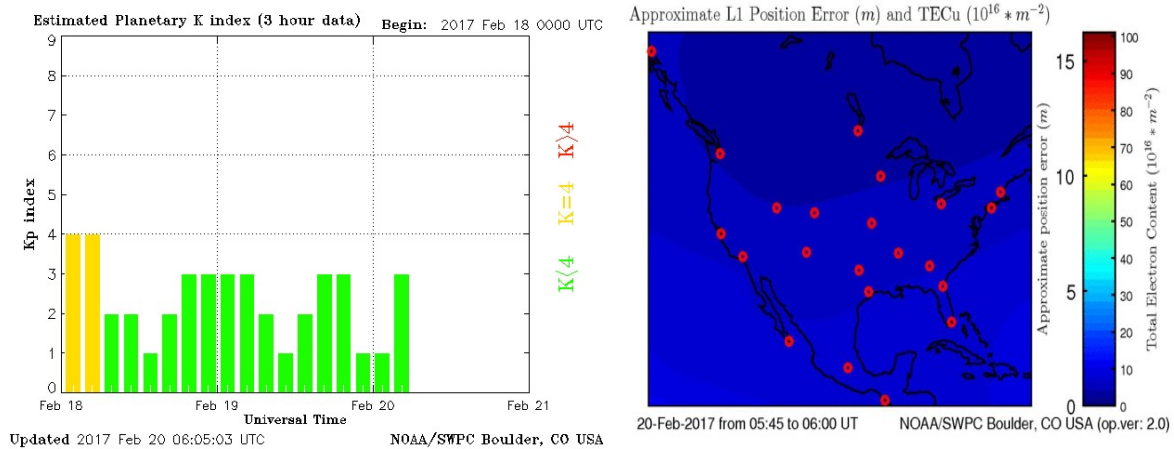
End of Pass

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Observing conditions
43 deg 67% humidity



A better storm than we've had for some time. Late vertex arc with a negative drift rate of approximately 372 kHz/min. RCP L-bursts. All nearly vertical in structure. RFI made it difficult to determine if there were modulation lanes present, throughout the storm but the burst at 0602 UT shows modulation lanes. Several bursts were respectable in intensity.

There were good L-burst recordings on the Radio JOVE SkyPipe charts at 20.1 MHz in the 0551-0554 UT section of the storm as the bursting drifted through the passband of the JOVE receiver.

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0522 UT
Very weak emission at 15 MHz

0528 UT
Long L-burst.
26-15 MHz

0530 UT
Much stronger L-burst at 26-24 MHz

0533 UT
Weak L-burst @ 21-15 MHz
This is a late vertex arc if this trend continues

0535 UT
Mildly stronger burst 20-17 MHz
Beginning of a long series of strong, vertical L-bursts.
Negative drift starting about 28 MHz and drop to 27 MHz in 5 minutes
Bursts at 0535 UT were about 1 MHz wide.
Bursts at 0540 UT were 4 MHz wide

0536 UT
Strong L-burst emission 19-15 MHz

0538 UT
Another stronger L-burst 19-15 MHz

0537 UT
Strong L-burst 28-26 MHz

0541 UT
L-bursts continue to show negative drift.

0549 UT
L-bursts 25 MHz
Negative drift

0552 UT
L-bursts passing through JOVE frequency

0602 UT
L-bursts 19 MHz
Stronger

0608 UT
L-bursts 19 MHz

0613 UT
Emissions weakening
Possibly nearing the end of pass

0617 UT
Emissions weak
17-15 MHz

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0621 UT
Somewhat stronger L-burst
17-17 MHz

0624 UT
Weak L-bursts
17-15 MHz

0625 UT
Very weak L-bursts
17-15 MHz

0626 UT
L-bursts continue 17-15 MHz

0627 UT
16-15 MHz

0629 UT
Very weak burst
16-15 MHz

0639 UT
L-bursts 15 MHz
Right at the limit of the spectrograph frequency range

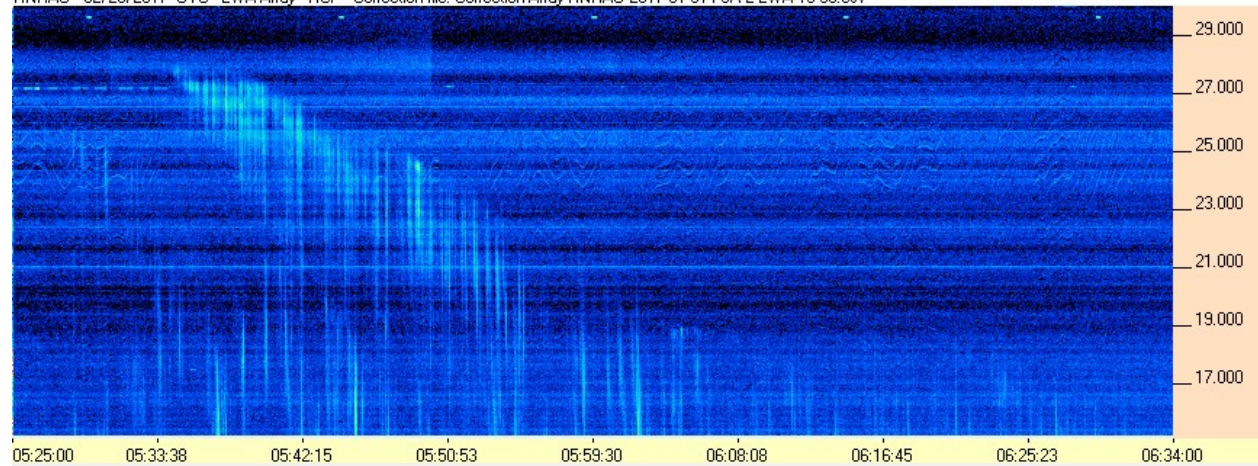
End of pass

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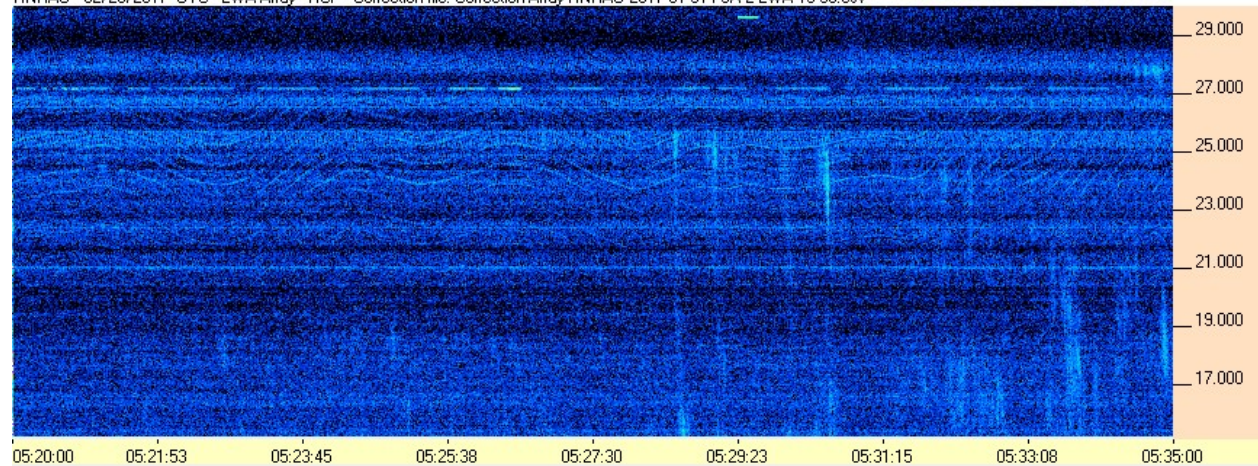


FSX-2/LWA Pair

HNRAO - 02/20/2017 UTC - LWA Array - RCP - Correction file: Correction Array HNRAO 2017 01 31 FSX-2 LWA 15-30.csv



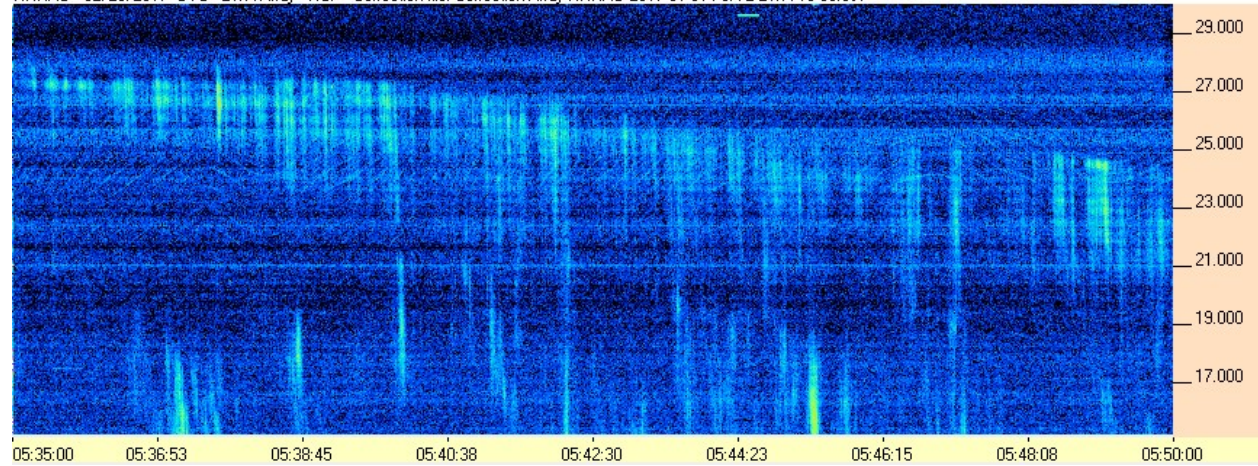
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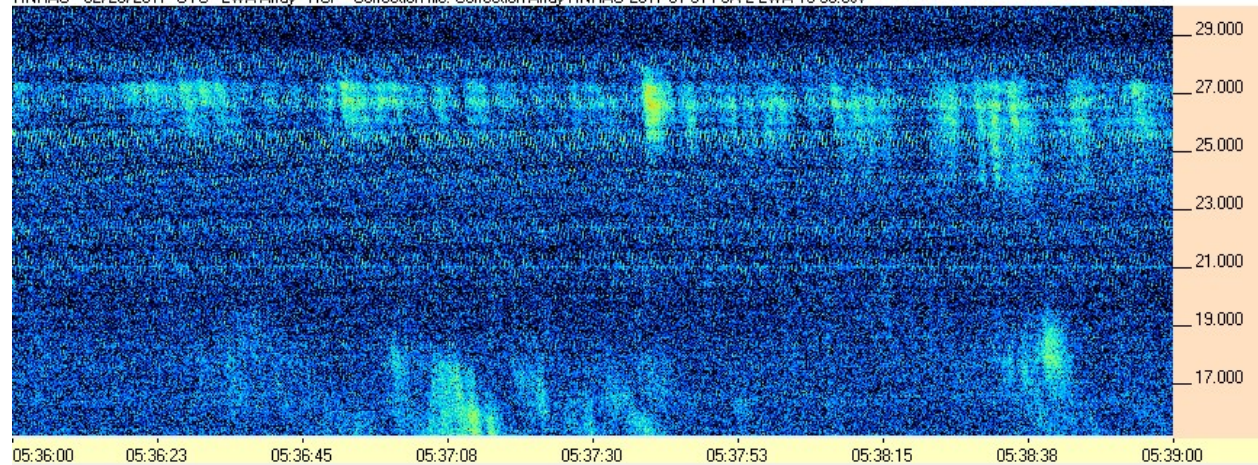
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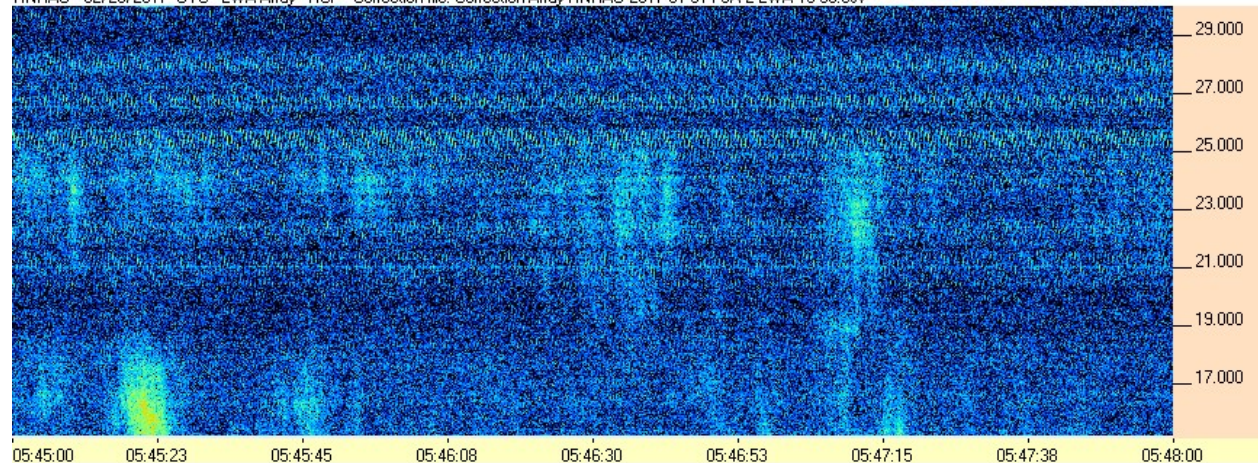
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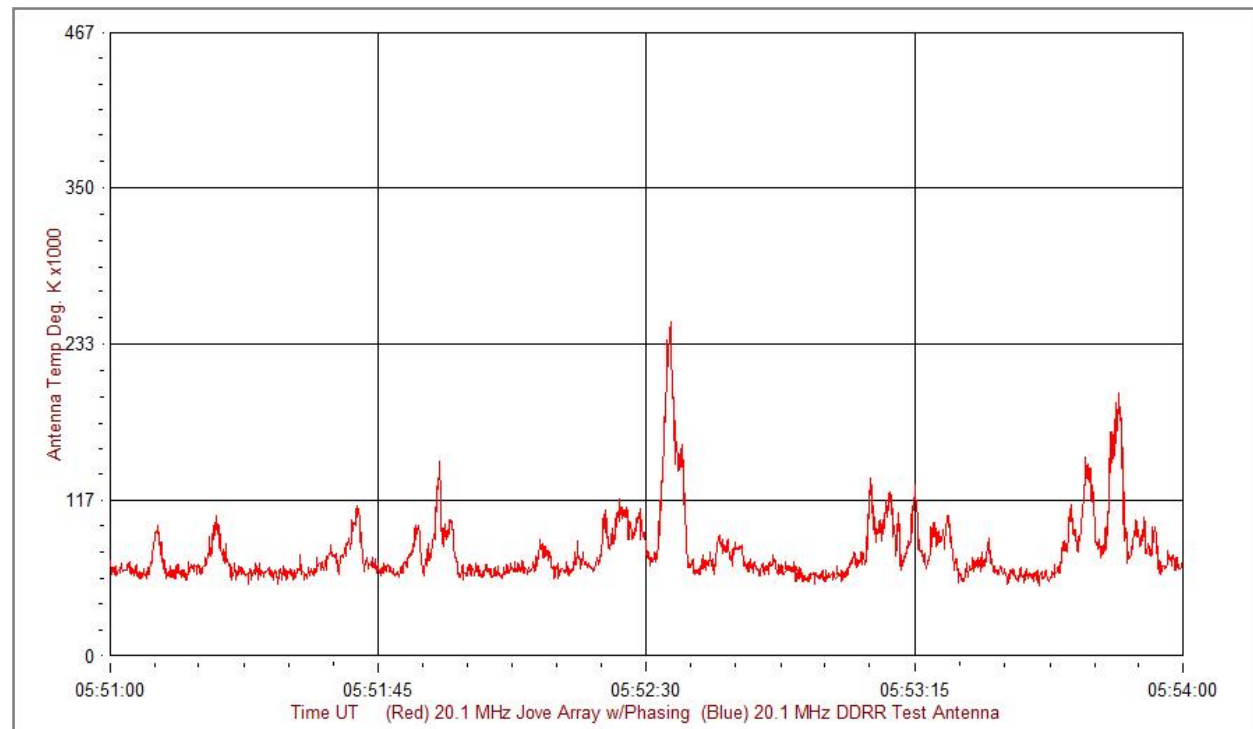
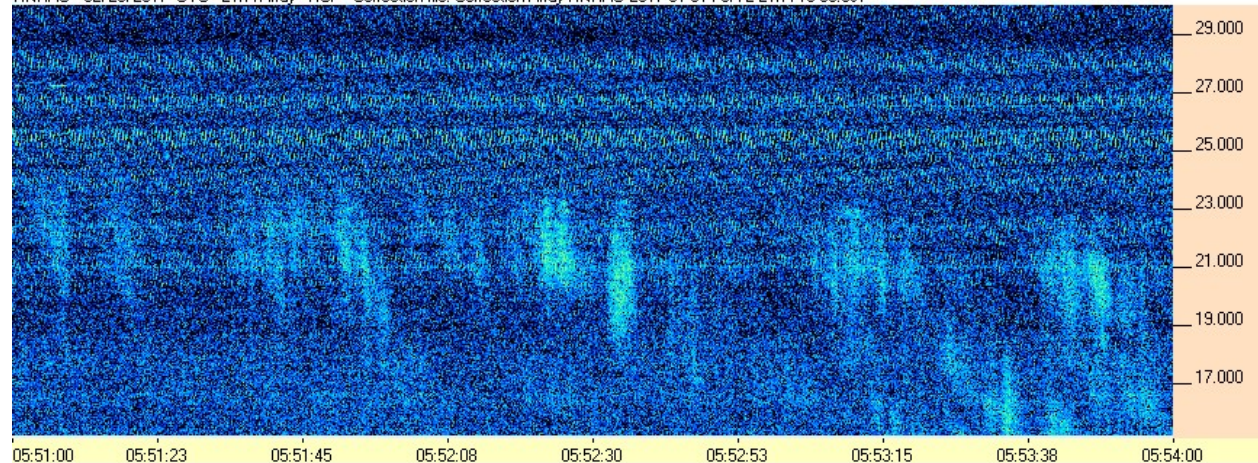


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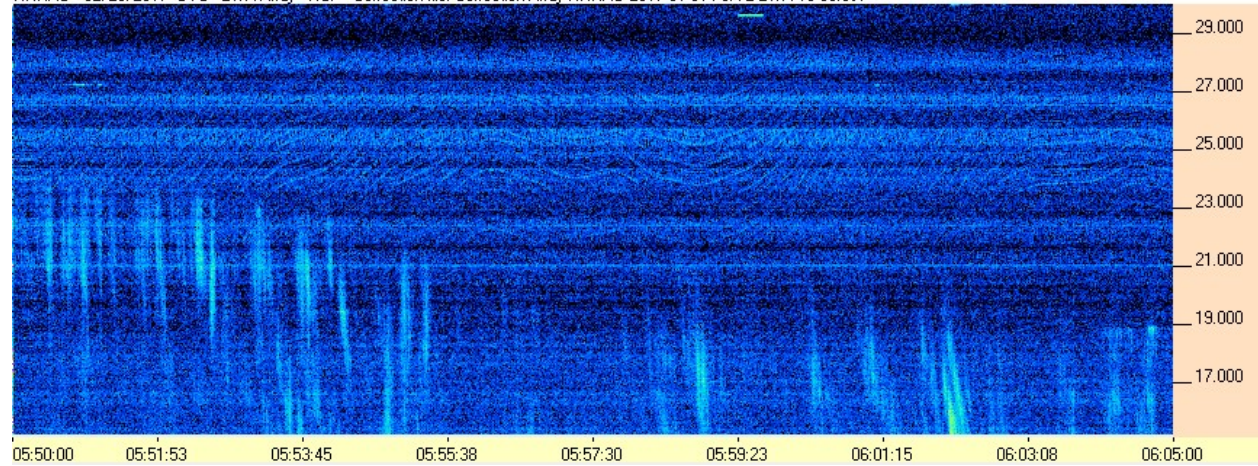
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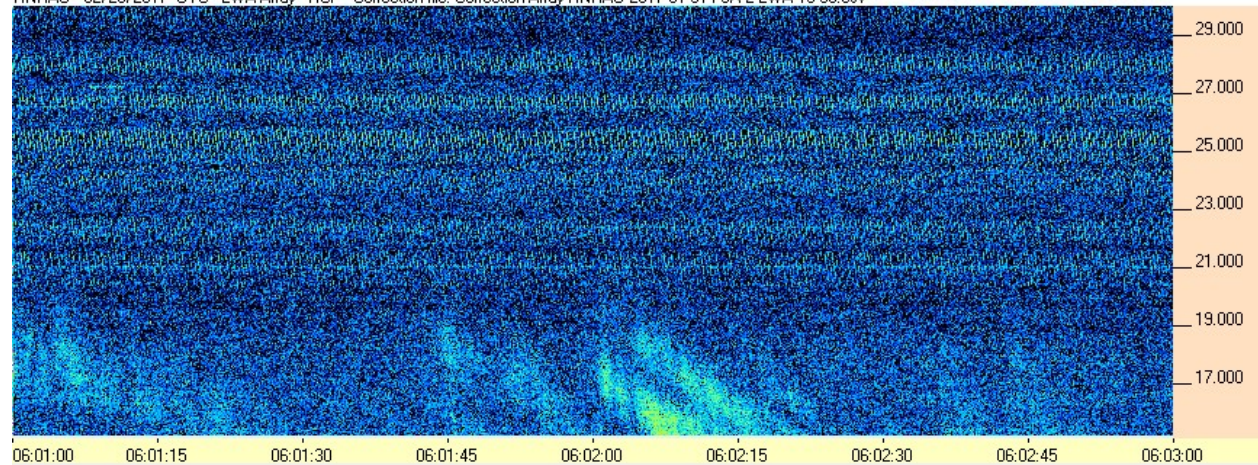
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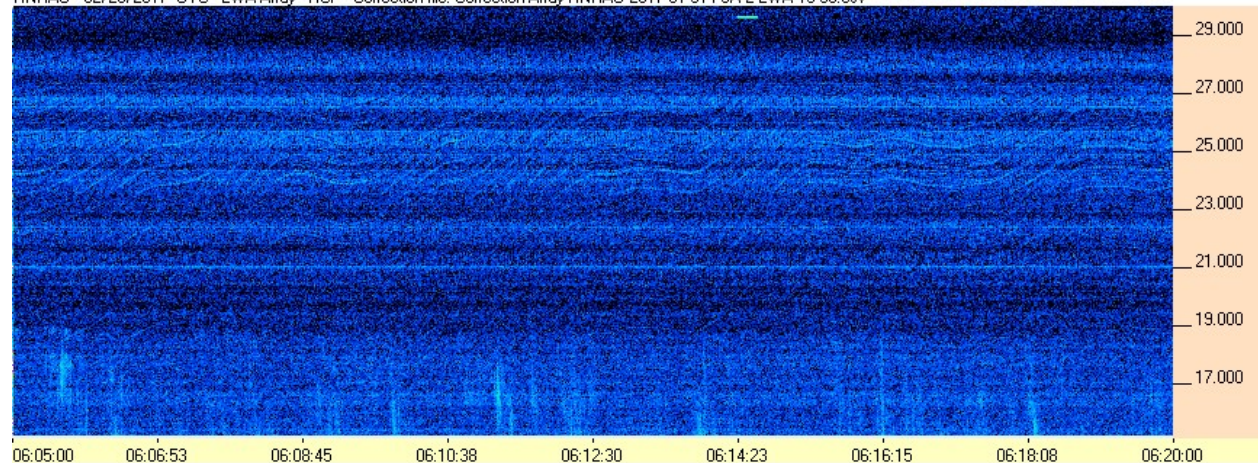
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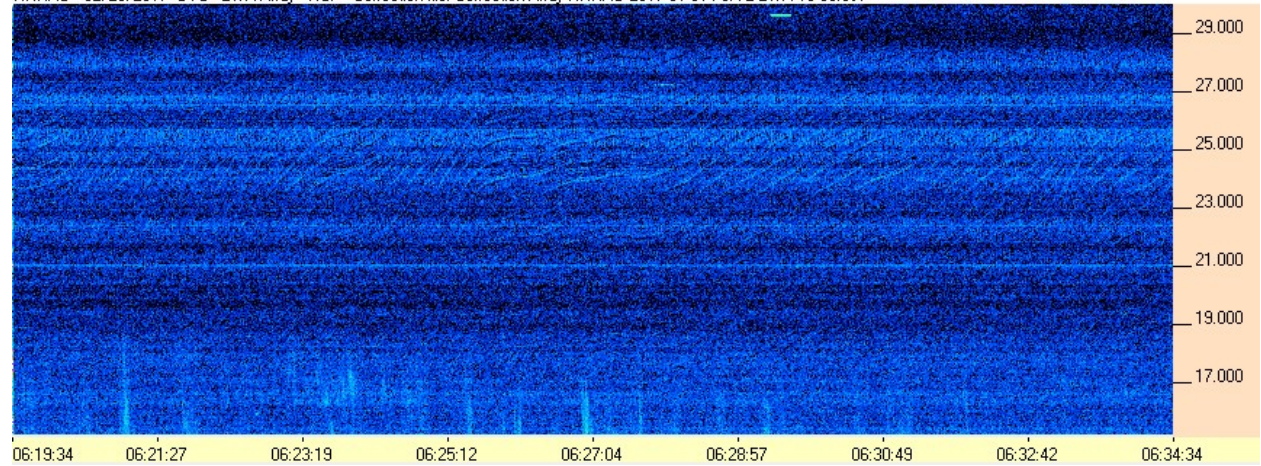


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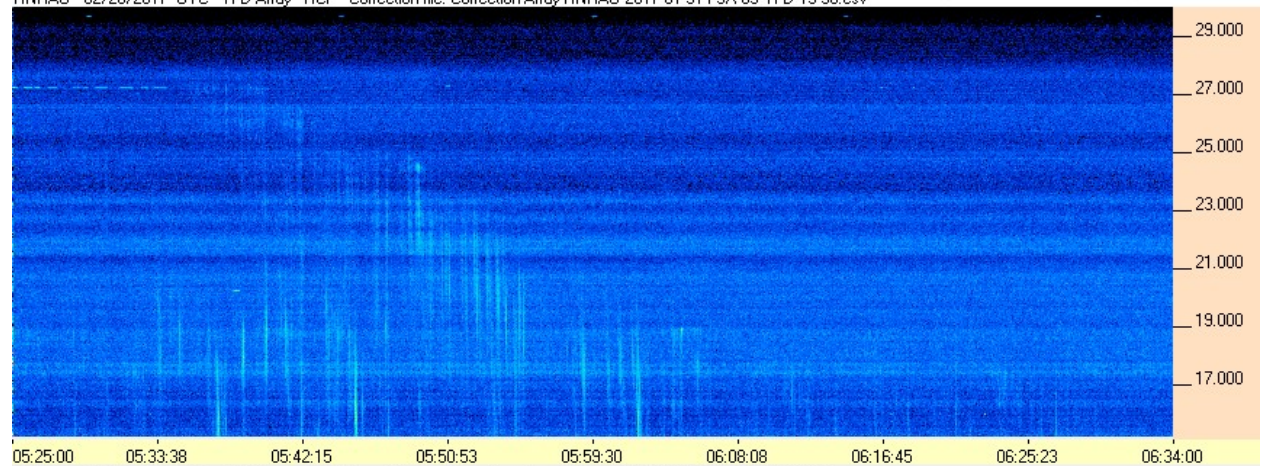


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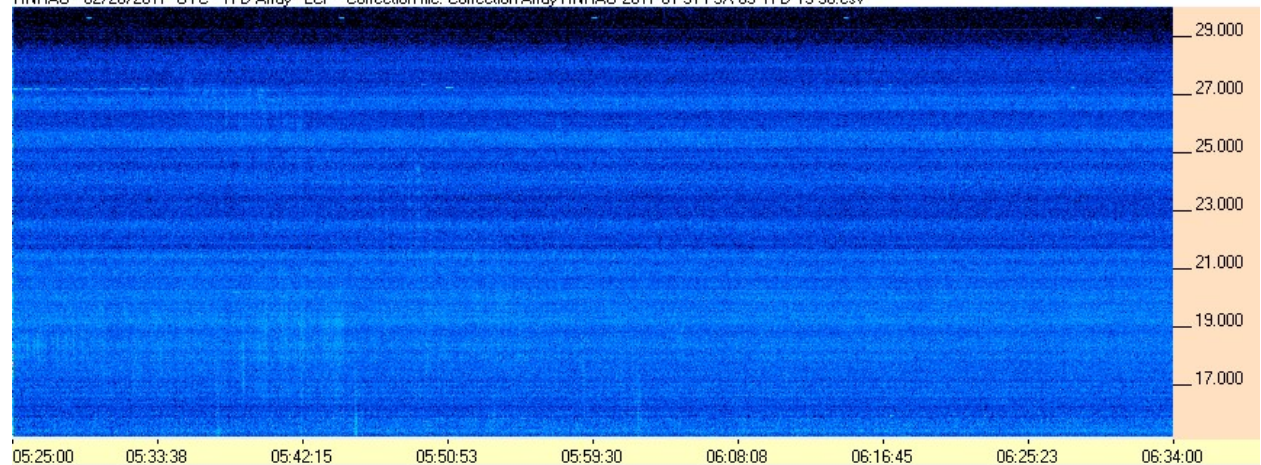


FSX-8S/TFD Pair

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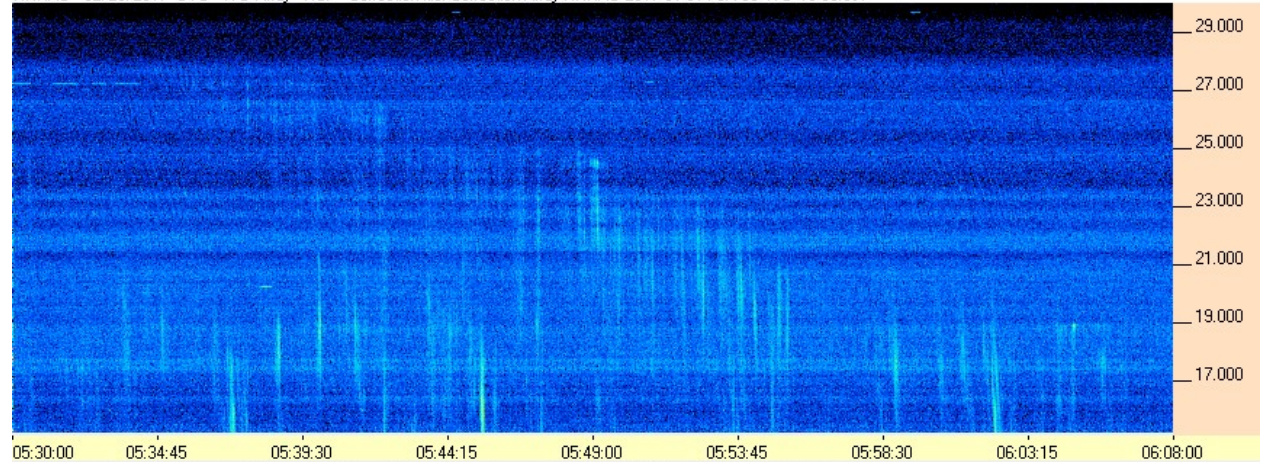
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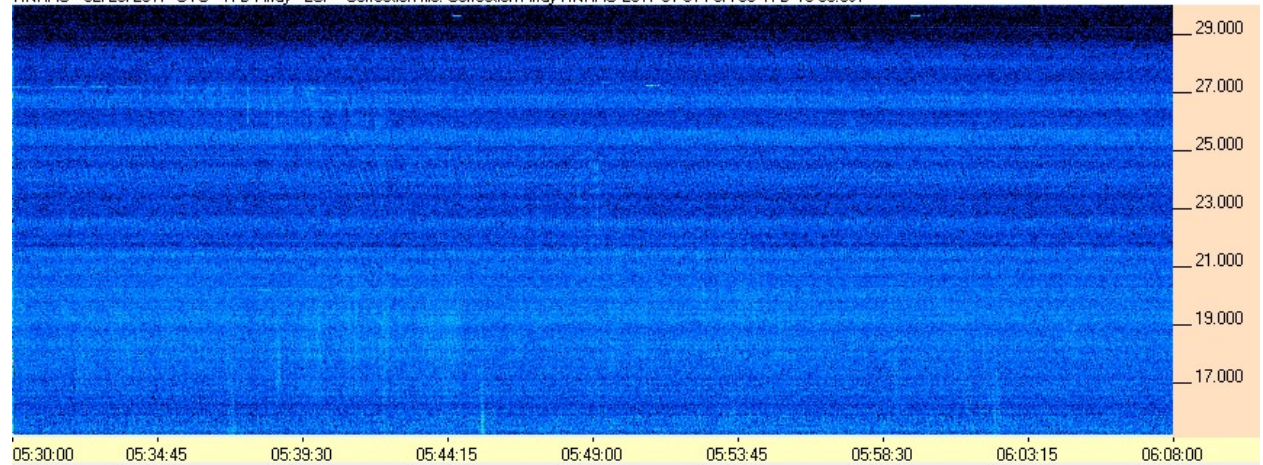
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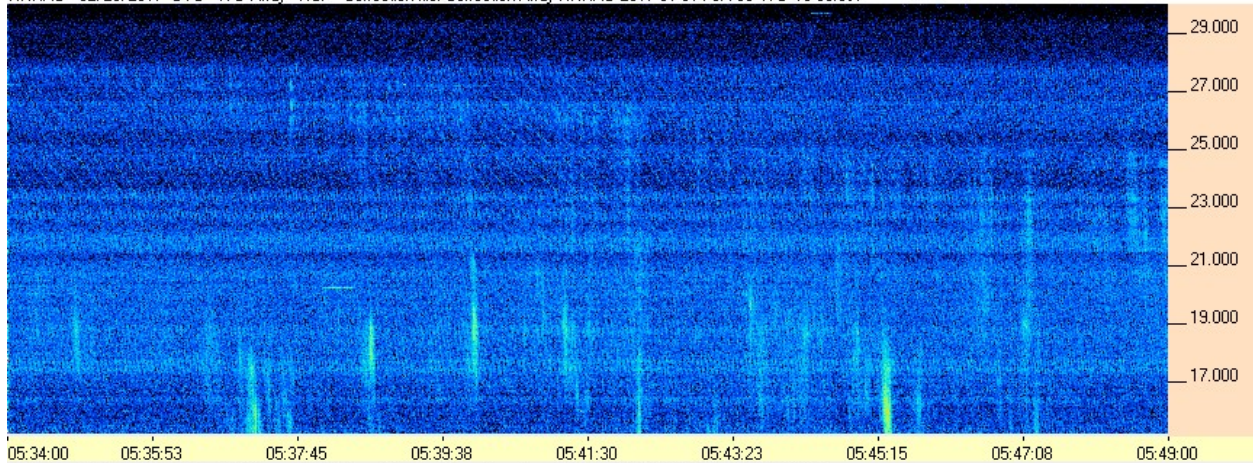
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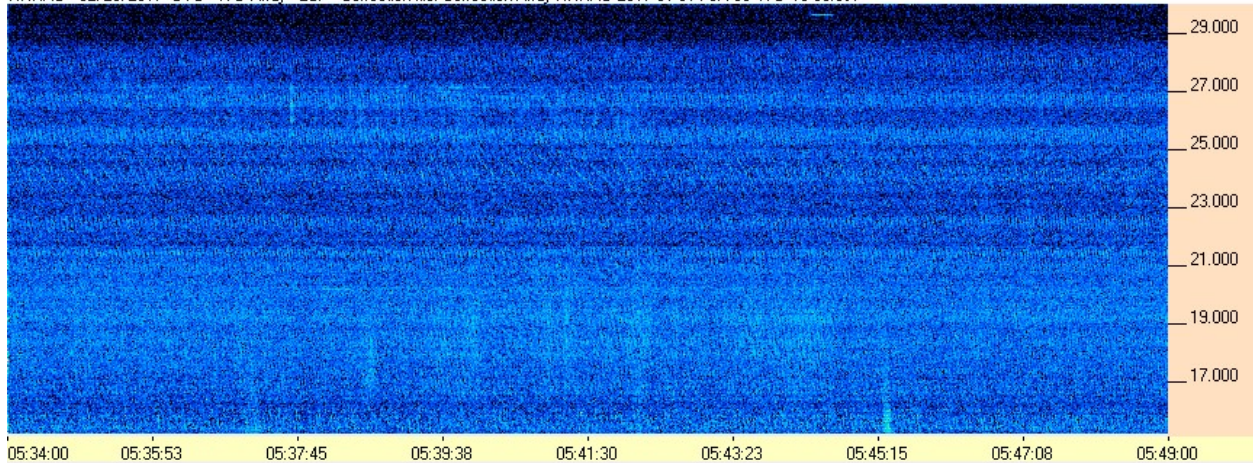
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SkyPipe/JOVE Dipoles Pair

