The following status report from Ted Cline is based on November 2025 drift scan data provided from the Deep Space Exploration Society. The report was edited by Richard Hambly to embed the pictures into the email and convert to a PDF file.

Rick Hambly K0GD

From: Ted Cline <tedclinegit@gmail.com>
Sent: December 6, 2025 1:01 PM
To: Rick Hambly K0GD
Cc: Dan Layne; Dr. Rich Russel; Ray Uberecken
Subject: Re: New data and restart with ezColS251114b.py - DSES251128_00
Attachments: ezGal251123a.py.txt; ezSky100input_18AntBTVTAvg.png; ezGal610gLonSpectraCascade.png; ezGal570galArmsSun.png; ezGal510velGLon.png; ezCon087antBTVT2526.png; ezSky200RBVO_18AntBTVTAvg.png; ezCon087antBTVT25263d.png; ezSky251010b.py.txt; ezCon251205a.py.txt; SARA2412-2024_dec-ezRASupportsRINEARN.pdf

Hi Rick,

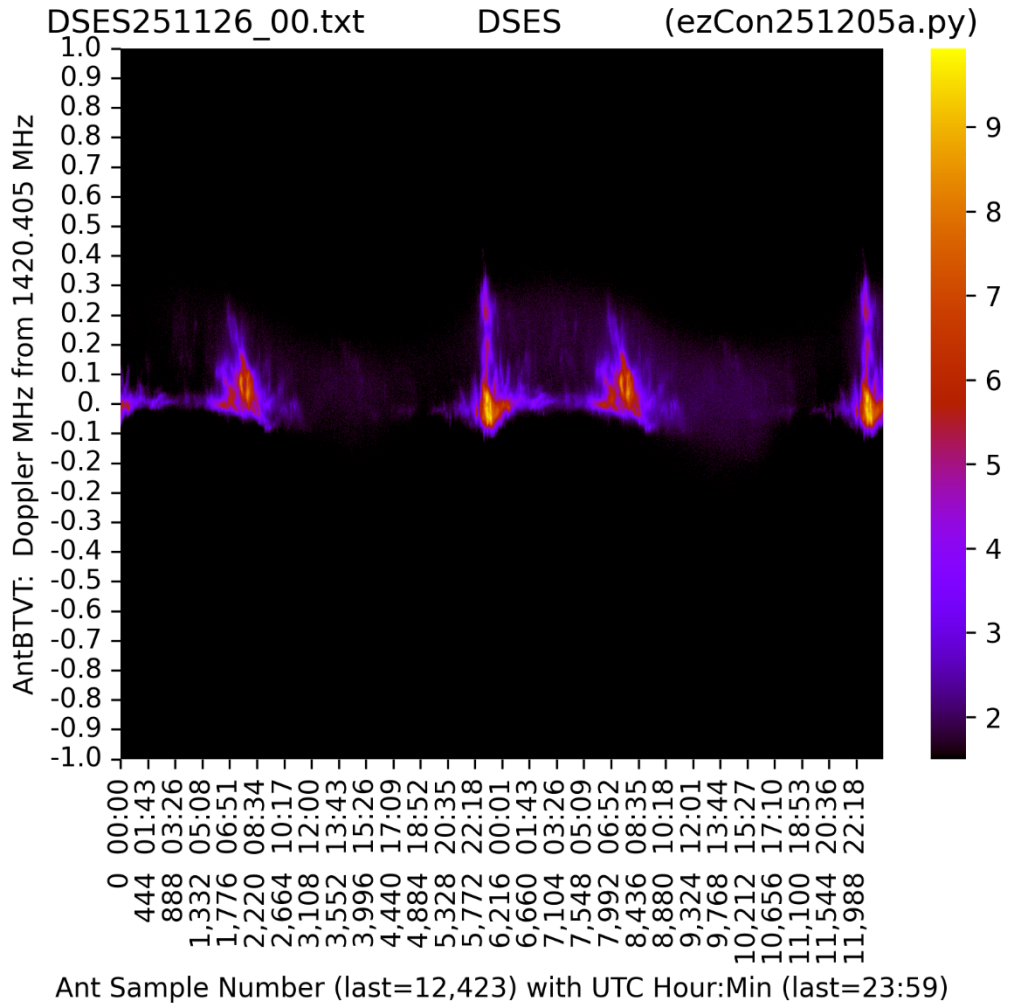
Sorry for my delay of this response.

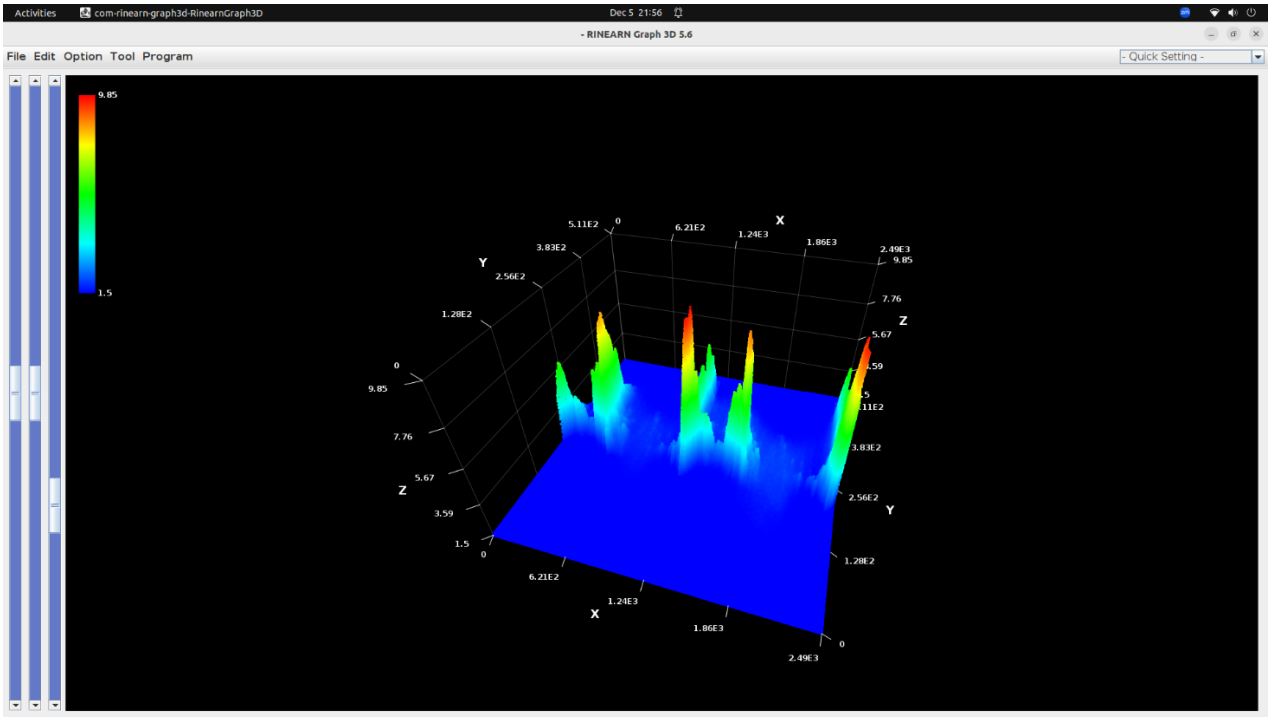
Thanks for your latest DSES 1420 MHz data files,
- DSES251120_00.txt
- DSES251121_00.txt
- DSES251122_00.txt
- DSES251123_00.txt
- DSES251124_00.txt
- DSES251125_00.txt
- DSES251126_00.txt
- DSES251127_00.txt
- DSES251128_00.txt

They all look great.

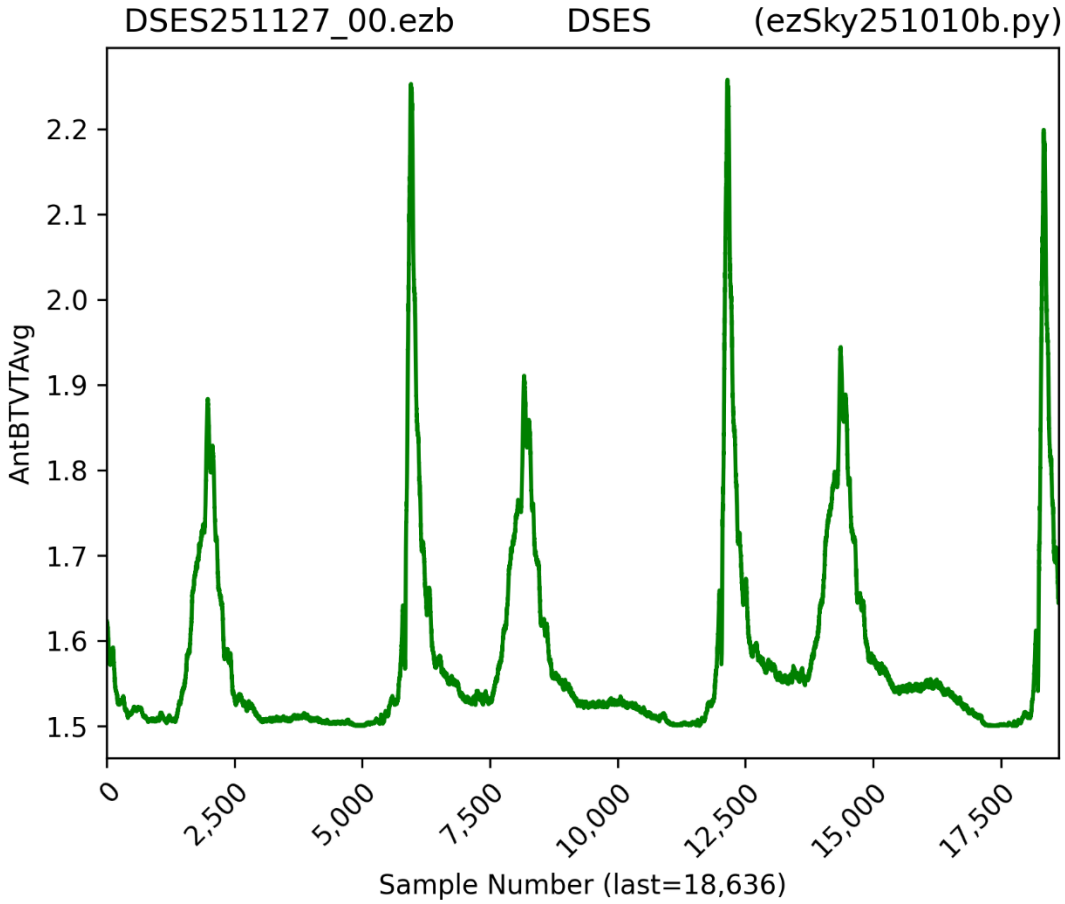
I continue to improve the ezCon analysis program (attached), to reveal more detail.
I attach plots from your latest data.

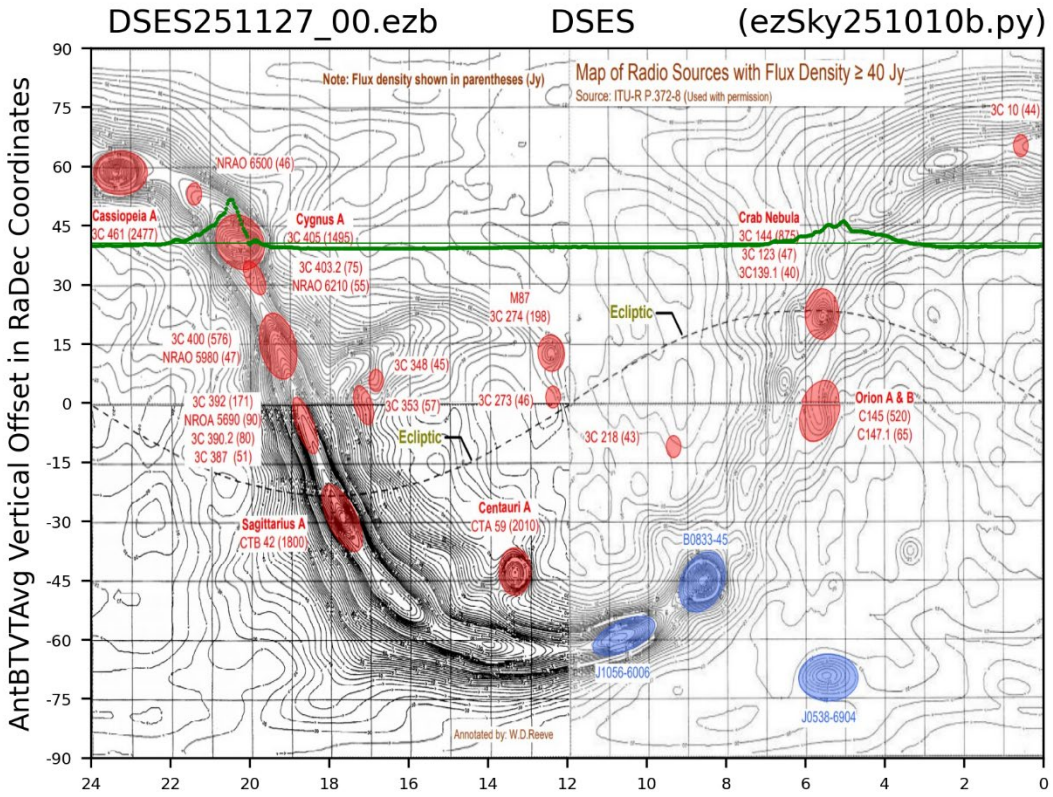
The ezCon087 plots show the repeating pattern of 2 days.
It shows much more detail than I can see with my smaller dishes.





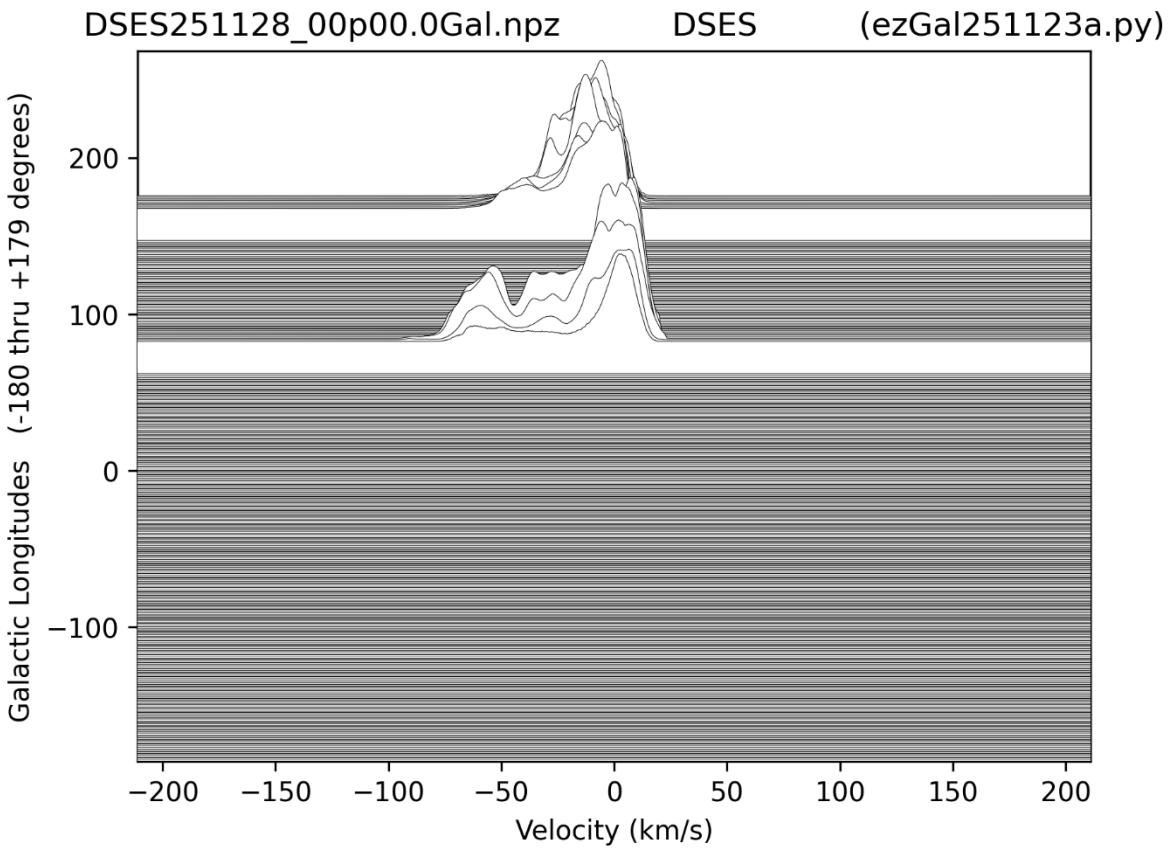
The ezSky200 plot has hydrogen power bumps in the right places
(using Azimuth=0 and Elevation=87.5 degrees).
Again, it shows more detail than I can see with my smaller dishes.

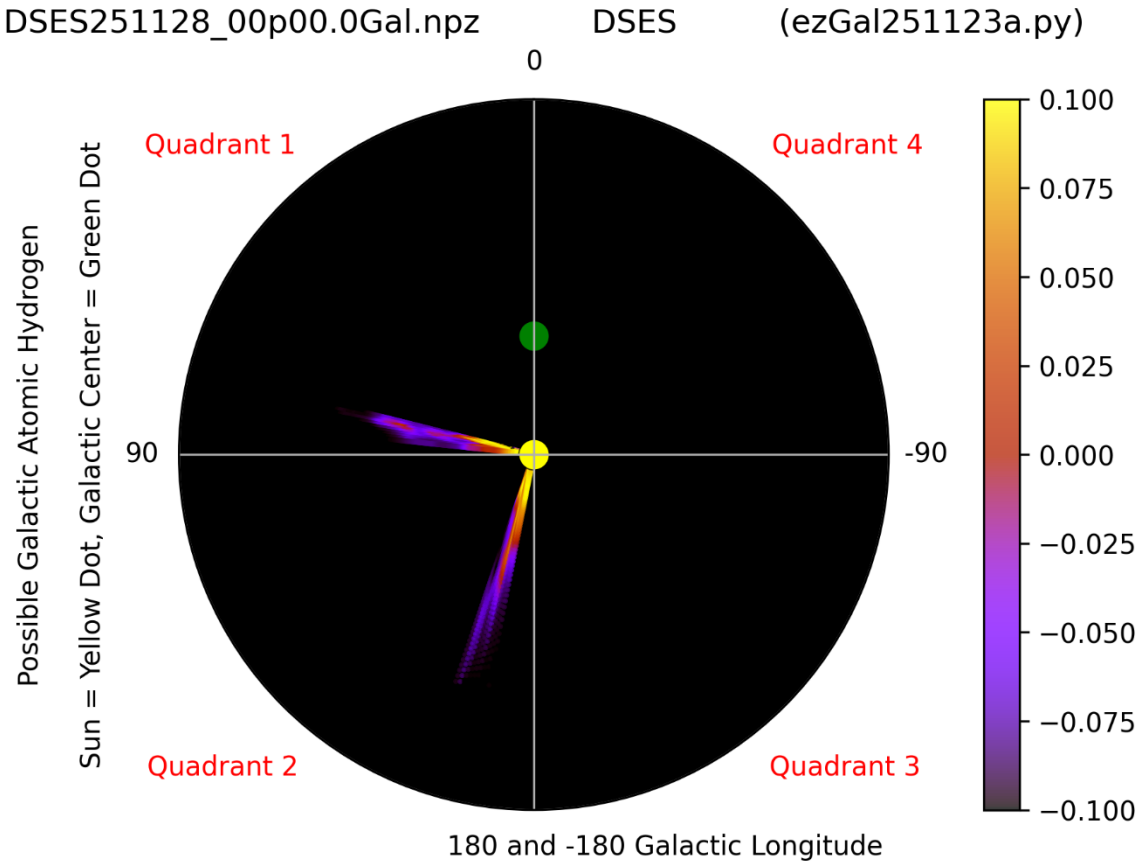


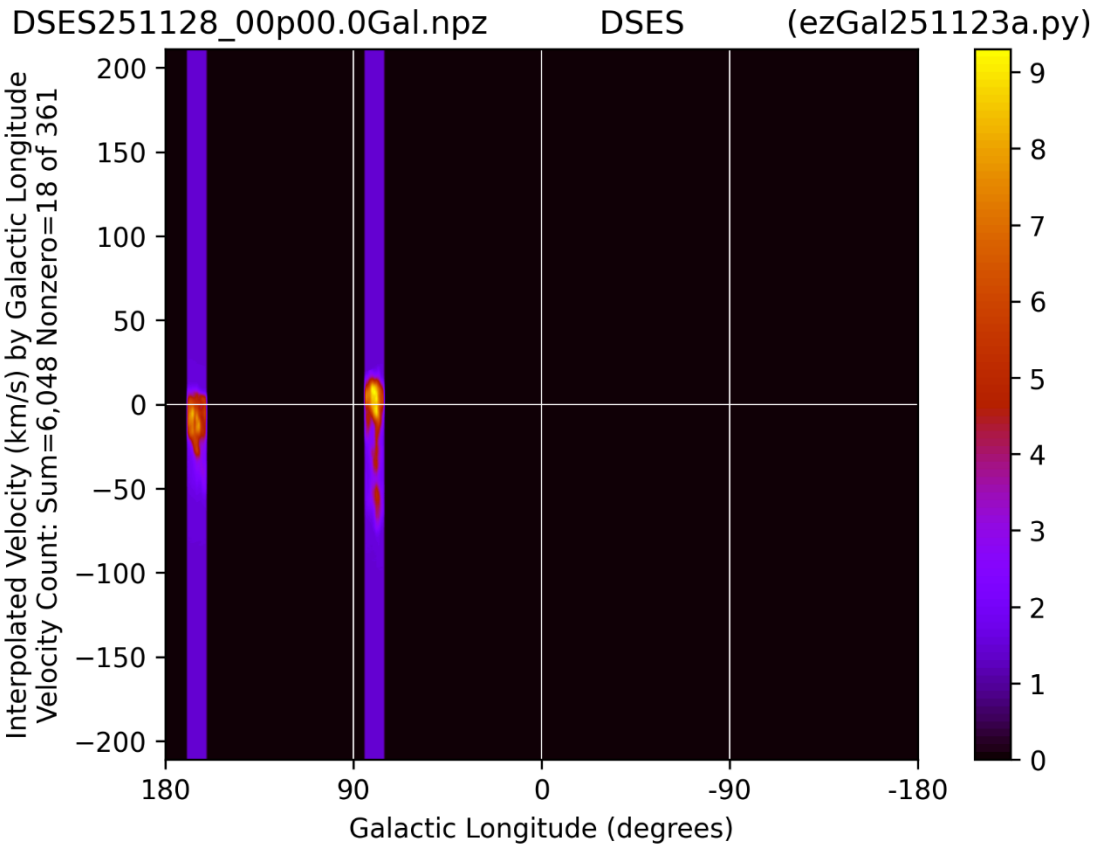


Not shown here is a large power spike near Cygnus A at non-hydrogen frequencies.

The ezGal510, ezGal570, and ezGal610 plots show the 2 faint outer Galactic arms near GLon 80.







The blue plot is a 3d rendering of the black background ezCon087 plot.
This opens the door for flying-around-the-plot videos.
Stereo views are also available.
Examples on my https://github.com/tedcline/ezRA page.
I attach a PDF of my SARA Dec-2024 article.

I eventually used analysis commands like this,

```
python3 ../ezRA/ezCon251205a.py data/DSES251125_00.txt data/DSES251126_00.txt
    -ezConAzDeg 0 -ezConElDeg 87.5 -ezConInputdB 1
    -ezConAntXInput 4 -ezConRefMode30L 1420.405 1418.0 2
    -ezConAntXTFreqBinsFracL 0.45 0.8 -ezConAntXTVTFreqBinsFracL 0 1
    -ezConAntXTVTClipL 1.5 999 -ezConAddMHz 0.4 -ezCon087Csv 1

python3 ../ezRA/ezSky251010b.py -ezSkyInput 14 DSES*.ezb -ezSkyGalCrossingGLatNear 0.5
python3 ../ezRA/ezSky251010b.py -ezSkyInput 18 DSES*.ezb -ezSkyGalCrossingGLatNear 0.5

python3 ../ezRA/ezGal251123a.py DSES*.npz

ring3d ezCon087antRBTVTMsh.csv
```

All this is also possible on Windows.

I look forward to data from different sky pointings, from different Galactic Longitudes, to start painting the Galactic arms.

We should do a Zoom to experiment with data collecting using the B210 SDR.

Ted Cline N0RQV