HNRAO Observing Log
40.673181 N – 80.437885 W
EN90sq

Date: 9 April 2018

Object: Jupiter – Non-Io-B

Observer: Unattended

Start - Time UT:	**0507**	**Planetary K-index:**	**1**
Jupiter Altitude (deg):	**23.4**	**Jupiter Azimuth (deg):**	**142.4**
Jupiter CML:	**85.87**	**Jupiter Io Phase:**	**045.02**
Jupiter RA (hr/min):	**15:18**	**Jupiter Dec (hr/min):**	**-16:57**
Hour Angle (hr/min):	**-02:32**	**Polarization**	**RCP**
Sun Altitude (deg):	**-42.4**	**Sun Azimuth (deg):**	**356.9**
Sun RA (hr/min):	**01:04**	**Sun Dec (hr/min):**	**06:50**

End – Time UT:	**0736**		
Jupiter Altitude (deg):	**32.3**	**Jupiter Azimuth (deg):**	**181.7**
Jupiter CML:	**175.96**	**Jupiter Io Phase**	**065.97**
Hour Angle (hr/min):	**00:06**		
Sun Altitude (deg):	**-32.6**	**Sun Azimuth (deg):**	**042.4**
Max Frequency MHz	**23**	**Min Frequency MHz**	**16**

Observatory Configuration

Spectrograph Receiver	Antenna	Polarization	System Loss	Multicoupler	Multicoupler port	Calibrated
FSX-8S	TFD	RCP LCP	-7.95 dB -7.95 dB	#2 RCP #1 LCP	Port 1 +10dB Port 1 +10dB	Twice daily Twice daily
FSX-2	LWA	RCP/LCP manual select		N/A	N/A	N/A
SDRPlay RSP2	TFD	RCP	-7.95 dB	#2 RCP	Port 2 +3dB	Twice daily
SDRPlay RSP2	TFD	LCP	-7.95 dB	#1 LCP	Port 2 +3dB	Twice daily
JOVE 1	TFD	RCP	-7.95 dB	#2 RCP	Port 3 +3 dB	03/08/2018
JOVE 1	TFD	LCP	-7.95 dB	#1 LCP	Port 3 +3 dB	03/08/2018
JOVE II	Jove dipoles	Linear	-3.12 dB	#3 Linear	Port 4 +3 dB	02/20/2018
SDRPlay RSP1	Experimental*					

JOVE dipoles phased @ 32 degrees for 2017-2018 season
TFD array phased @ 35 degrees for 2017-2018 season
LWA antenna phased @ 35 degrees and orientation for observation: 45 degrees
* Used for testing and evaluating antenna systems
Software Radio Sky Spectrograph 2.8.50

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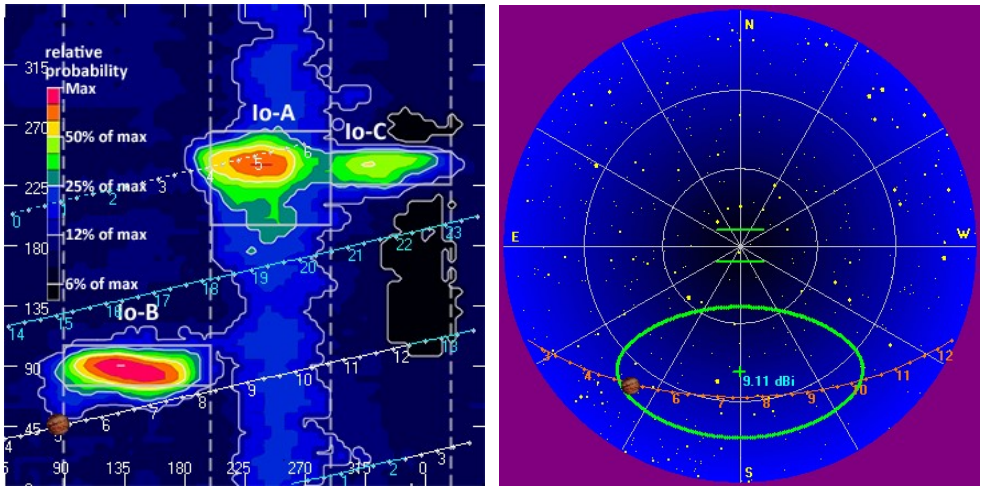
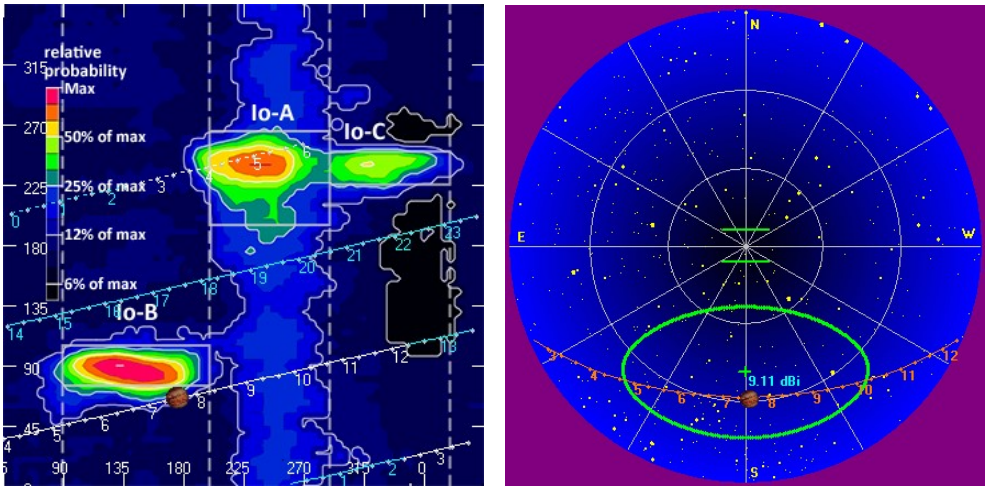


Beginning of Pass



End of Pass

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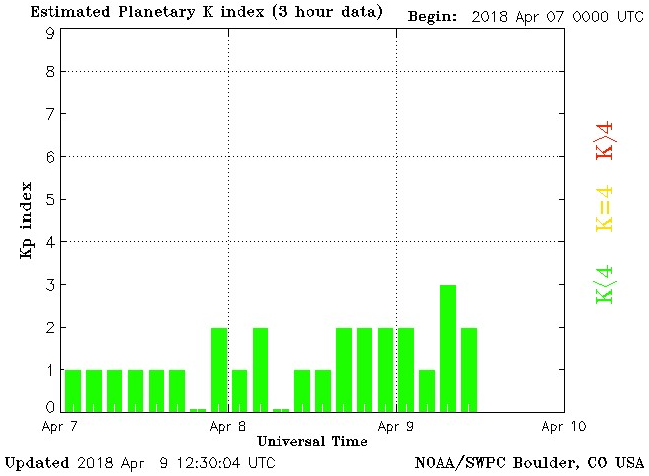
MODE	CML RANGE	Io RANGE	MAX F	POLAR	ARC	NOTES
Io-D	0-200	95-130	18	LH	Early	Also called "fourth source"
Io-B	(105 - 185)	(80-110)	39.5	RH	Early	Also called "early source"
non Io-B	80-200	0-360	38	RH	Early	Voyager info
Io-A	(200-270)	(205-260)	38	RH	Late	Also called "main source"
non-Io-A	(230-280)	0-360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

Modulation Lanes Designations*	
L - Burst	S-Burst
L1 – No lanes	S1 – No lanes
L2 - Positive slope	S2 – Positive slope
L3 - Cross hatched	S3 – Cross hatched
L4 – Negative slope	S4 – Negative slope
*Modulation Lanes in the Dynamic Spectra of Jovian L-bursts, J.J. Riihimaa, Astron. & Astrophys. 4, 1970	



A Non-Io-B storm with emissions barely above the GB. L-bursts spanning 16 MHz to 23 MHz for the duration of the storm with the last few minutes with S-bursts. Both L2 and S2 modulation lanes observed and measured.

Nothing strong enough at 20 MHz for a SkyPipe record.

Nothing else of note.

EOR

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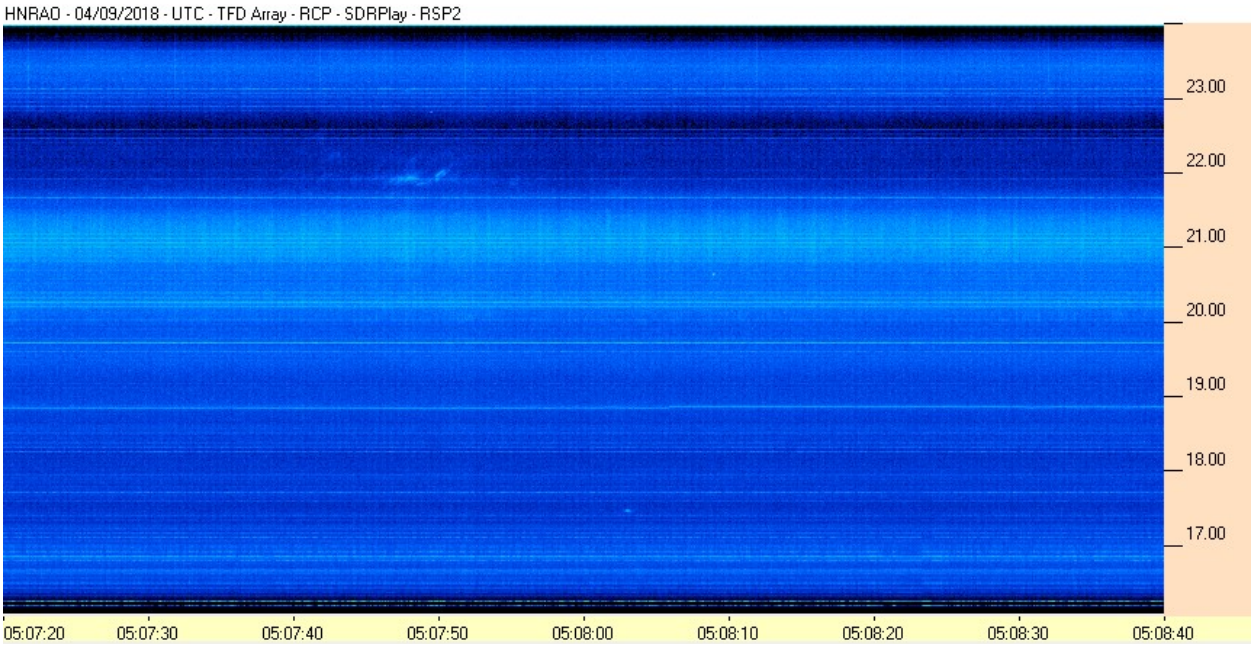
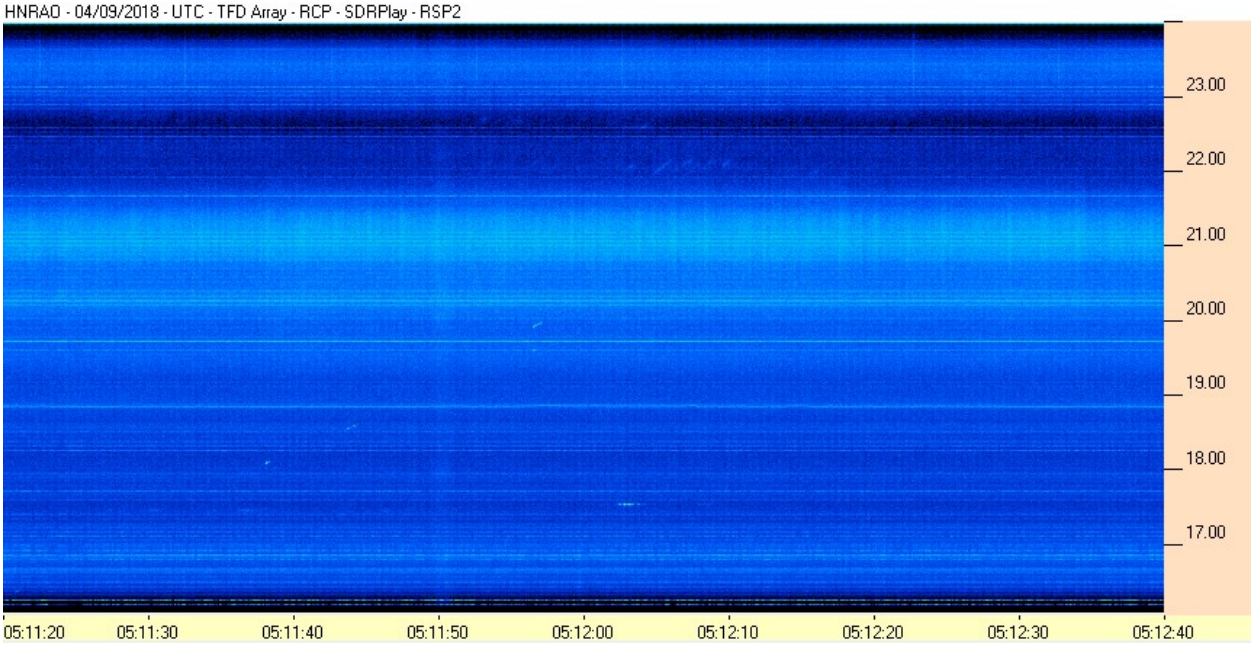
SDRPlay RSP2 / TFD Array





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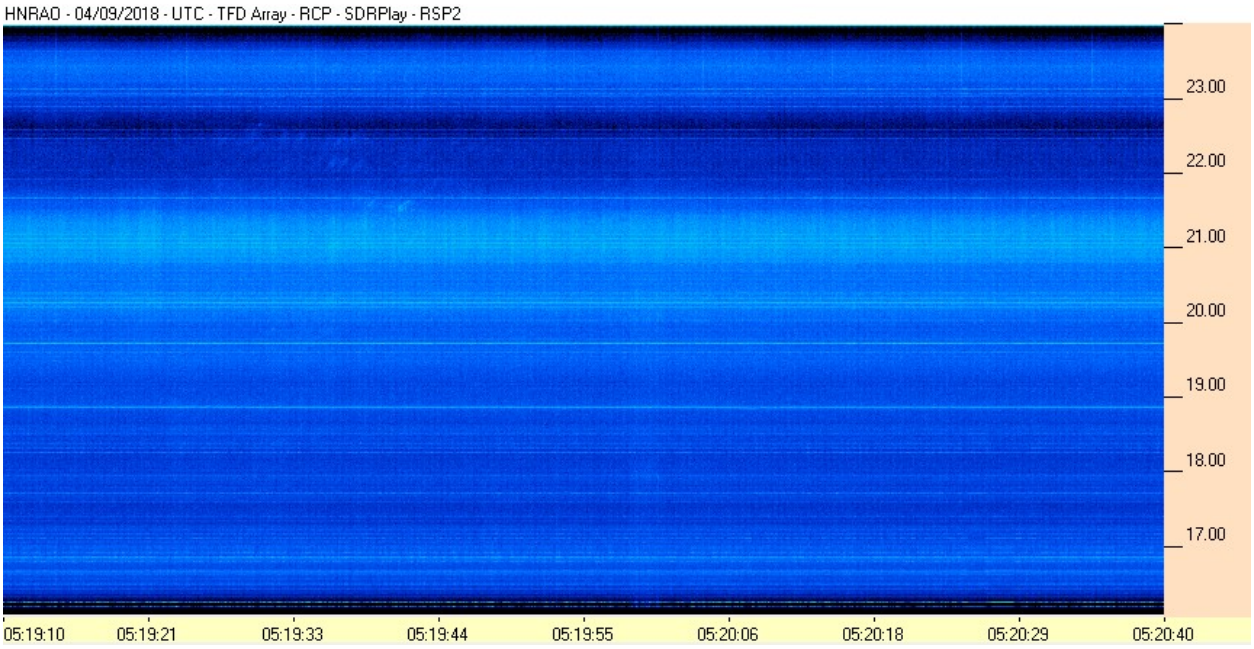

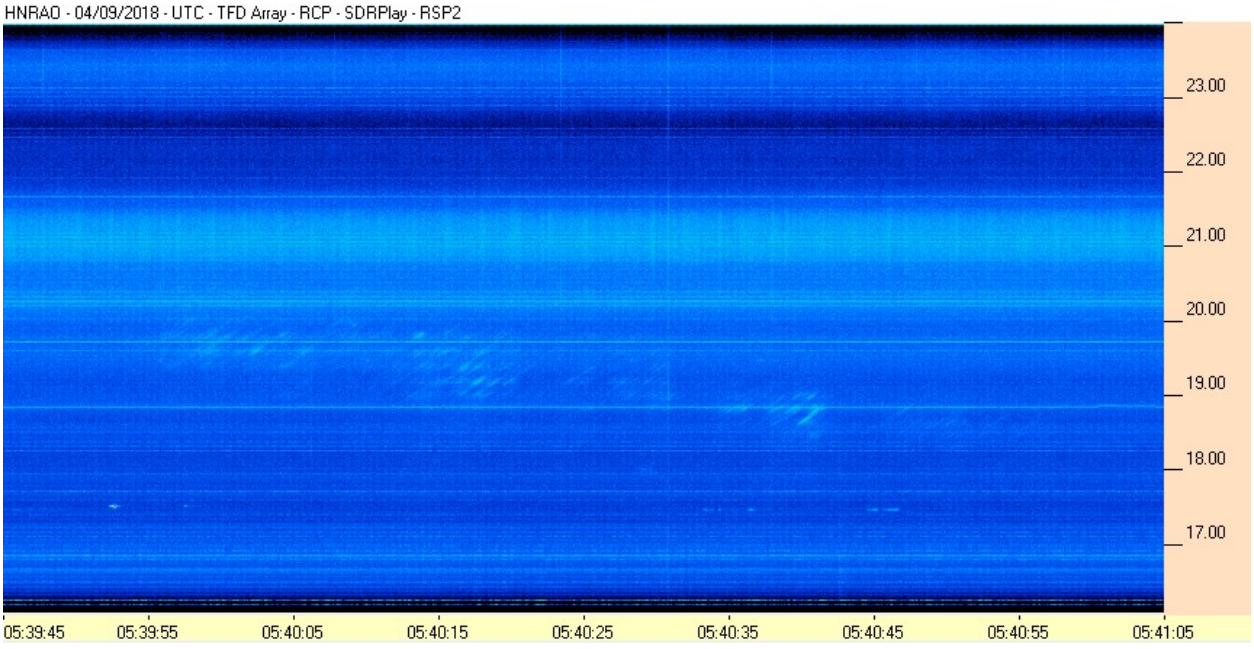

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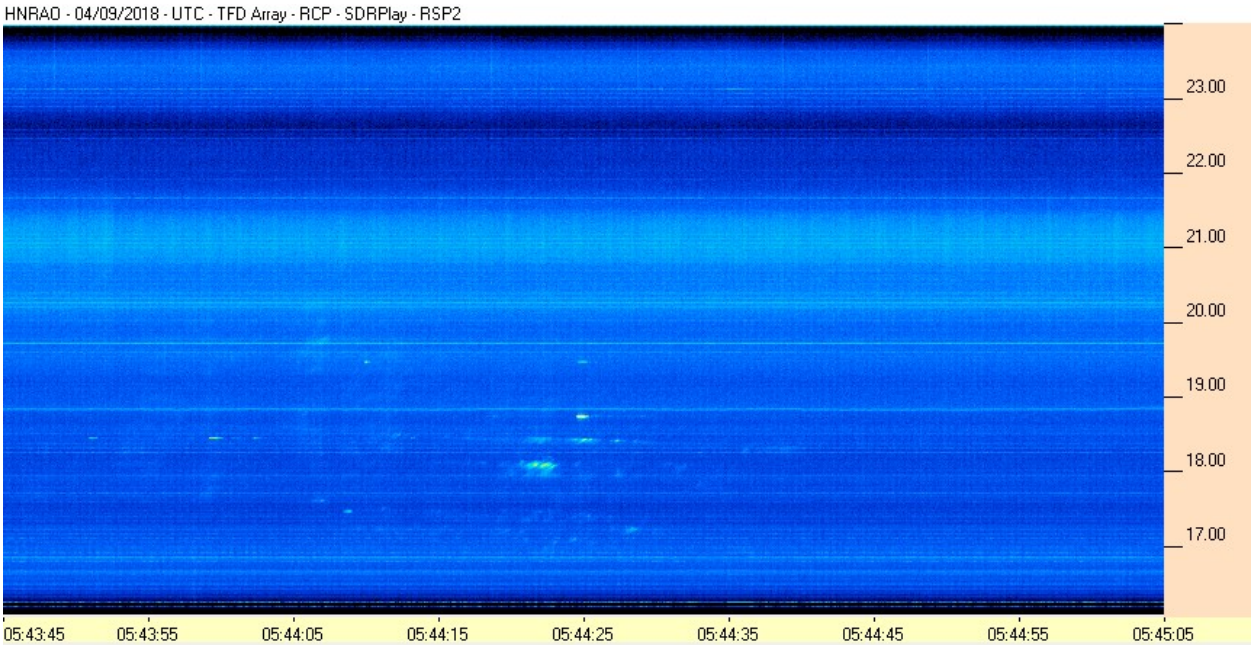

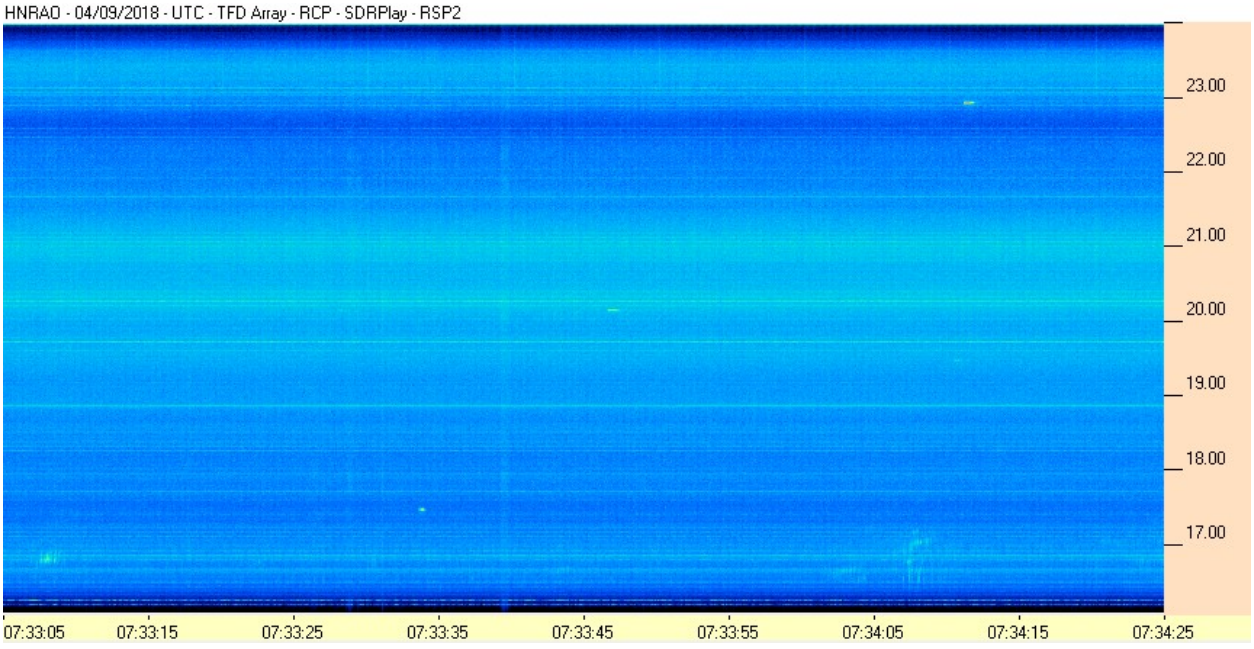

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