

Subject: [radiojove-data] 04 Nov 2015 Radio blackout and pretty Type II solar

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To: RadioJove-Data <radiojove-data@lists.nasa.gov>

Here's a pack of solar emission from early morning on Wednesday.

From NOAA SWPC, we have an M3.7 X-ray flare causing a shallow radio blackout for about half an hour, within which is visible a very pretty Type II (slow drift) solar burst.

#Event	Begin	Max	End	Obs	Q	Type	Loc/Frq	Particulars	Reg#
#-----									
2340 +	1331	1352	1413	G15	5	XRA	1-8A	M3.7 5.9E-02	2443
2340 +	1343	/////	1358	SAG	C	RSP	048-180	II/2 955	2443

The sun was too low to the horizon to put too much faith in the slight LCP polarization dominance seen by the TFD array, but there it is anyway.

Jupiter may have been right on axis at 1352 UTC, but any Jovian emission was surely blasted to smithereens by the Sun.

Which brings up a good question: how can we tell this isn't Jovian emission?

One answer is that Jovian emission is almost always quite polarized, either strongly RCP or strongly LCP. This emission shows up pretty much equally in both polarizations, meaning the emission is not polarized. Jovian decametric emission just doesn't do that.

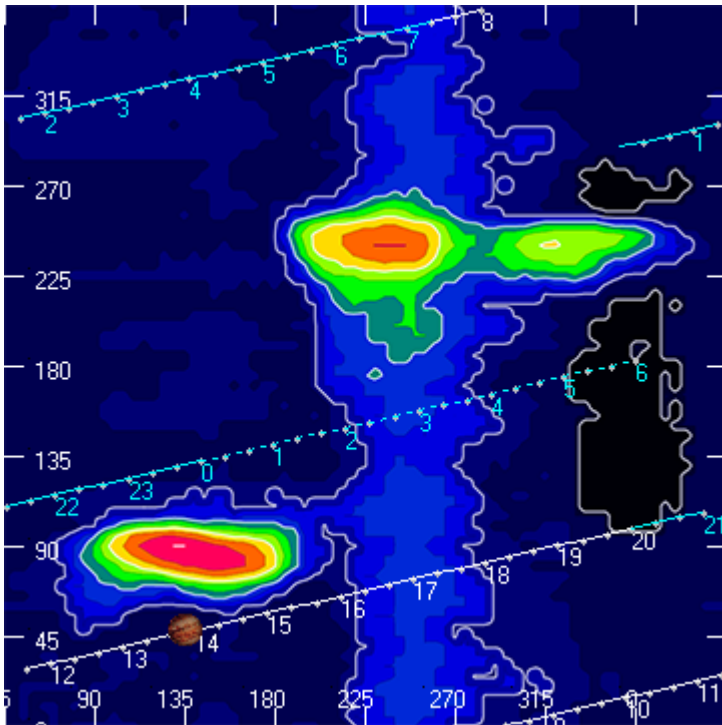
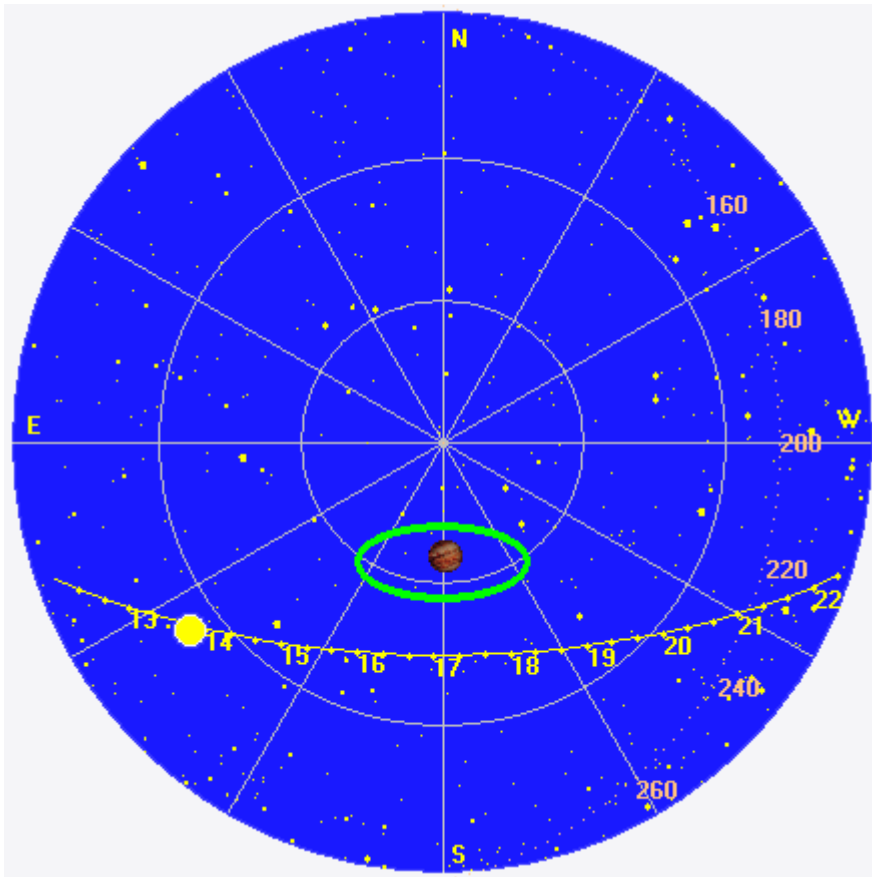
Secondly, the Jupiter-Io-Earth geometry was not in an Io-controlled emission area of the phase plane (the brighter areas). In this case it was a bit below the Io-B zone. I don't think anyone has ever seen non-Io-controlled emission anywhere near this hot. Io-B can produce some hot L bursting, but even then, this would be way Way WAY at the right hand side of the flux density bell curve.

Finally, a somewhat less useful answer is that it just doesn't look like Jovian emission. There's no visible organized drift to the emission over the 16 to 32 MHz range (such disorganization is typical of Type II solar bursts, which is what makes them so pretty) and there are no modulation lanes visible, which we'd almost surely see with Jupiter L-bursting /this/ strong.

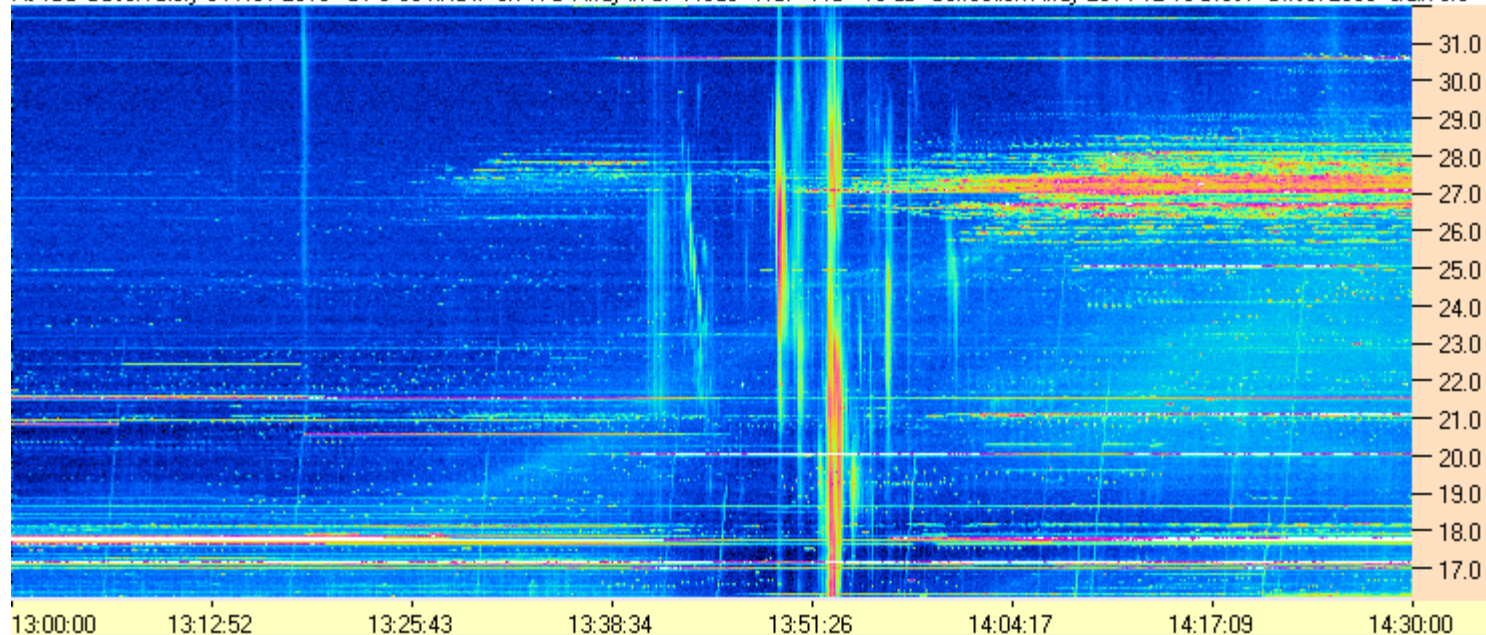
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Dave

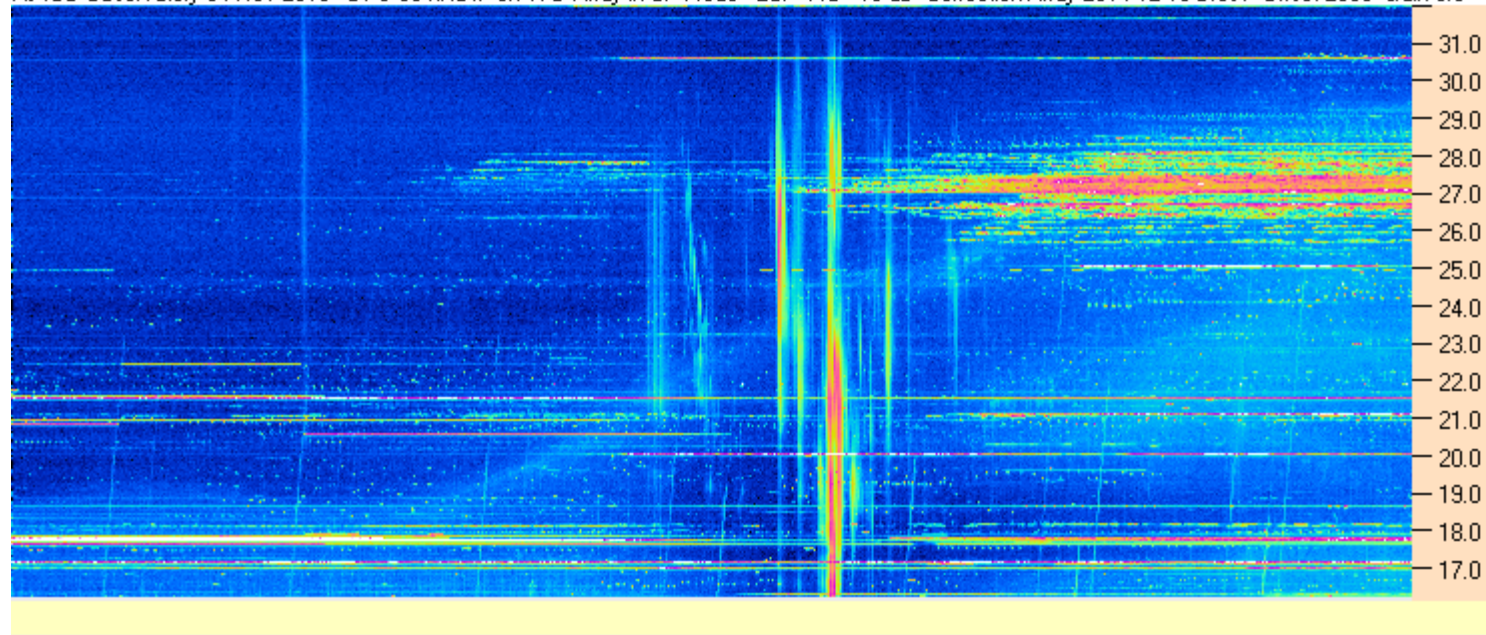
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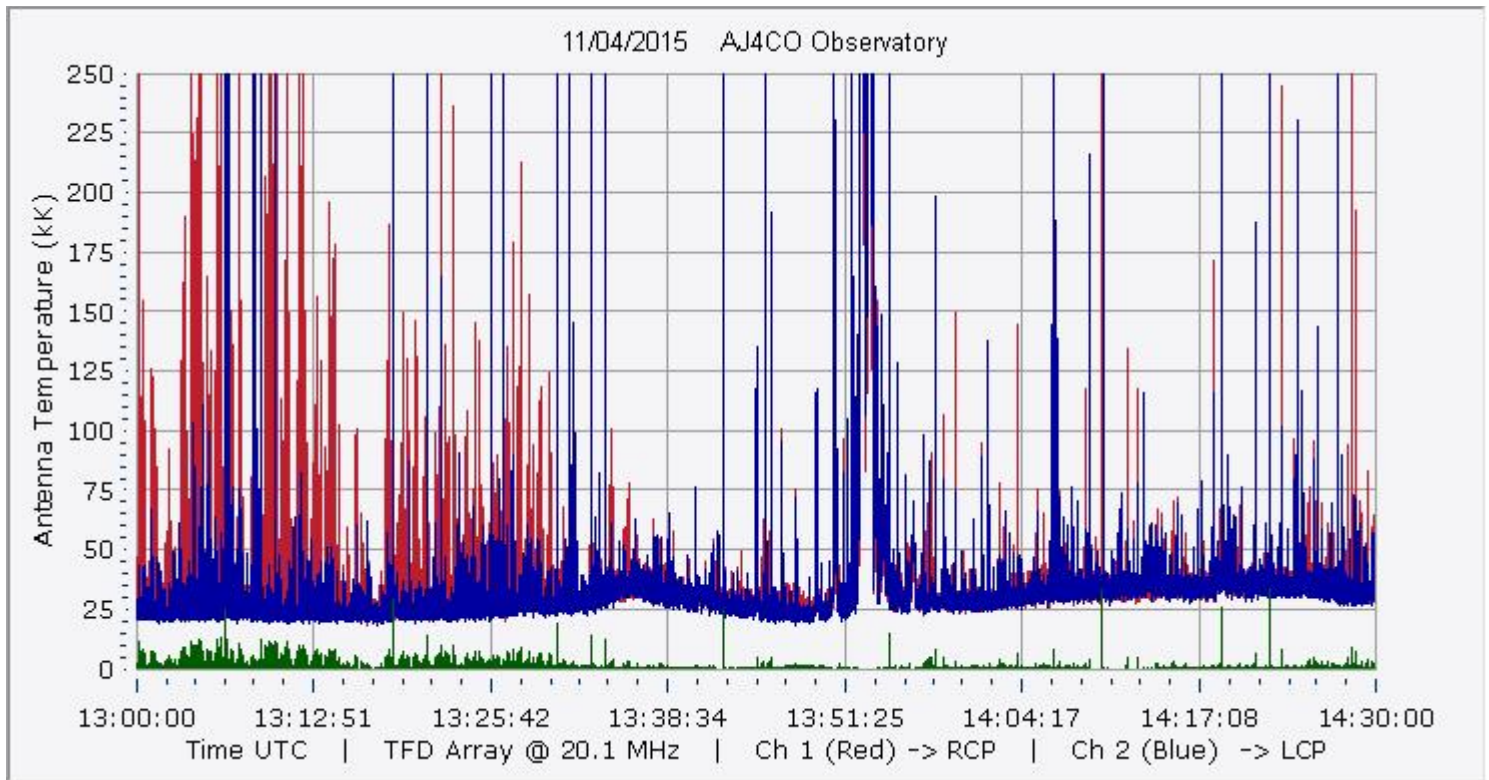


AJ4CO Observatory 04 Nov 2015 - DPS 30 kHz IF on TFD Array in CP Mode - RCP MC +13 dB Correction Array 2014 12 18 B.csv Offset 2050 Gain 3.0

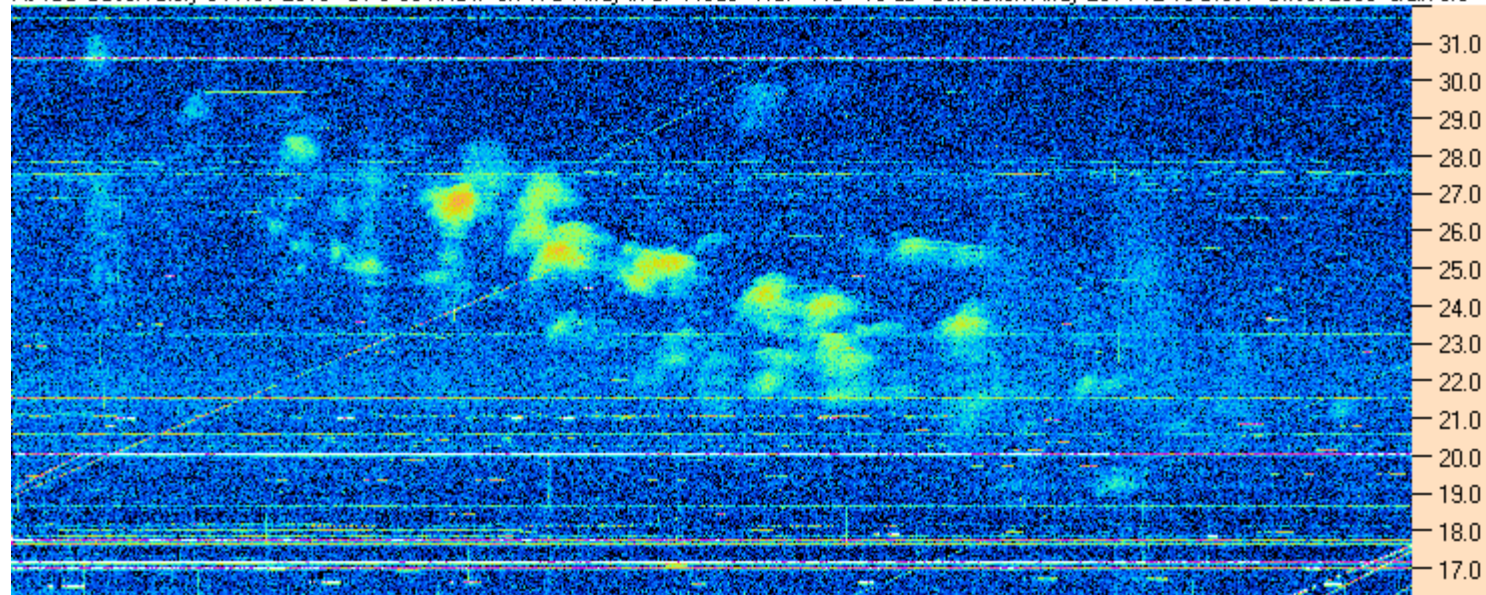


AJ4CO Observatory 04 Nov 2015 - DPS 30 kHz IF on TFD Array in CP Mode - LCP MC +13 dB Correction Array 2014 12 18 B.csv Offset 2050 Gain 3.0





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13:42:19 13:42:46 13:43:14 13:43:41 13:44:09 13:44:36 13:45:03 13:45:31

AJ4CO Observatory 04 Nov 2015 - DPS 30 kHz IF on TFD Array in CP Mode - LCP MC +13 dB Correction Array 2014 12 18 B.csv Offset 2050 Gain 3.0

