Subject: [radiojove-data] 28 Mar 2014 Io-B - AJ4CO + Nancay
From: Dave Typinski <davetyp@typnet.net>
Date: 03/29/2014 23:25
To: RadioJove-Data <radiojove-data@lists.nasa.gov>

Here's some brief Io-B from Friday evening. The only way I knew this was Io-B was from looking at the Nancay data thanks to an email notice from Victor. The emission probably wasn't that weak, but as seen behind the daytime ionosphere with a boatload of CB radio emissions and radar sweepers, it's not easy to see. Unless you have acres of TP's like Nancay.

I don't know what Nancay claims the gain is on each 96 TP array; but, to first approximation, if each TP has 4 dBi gain, then 96 of 'em will be:
4 dBi + 3 * log_base2(96) = 24 dBi. The TFD Array, on the other hand, has only about 12 dBi gain.

This pass was kind of low on Nancay's westward horizon, which is why they don't show strong polarization discrimination and do show a little bit of Faraday banding. The TP antennas act increasingly like linear antennas as the source's zenith distance increases. The circular polarization derived from the orthogonal elements of the TFD Array suffers from a different effect at high zenith distances, but the result is the same: Faraday banding and poor polarization discrimination.

Of course, Nancay saw the whole thing. I'd sure like to know what method they use to flatten their galactic background.

The TFD array, well, that didn't see so much. This is what one gets for having only 8 array elements instead of 192. The Sun being 20° above the horizon didn't help either, nor did Jupiter being 30° off axis -- so I'm happy just to have observed any emission at all.

L bursting from 21 to 26 MHz (Nancay saw it 19 to 32 MHz), RCP, modulation lanes with negative drift.

Jupiter was 27° off axis in Florida. I don't know where Nancay's beam was pointing, or what the HPBW was at that steering. Their "pointage" records don't have any explanation of how to read them and my email requests for info haven't been fruitful.

Jupiter was trailing the Sun by 93°.
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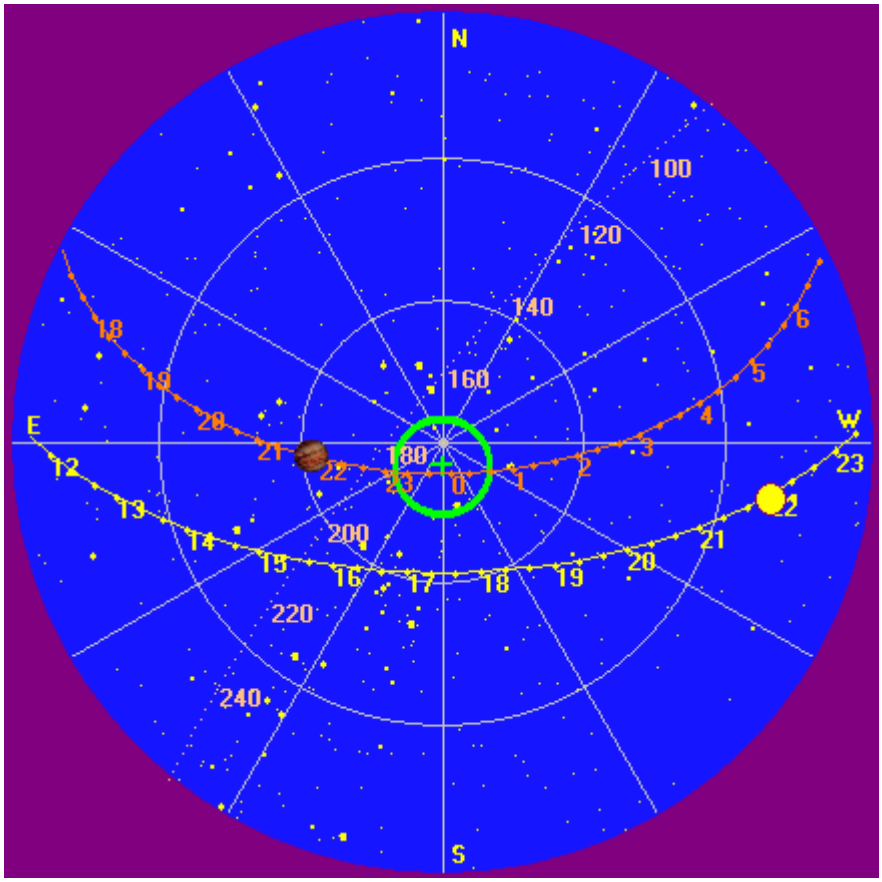
Dave

AJ4CO Observatory + Nancay, 28 Mar 2014

AJ4CO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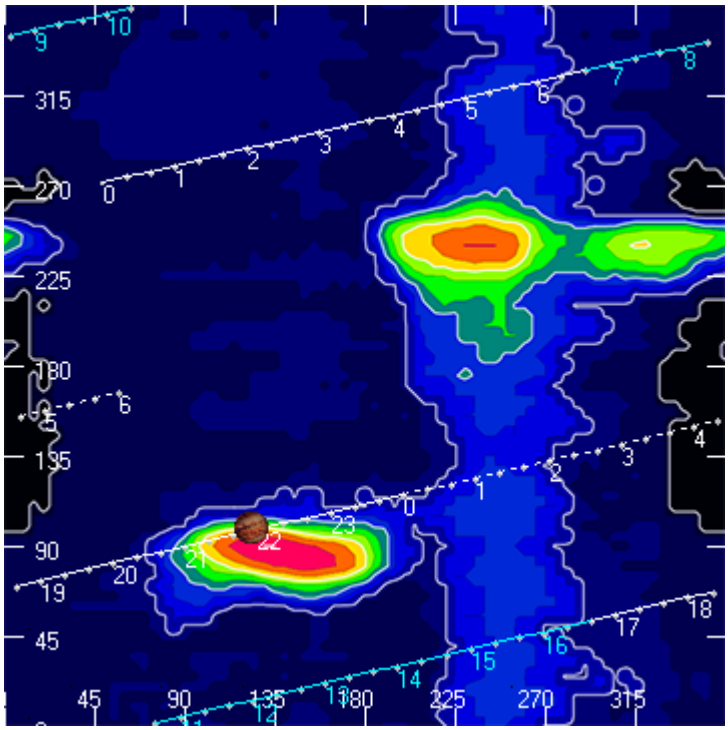
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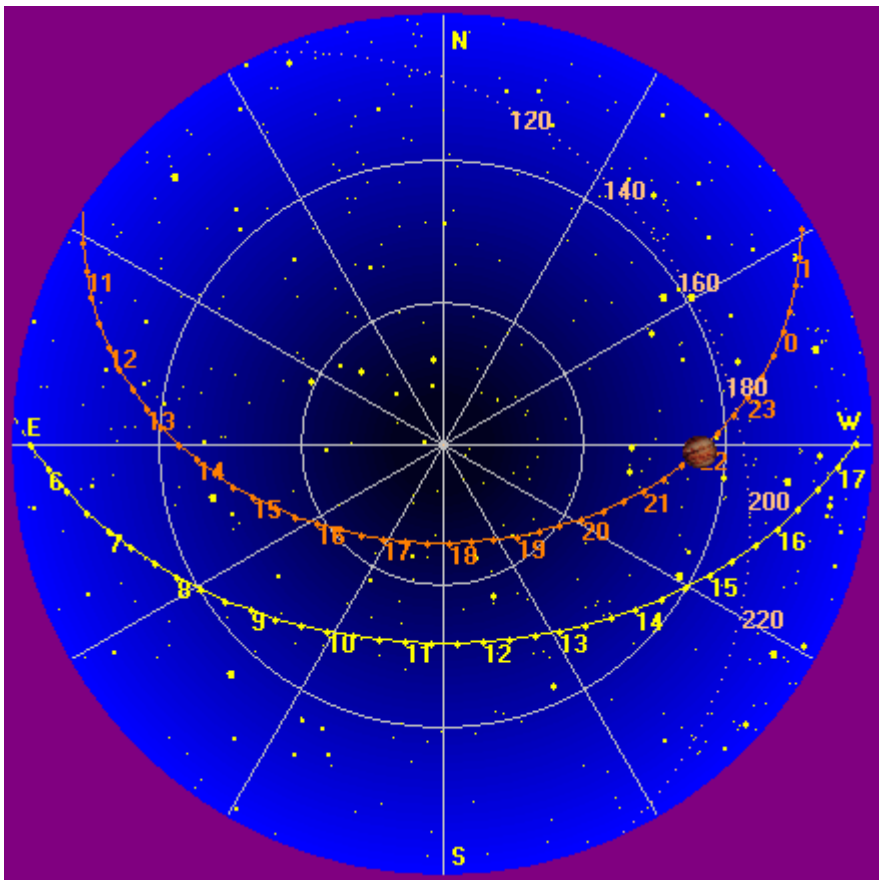
Nancay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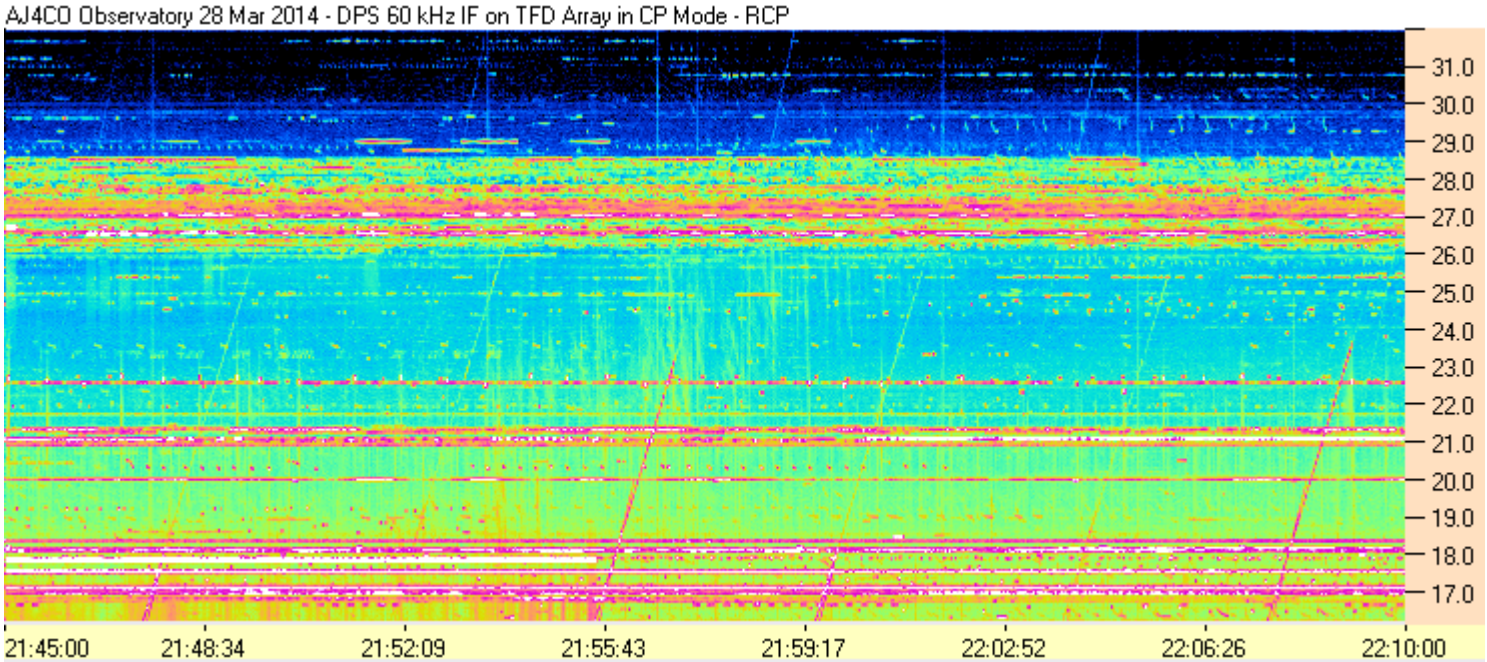
AJ4CO Observatory 28 Mar 2014 - DPS 60 kHz IF on TFD Array in CP Mode - RCP
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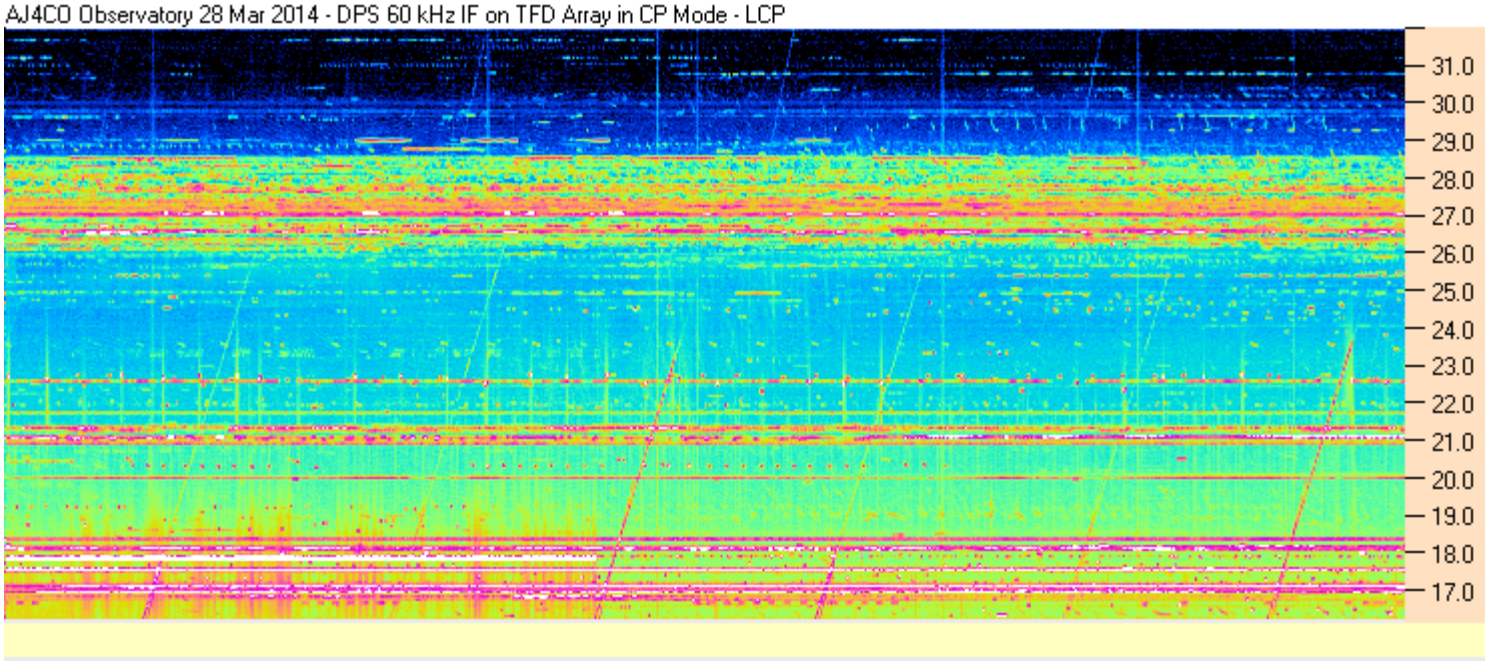
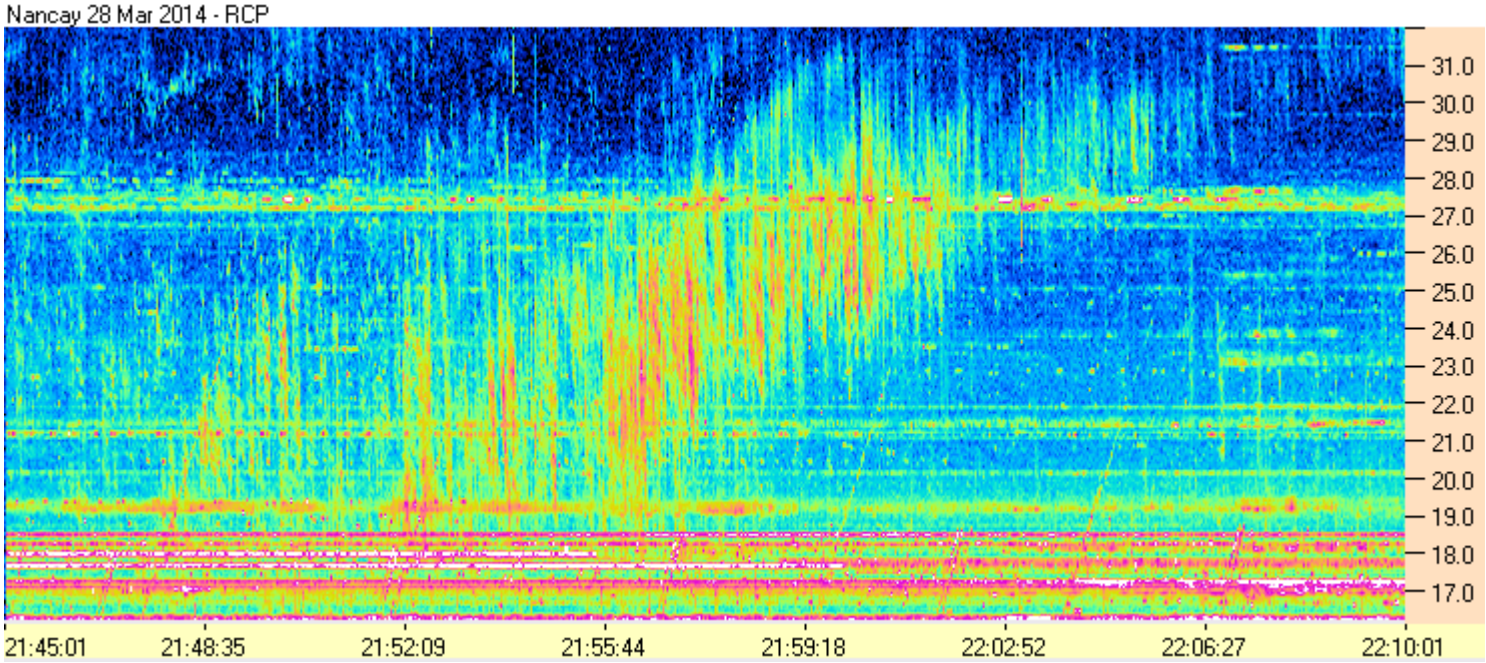
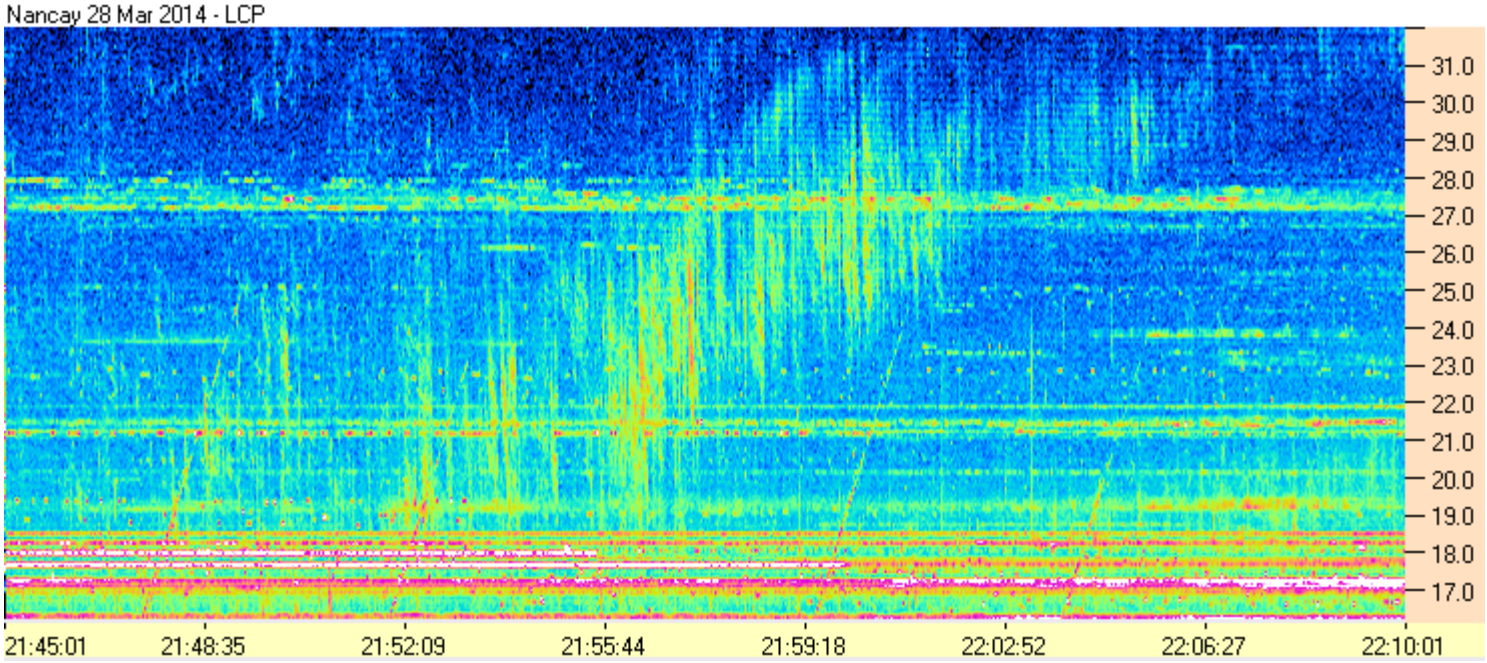
AJ4CO Observatory 28 Mar 2014 - DPS 60 kHz IF on TFD Array in CP Mode - LCP



Nancay 28 Mar 2014 - RCP



Nancay 28 Mar 2014 - LCP



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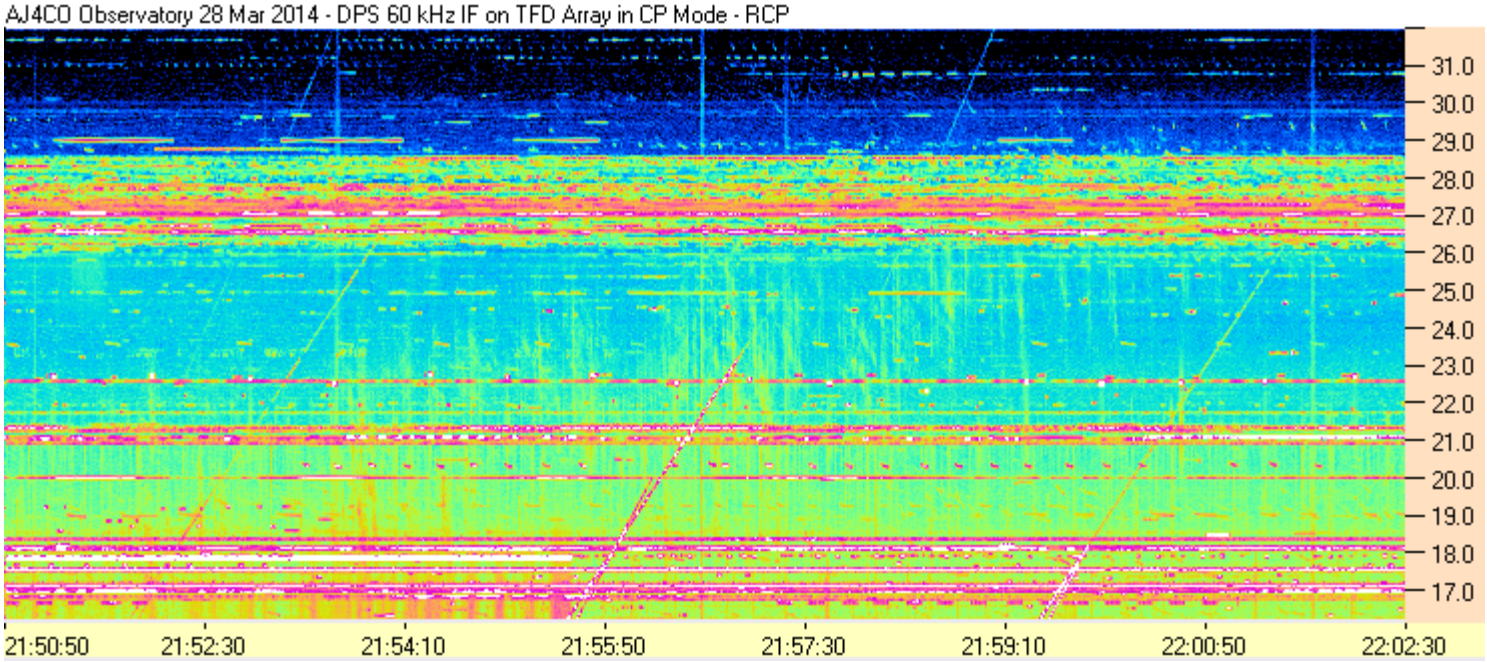

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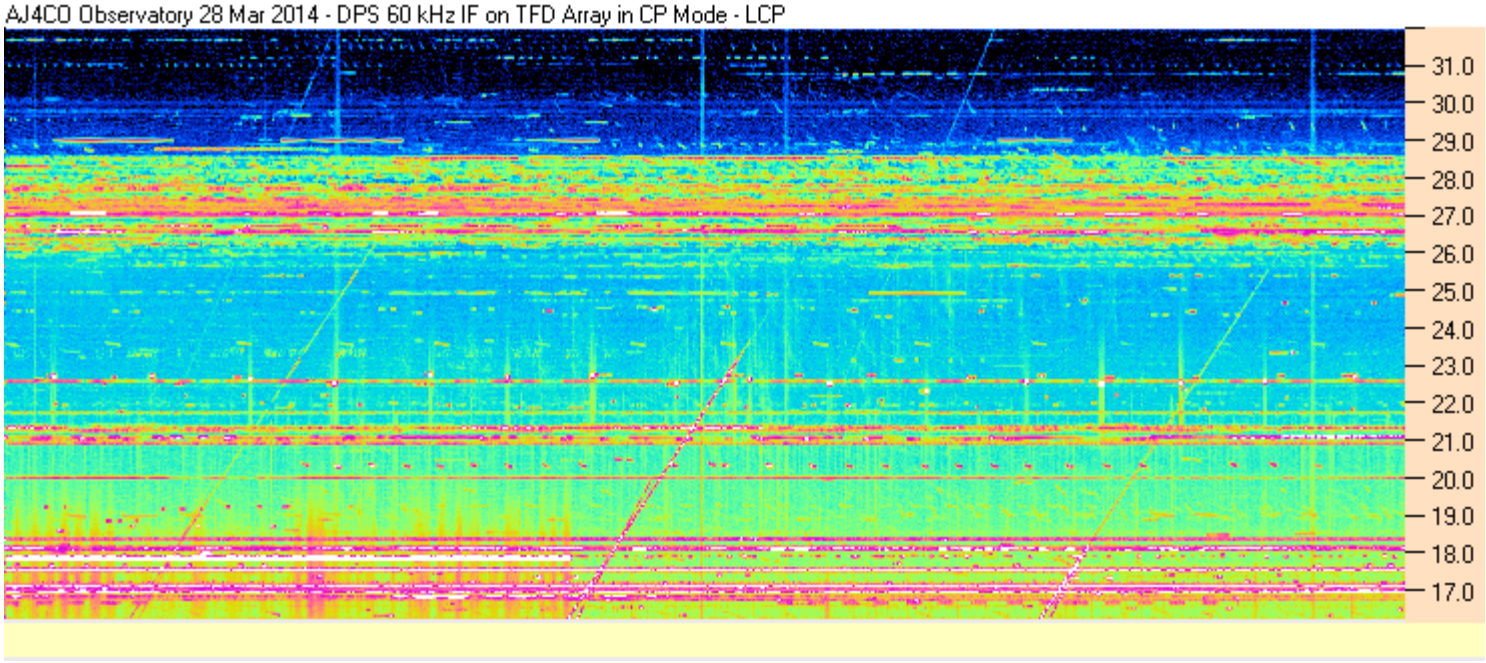
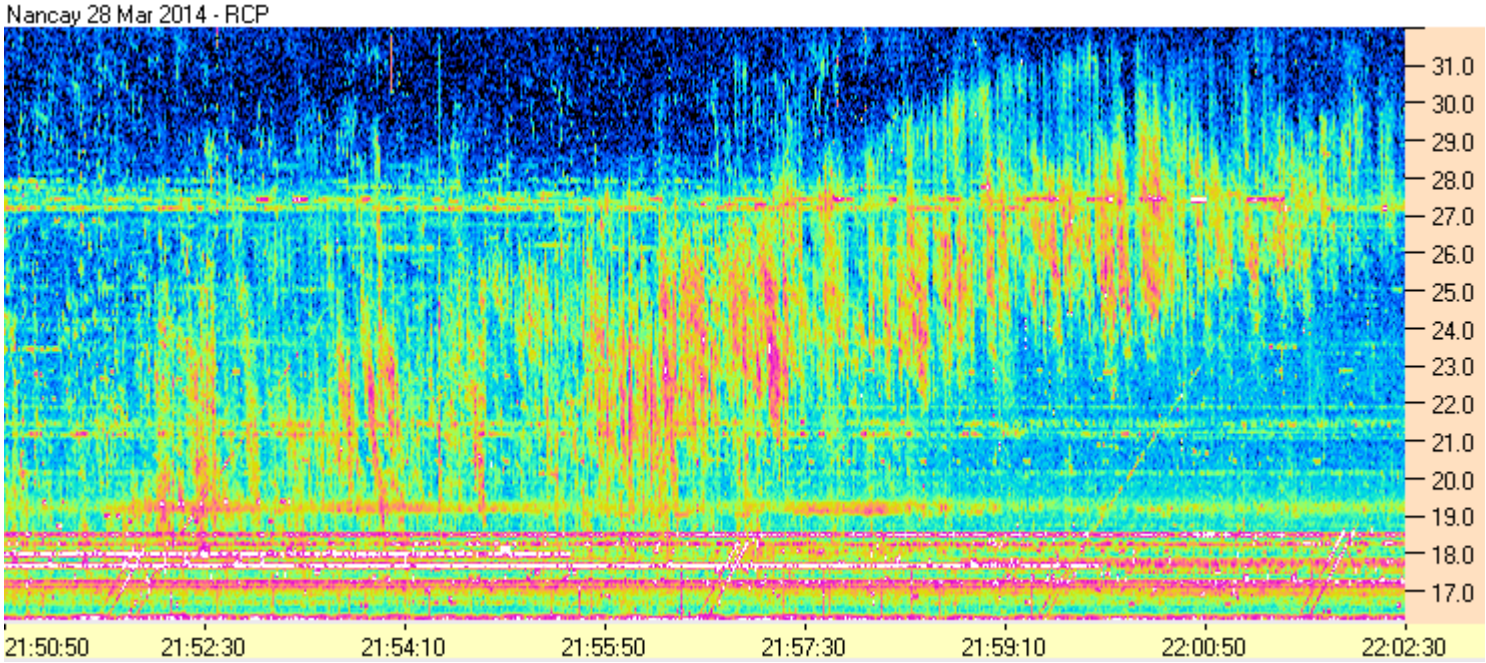
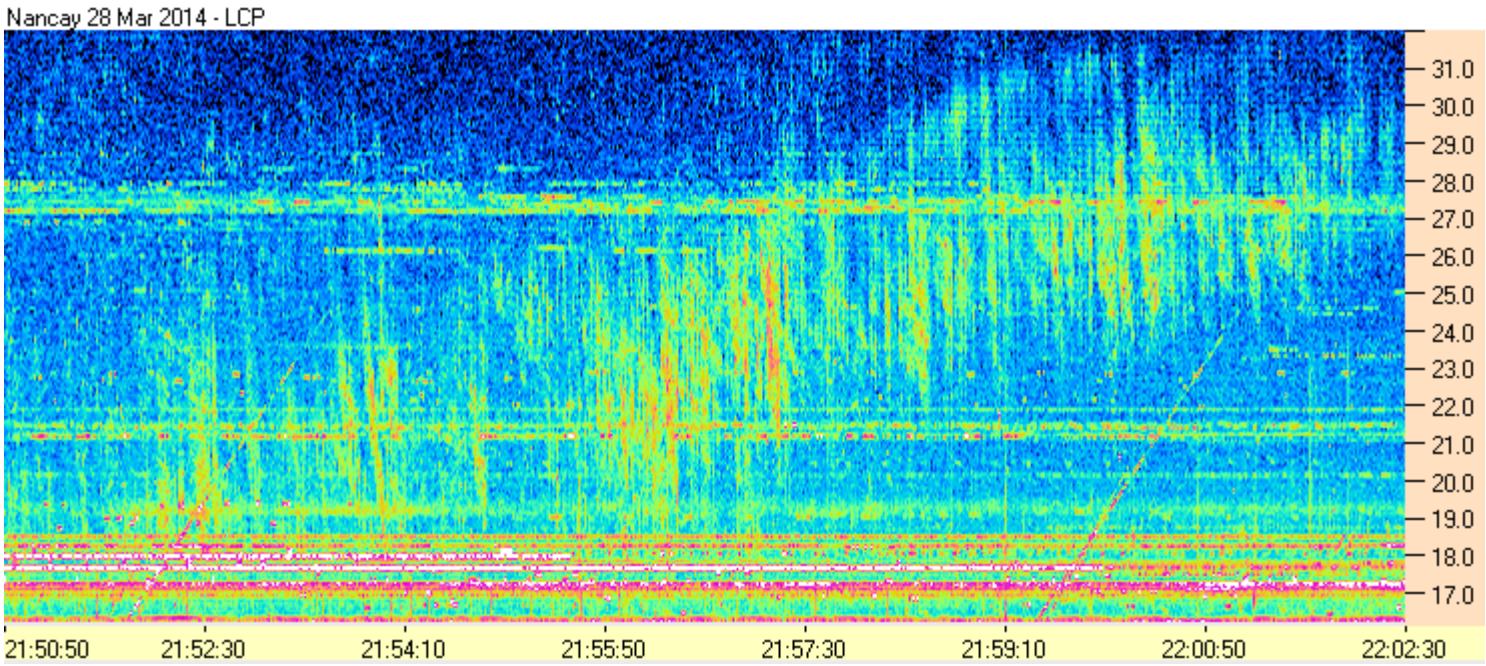


Nancay 28 Mar 2014 - RCP

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