

HNRAO Observing Log
40.673181 N – 80.437885 W
EN90sq



Date: 8 May 2017

Object: Jupiter – Io-B

Observer: Unattended

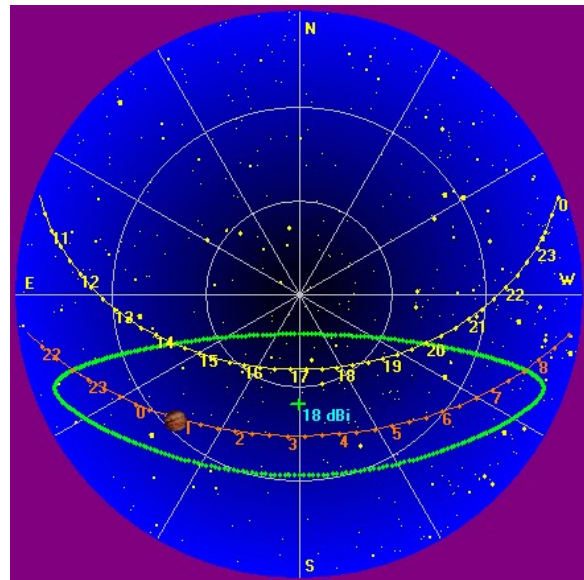
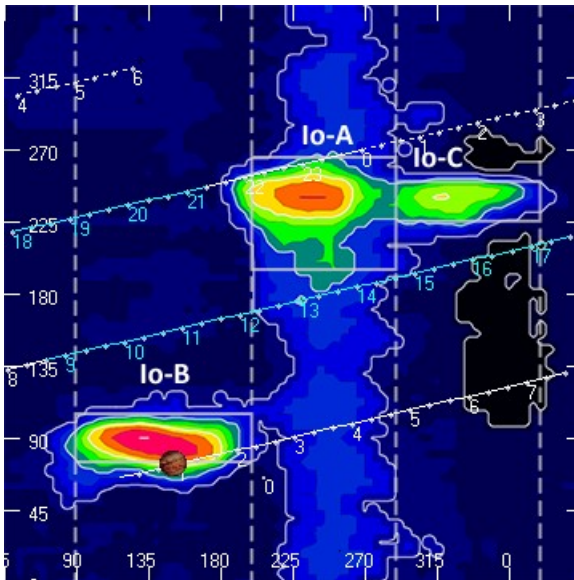
Start of pass:	0055 UT	Planetary K-index:	2
Jupiter Altitude (deg):	34.9	Jupiter Azimuth (deg):	136.2
Jupiter CML:	150.25	Jupiter Io Phase:	073.36
Jupiter RA (hr/min):	12:56	Jupiter Dec (hr/min):	-04:21
Hour Angle (hr/min):	-02:19	Polarization	RCP
Sun Altitude (deg):	-07:7	Sun Azimuth (deg):	299.7
Sun RA (hr/min):	02:53	Sun Dec (hr/min):	16:34

End of pass:	0124 UT		
Jupiter Altitude (deg):	38.4	Jupiter Azimuth (deg):	144.1
Jupiter CML:	167.78	Jupiter Io Phase	077.44
Hour Angle (hr/min):	-01:50		
Sun Altitude (deg):	-12.3	Sun Azimuth (deg):	304.9

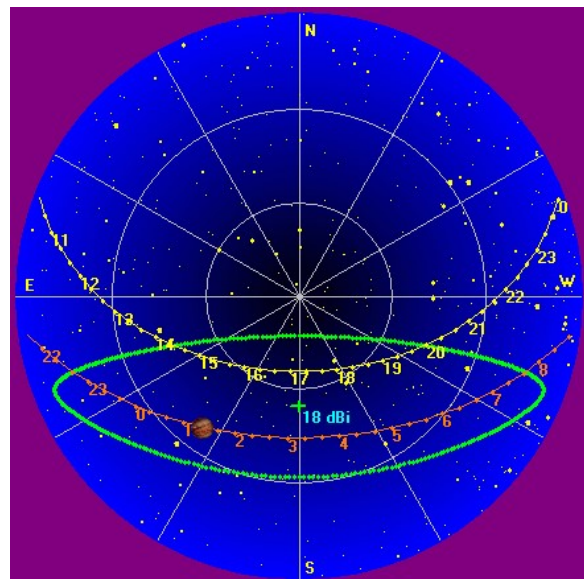
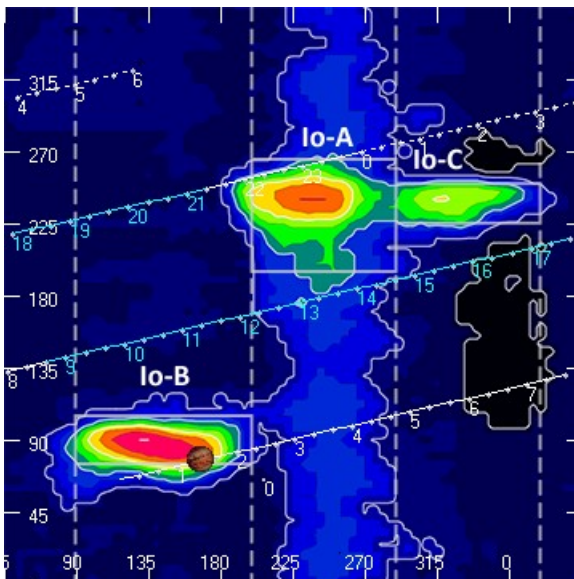
Observations made using:

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)

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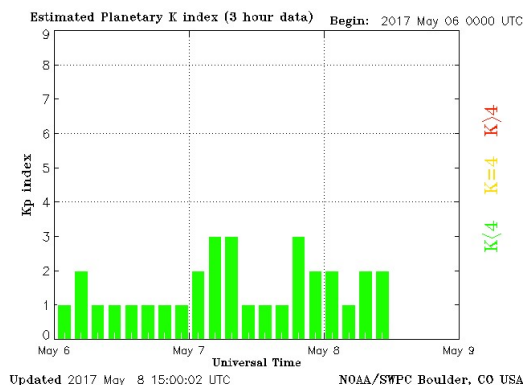
Beginning of Pass



End of Pass

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MODE	CML RANGE	Io RANGE	MAX F	POLAR	ARC	NOTES
Io-D	0-200	95-130	18	LH	Early	Also called "fourth source"
Io-B	(105 - 185)	(80-110)	39.5	RH	Early	Also called "early source"
non Io-B	80-200	0-360	38	RH	Early	Voyager info
Io-A	(200-270)	(205-260)	38	RH	Late	Also called "main source"
non-Io-A	(230-280)	0-360	38	RH	Late	
Io-C	(300-20)	(225-260)	36	RH&LH	Late	Also called "third source"
non-Io-C	300-360	0-360	32	RH&LH	Late	Voyager info

<https://www.radiosky.com/jupmodes.html>

An impressive Io-B N-event, composed of S-bursts. Between 20 MHz and 23 MHz. No observable modulation lanes. Obscured by broadcast station overloading, the emissions can still be easily seen.

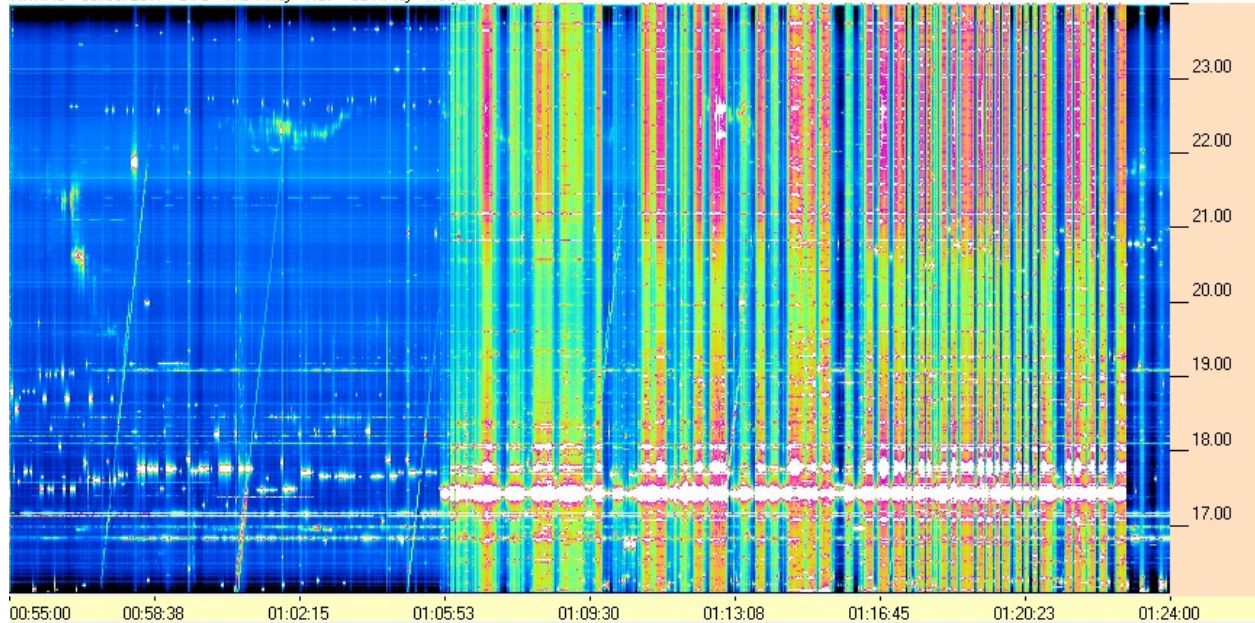
Observed on the SDRPlay RSP2/TFD, FSX-2/LWA and FSX-8S/TFD pairs.

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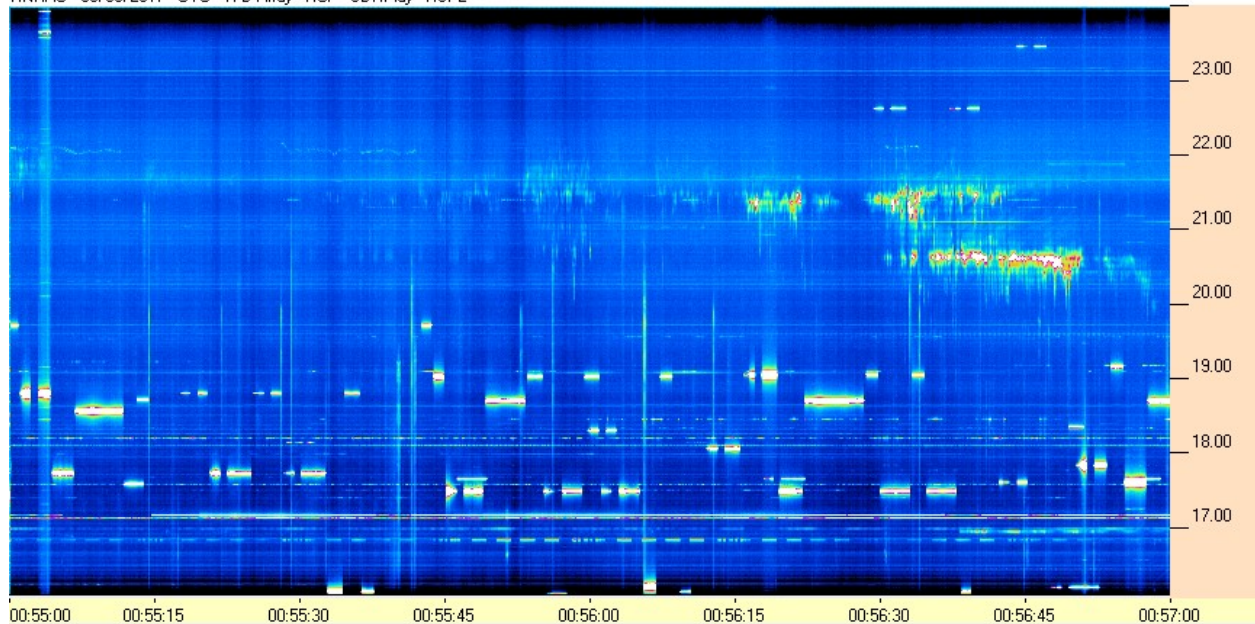


SDRPlay RSP2/TFD Pair

HNRAO - 05/08/2017 - UTC - TFD Array - RCP - SDRPlay - RSP2



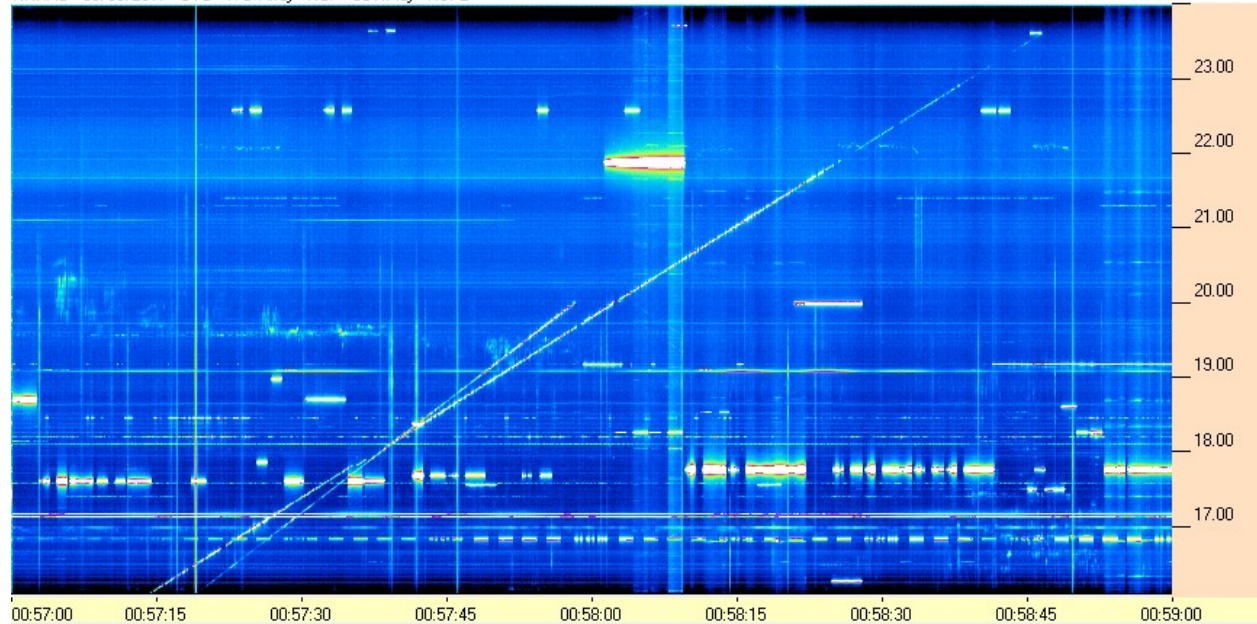
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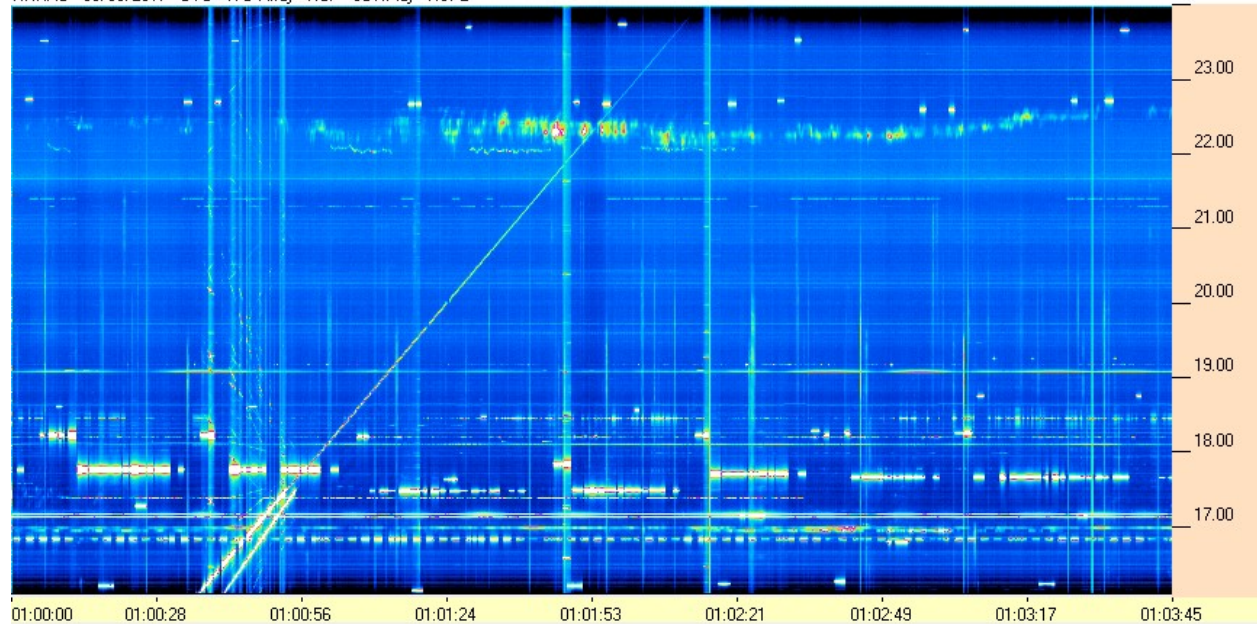
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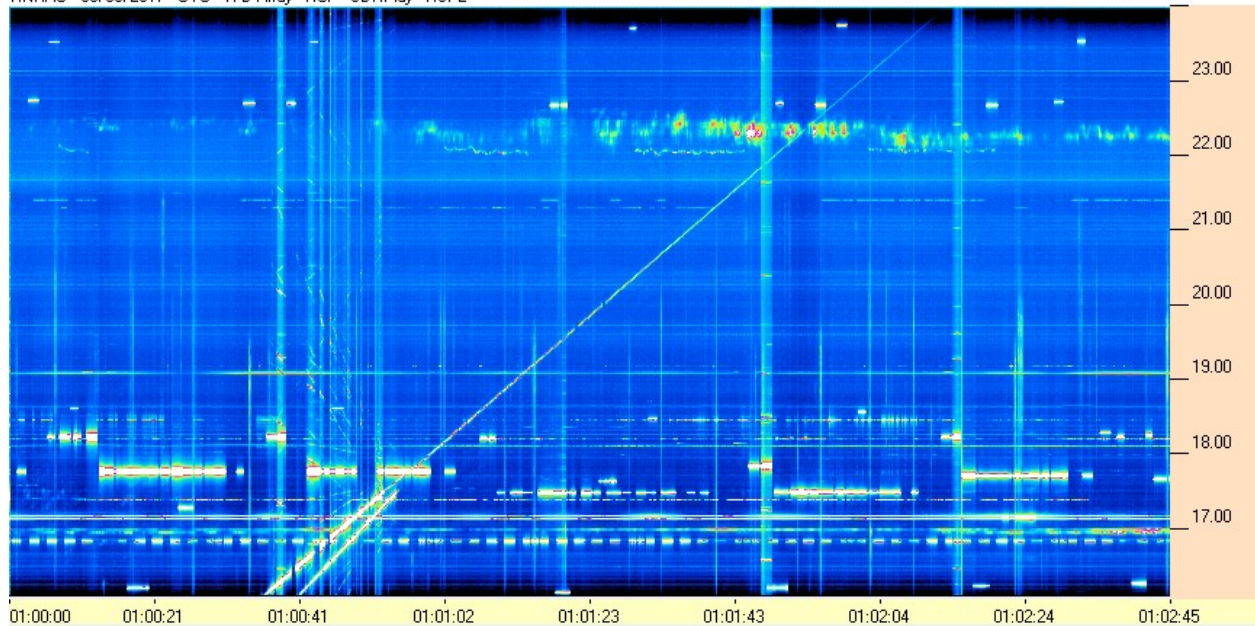
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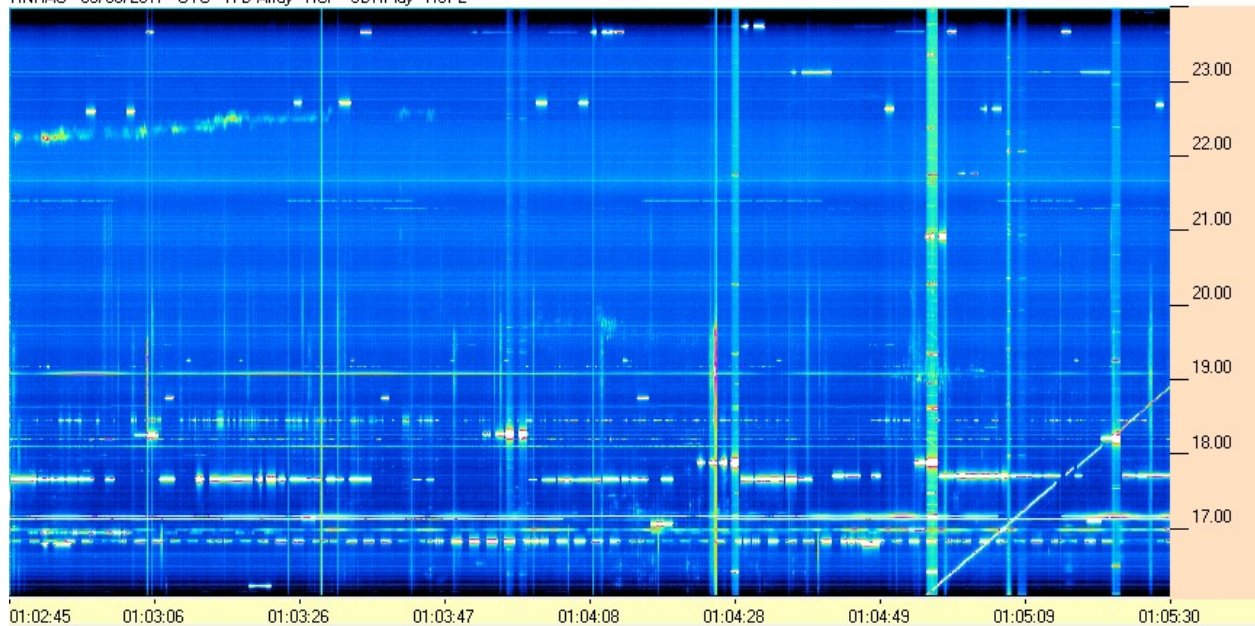
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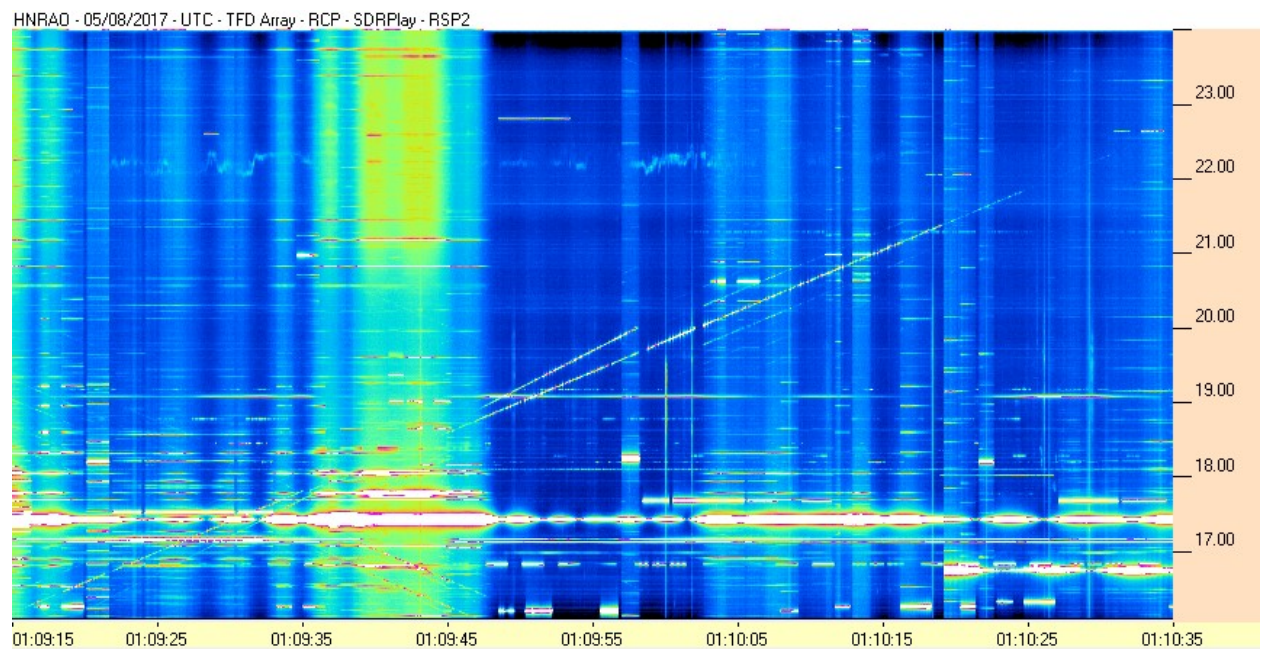
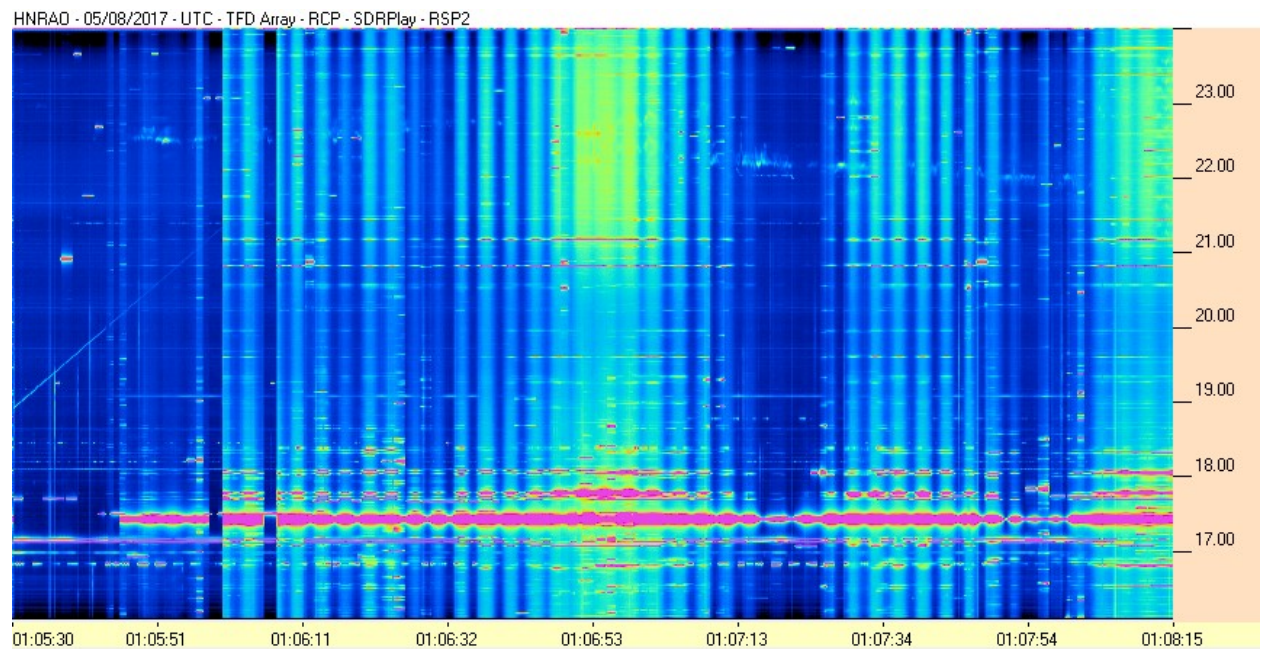
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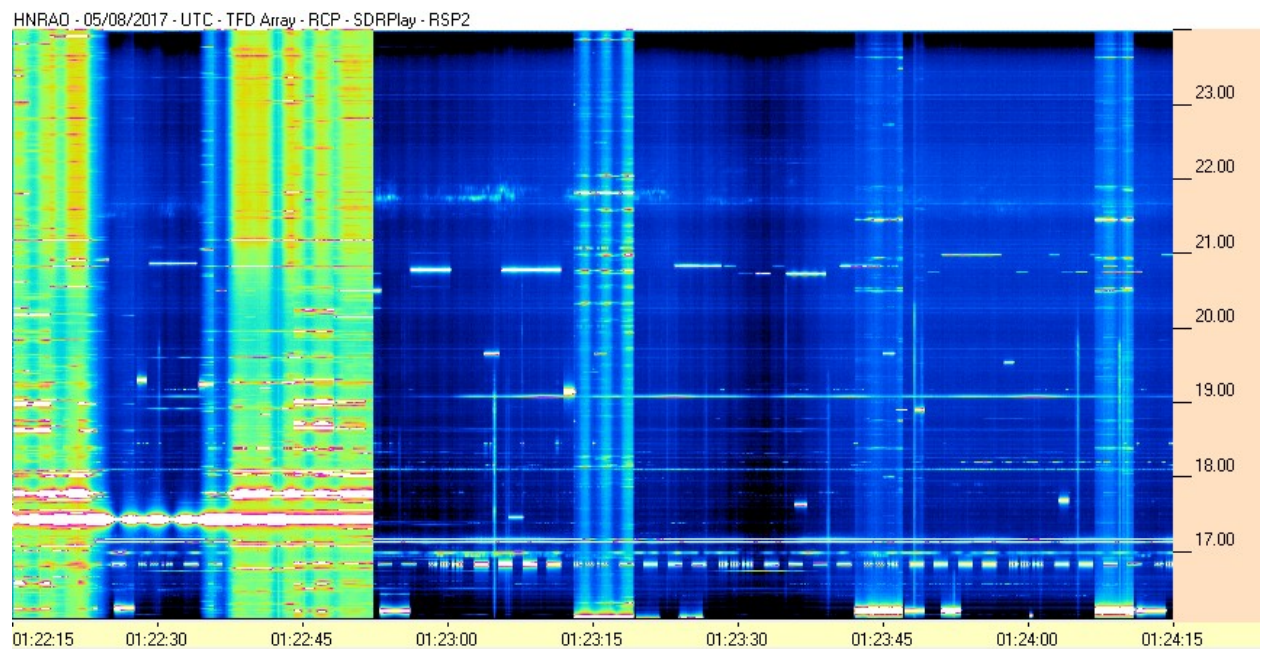
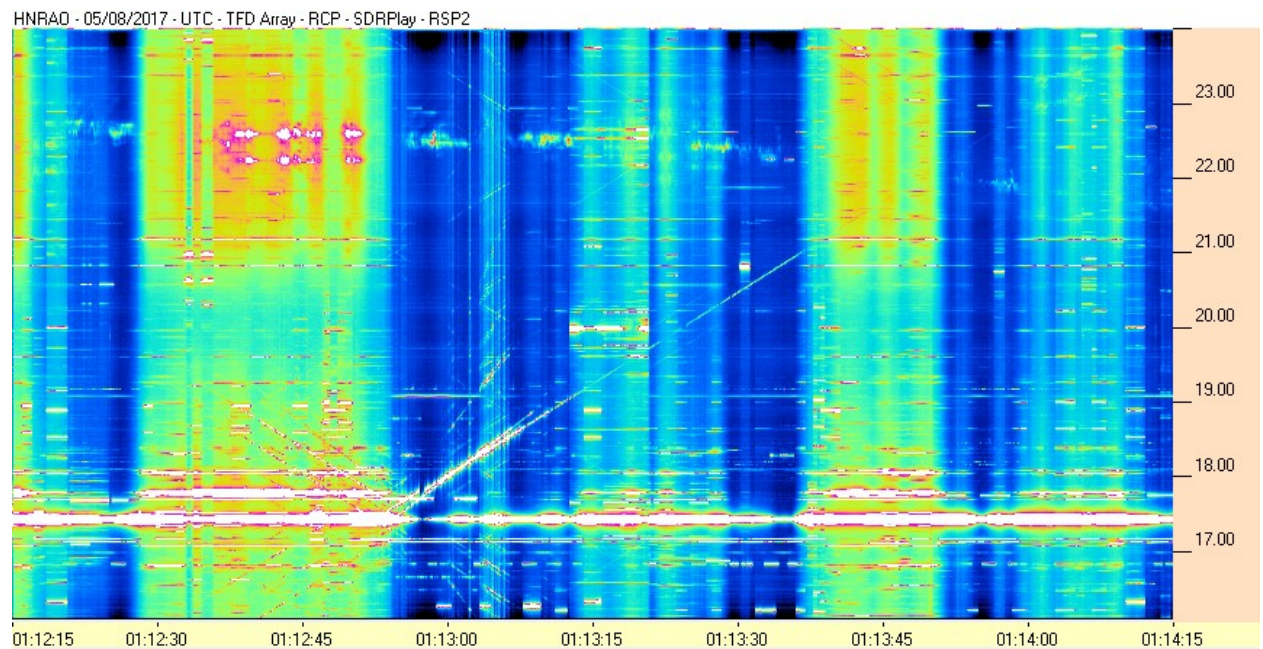
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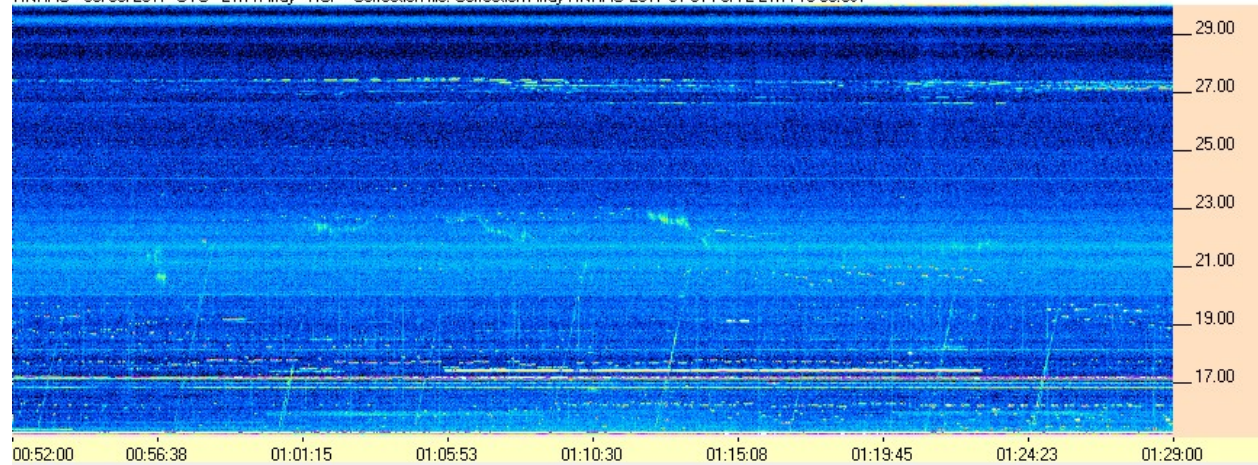


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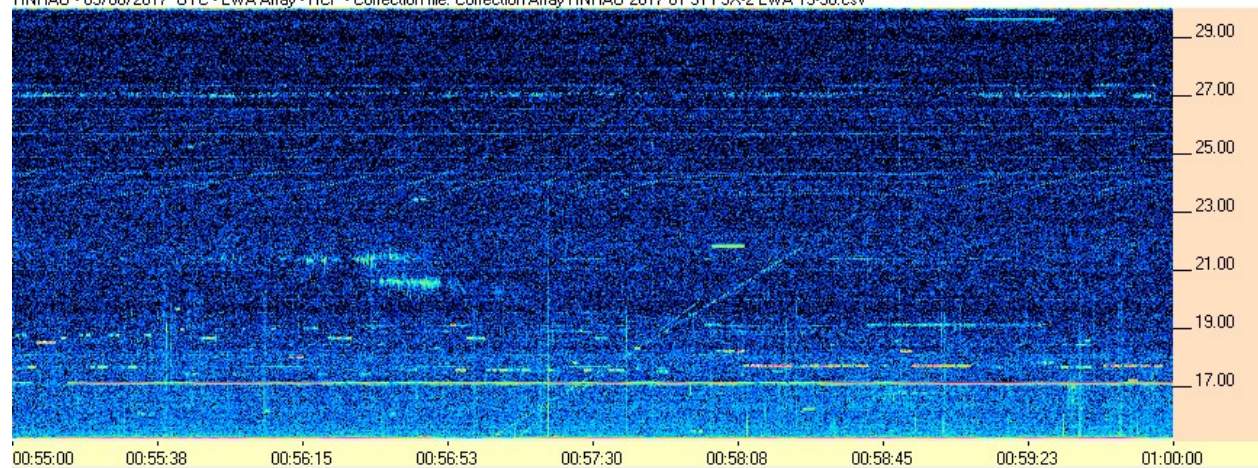


FSX-2/LWA Pair

HNRAO - 05/08/2017 UTC - LWA Array - RCP - Correction file: CorrectionArray HNRAO 2017 01 31 FSX-2 LWA 15-30.csv



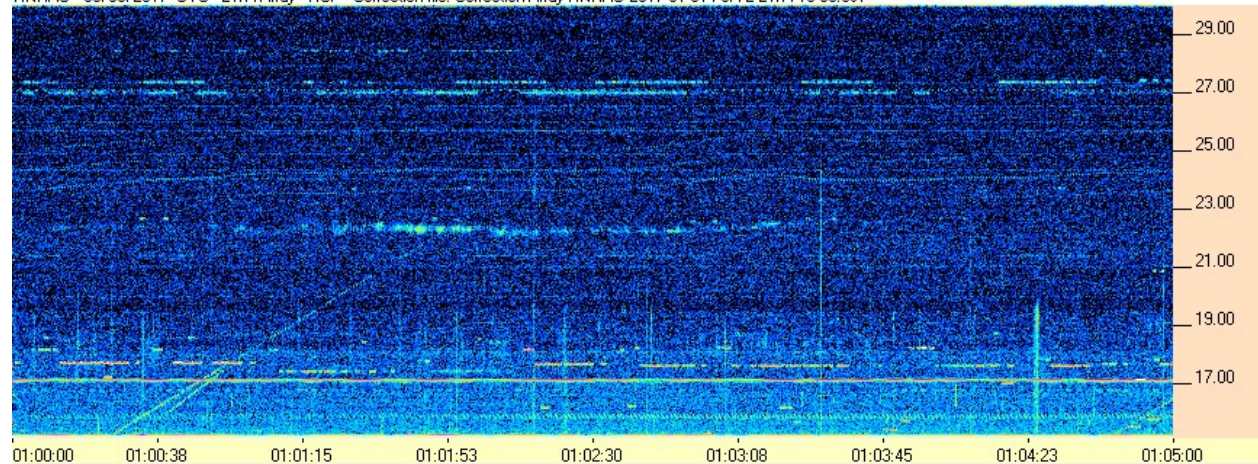
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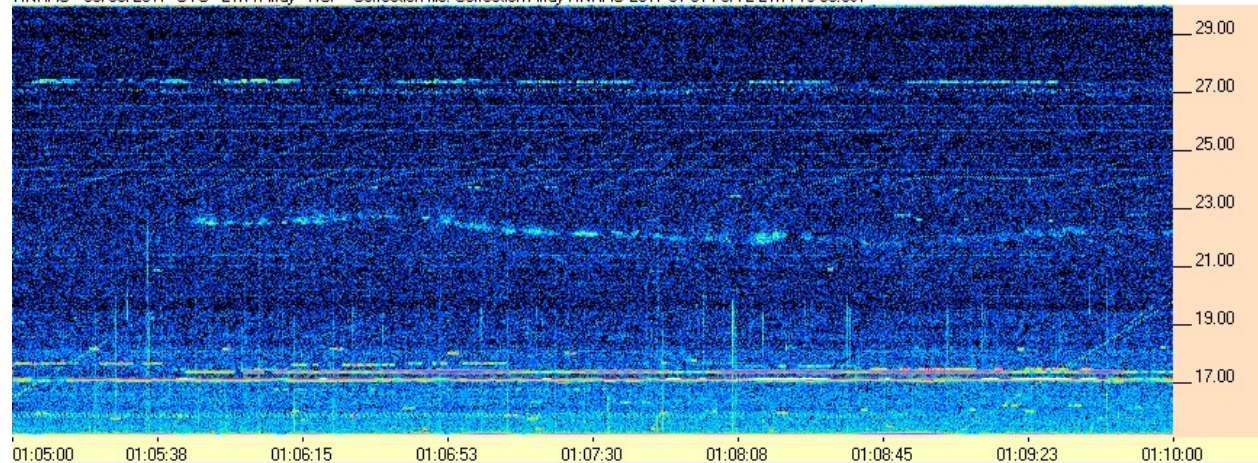
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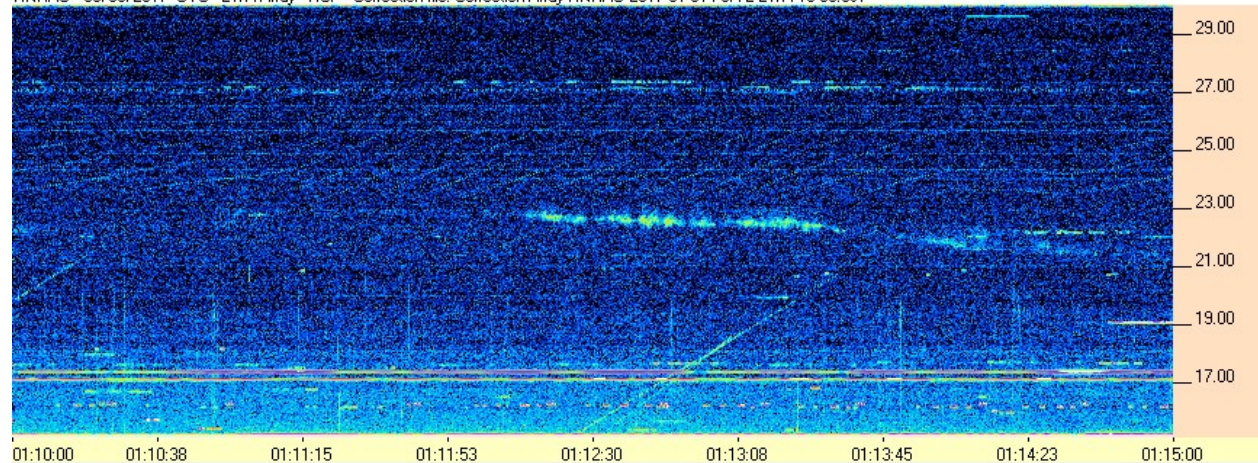
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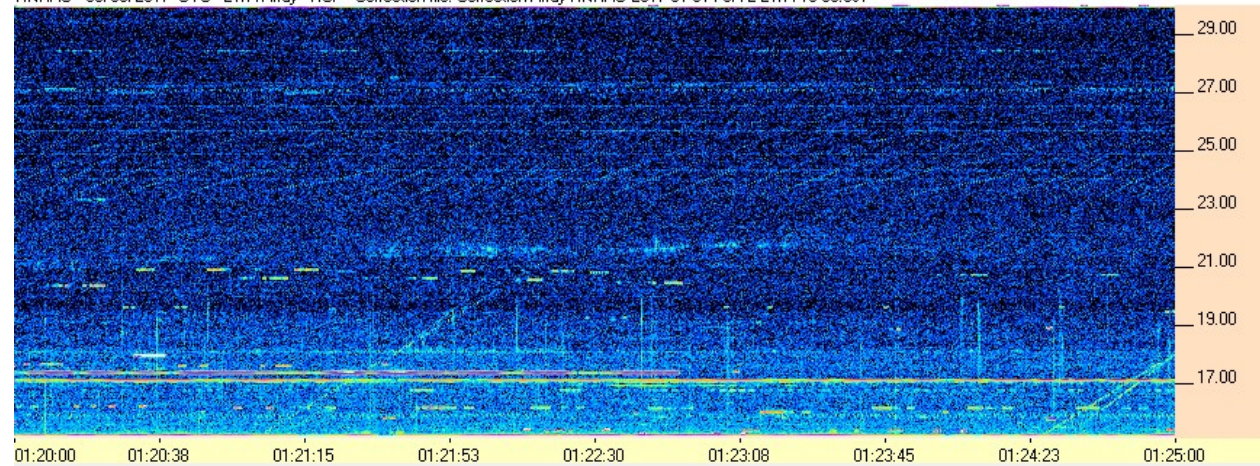
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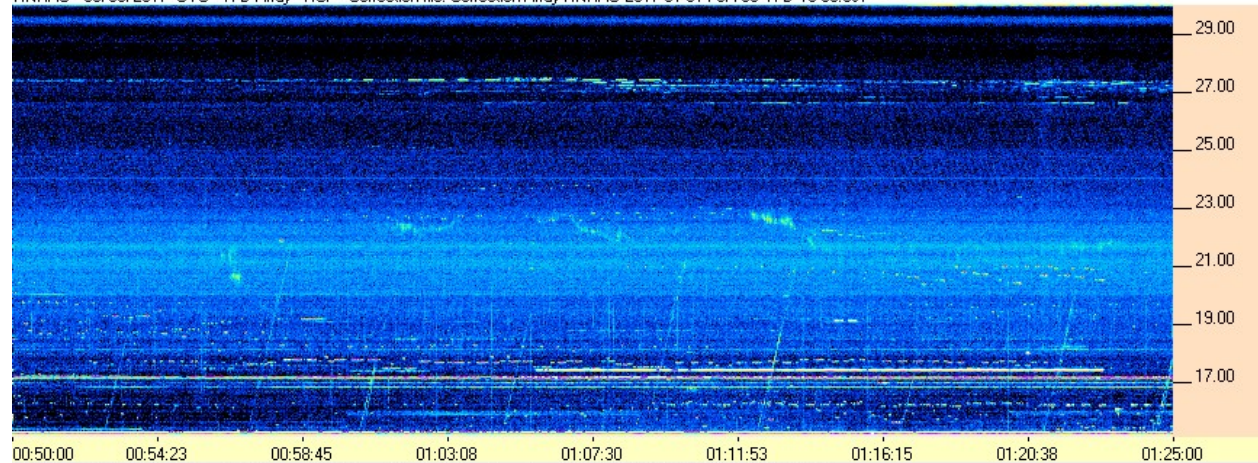


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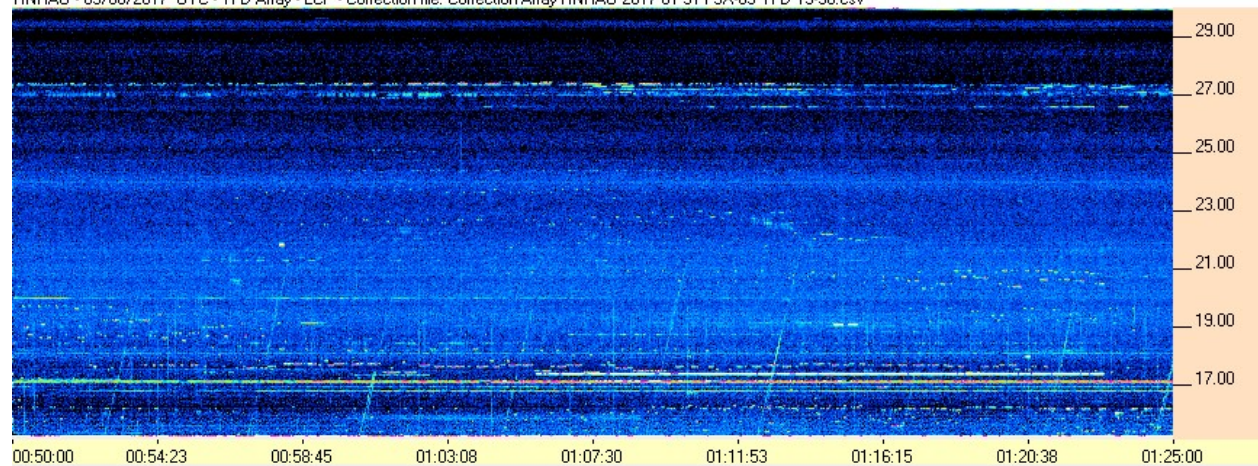


FSX-8S/TFD Pair

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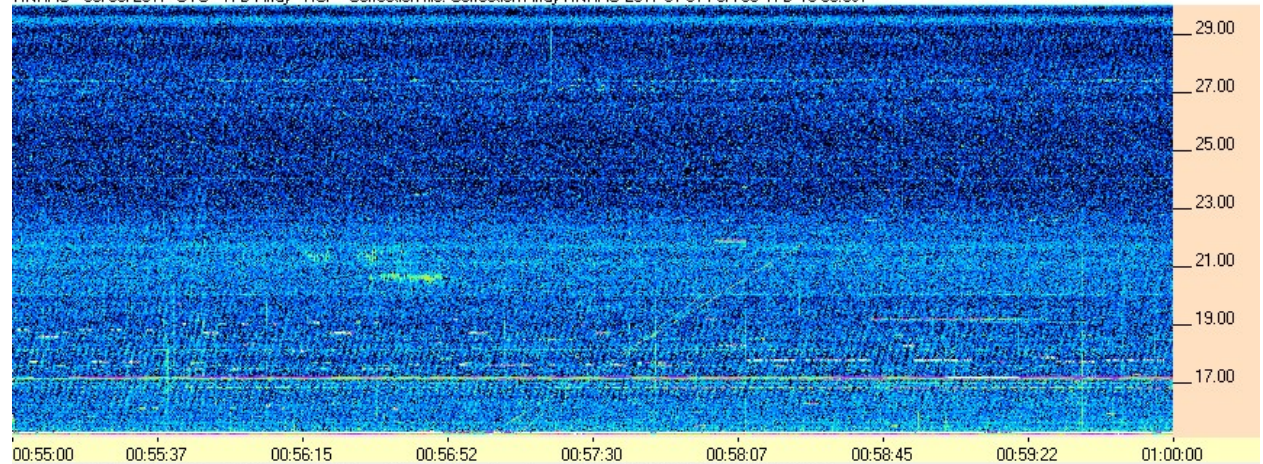
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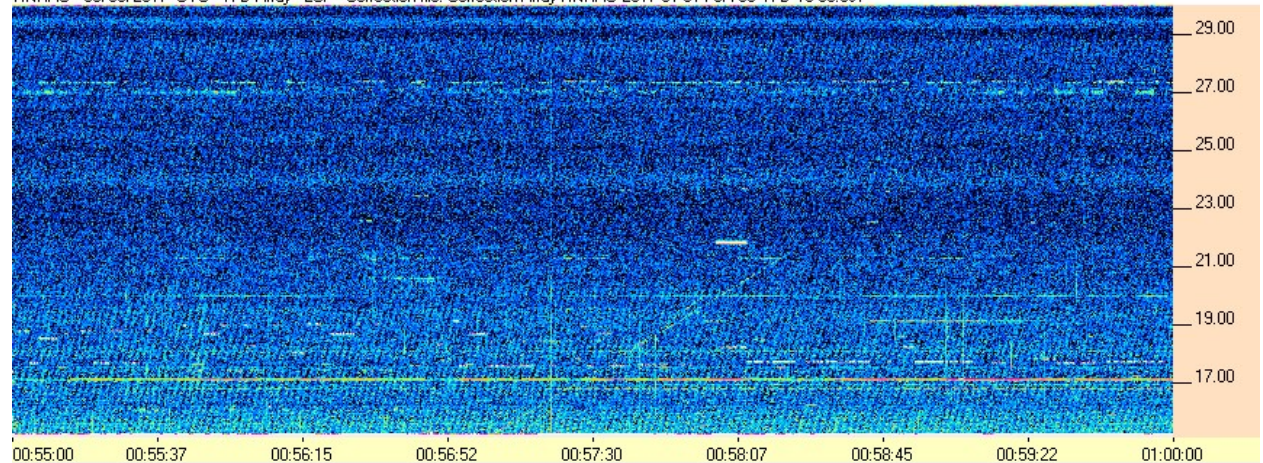
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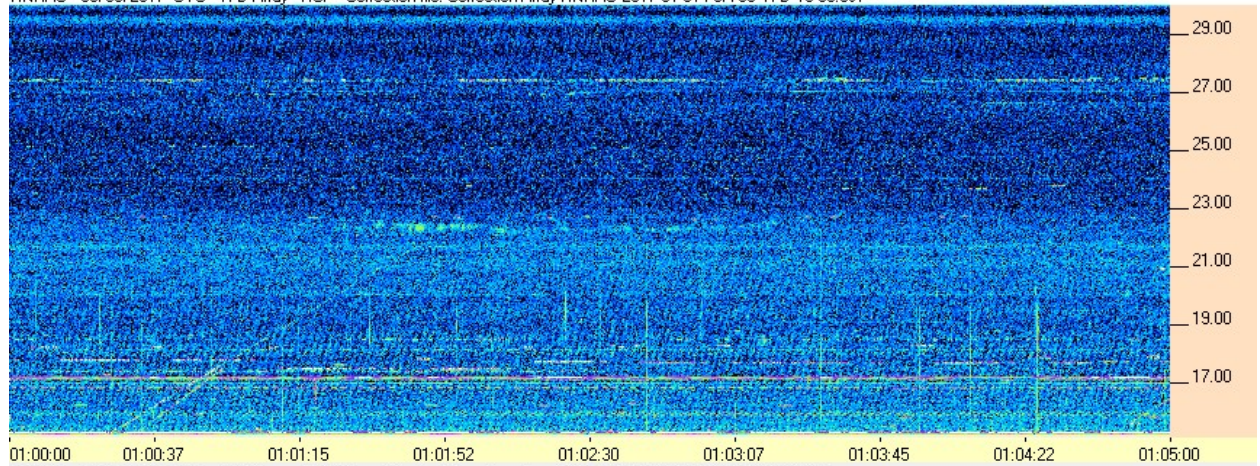
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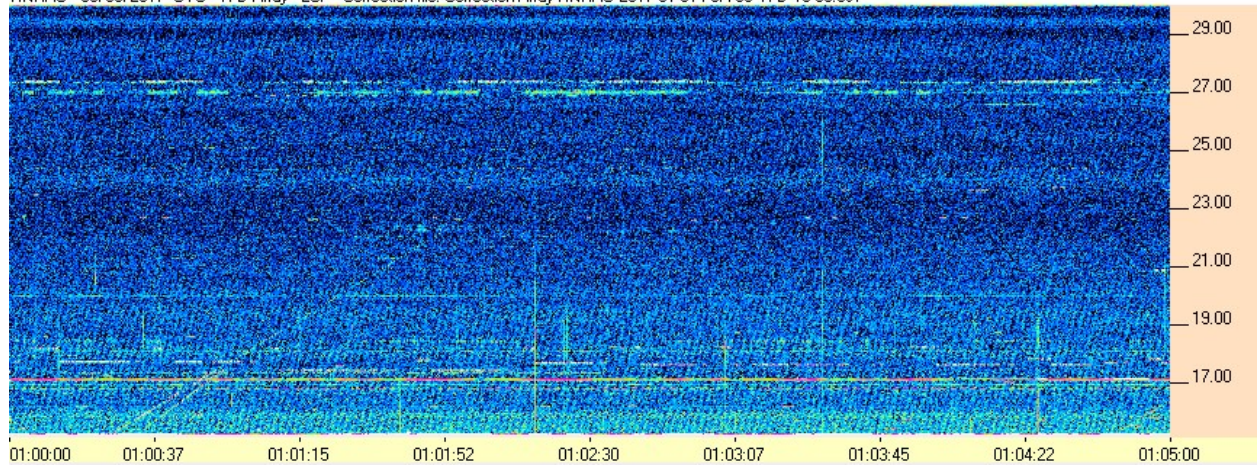
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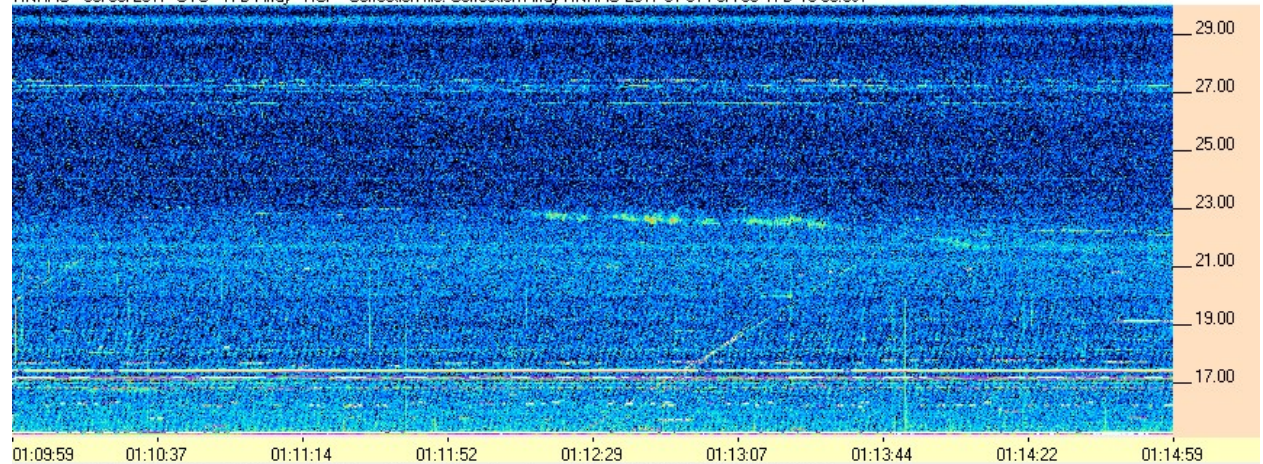
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