WSPR Analysis

For fans of WSPR, here are a few python routines for performing analyses of received spots.

- wspr2Rx.py
- wsprRx_by_band_and_call.py
- wsprRx_by_freq_and_call.py
- wsprRx_by_freq_and_grid.py
- wsprRx_print_allspots_by_freq.py
- wsprRx_snr_by_band_callsignplot.py
- wsprRx_snr_by_band_geoplot.py
- wsprRx_sort_by_us.py
- wsprRx_sort_by_uszone(0-9).py

Examples of each of the routines are included below.

My analysis setup consists of a windows machine with Anaconda / Spyder.

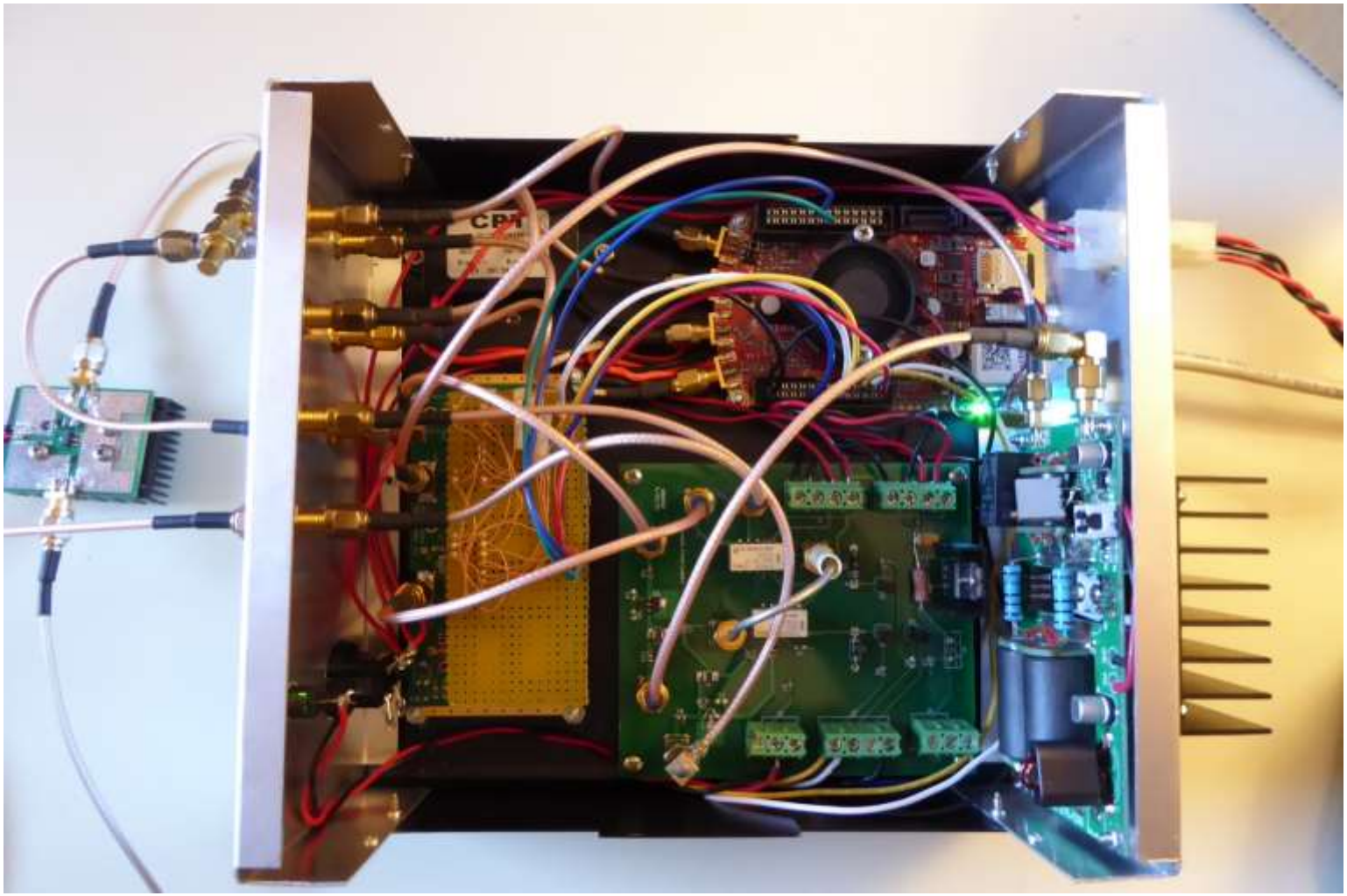
My WSPR transceiver is a homebrew SDR rig based on a 14b Red Pitaya board and Pavel Demins sdr_transceiver_hpsdr routine.

The file to be examined is copied from the Red Pitaya to the windows machine. The assumed ALL_WSPR.TXT file format consists of 17 fields (WSJT-X).

Additional packages must first be installed to enable the database and plotting functions.

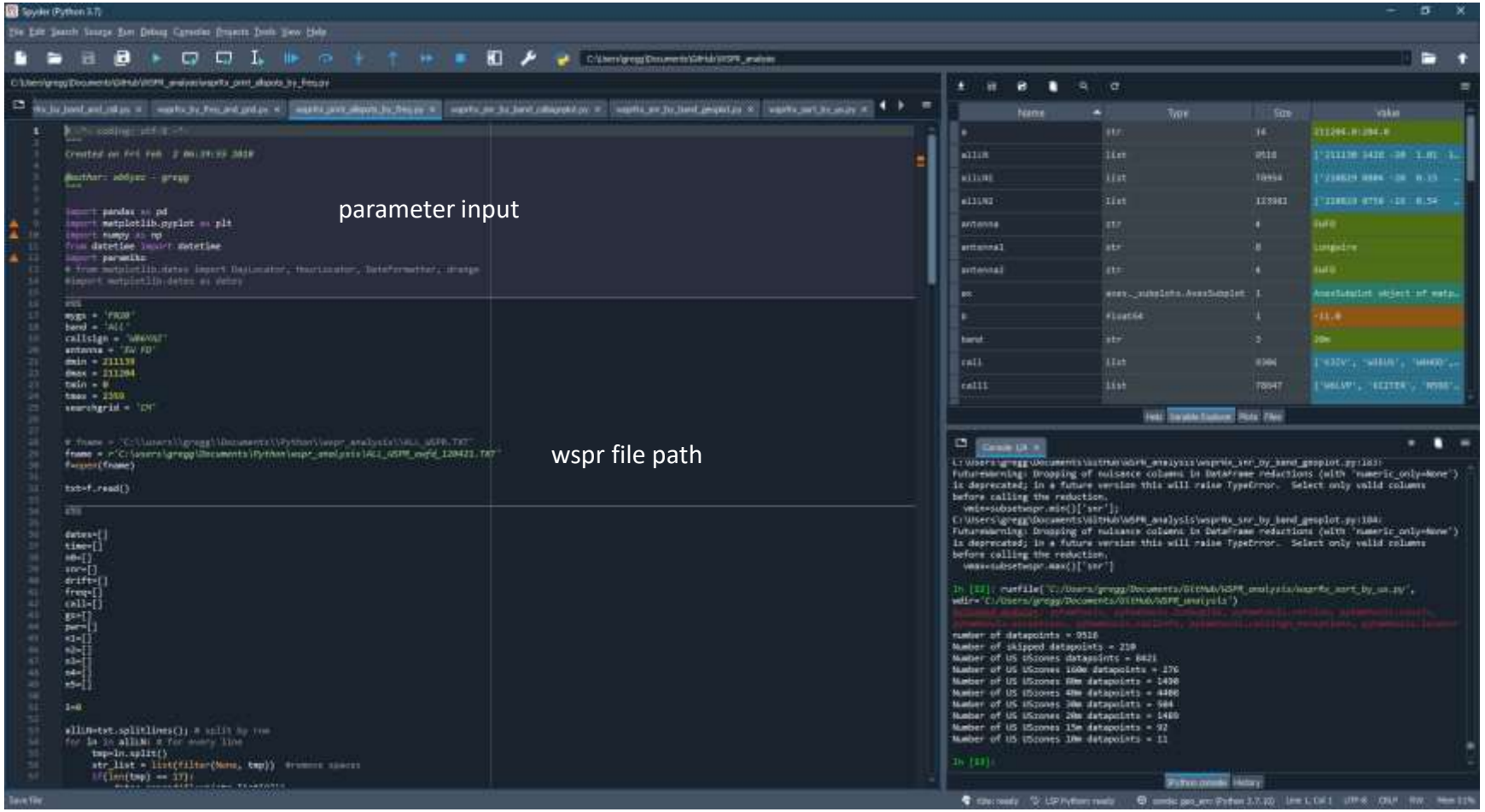
1. pandas
2. geopandas
3. matplotlib
4. shapely
5. pyhamtools

WSPR Analysis



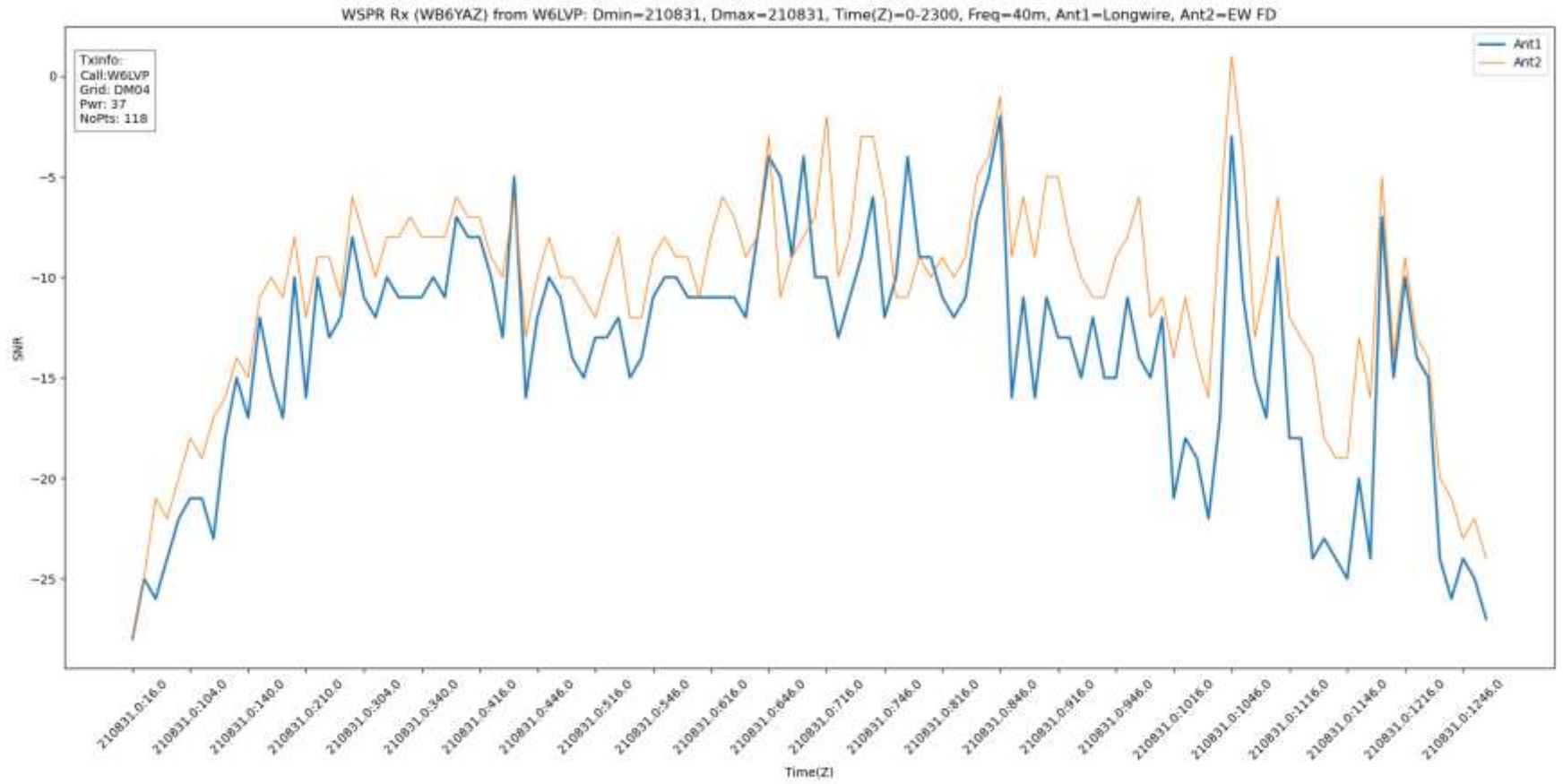
Red-Pitaya SDR QRP Transceiver

WSPR Analysis



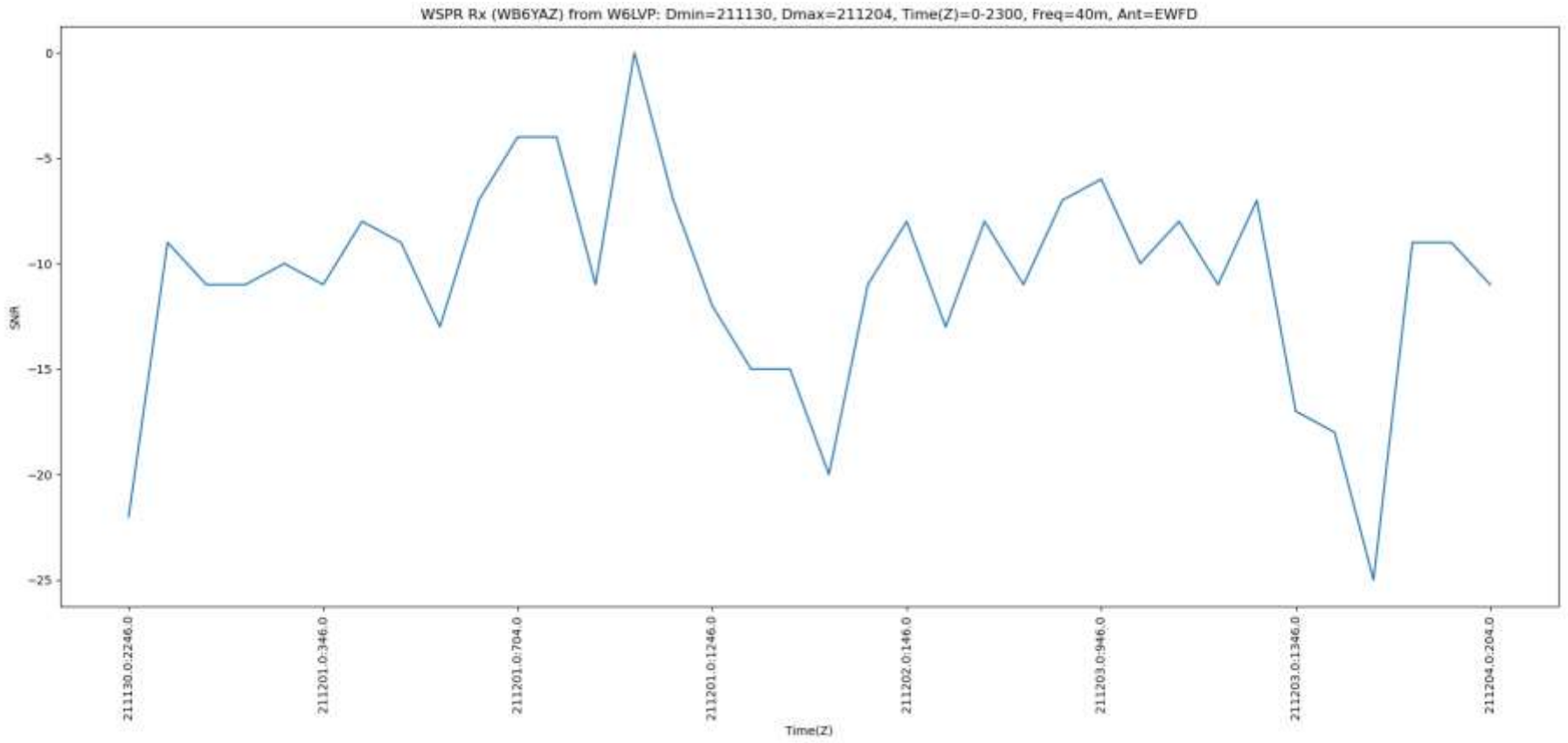
Spyder Console

WSPR Analysis



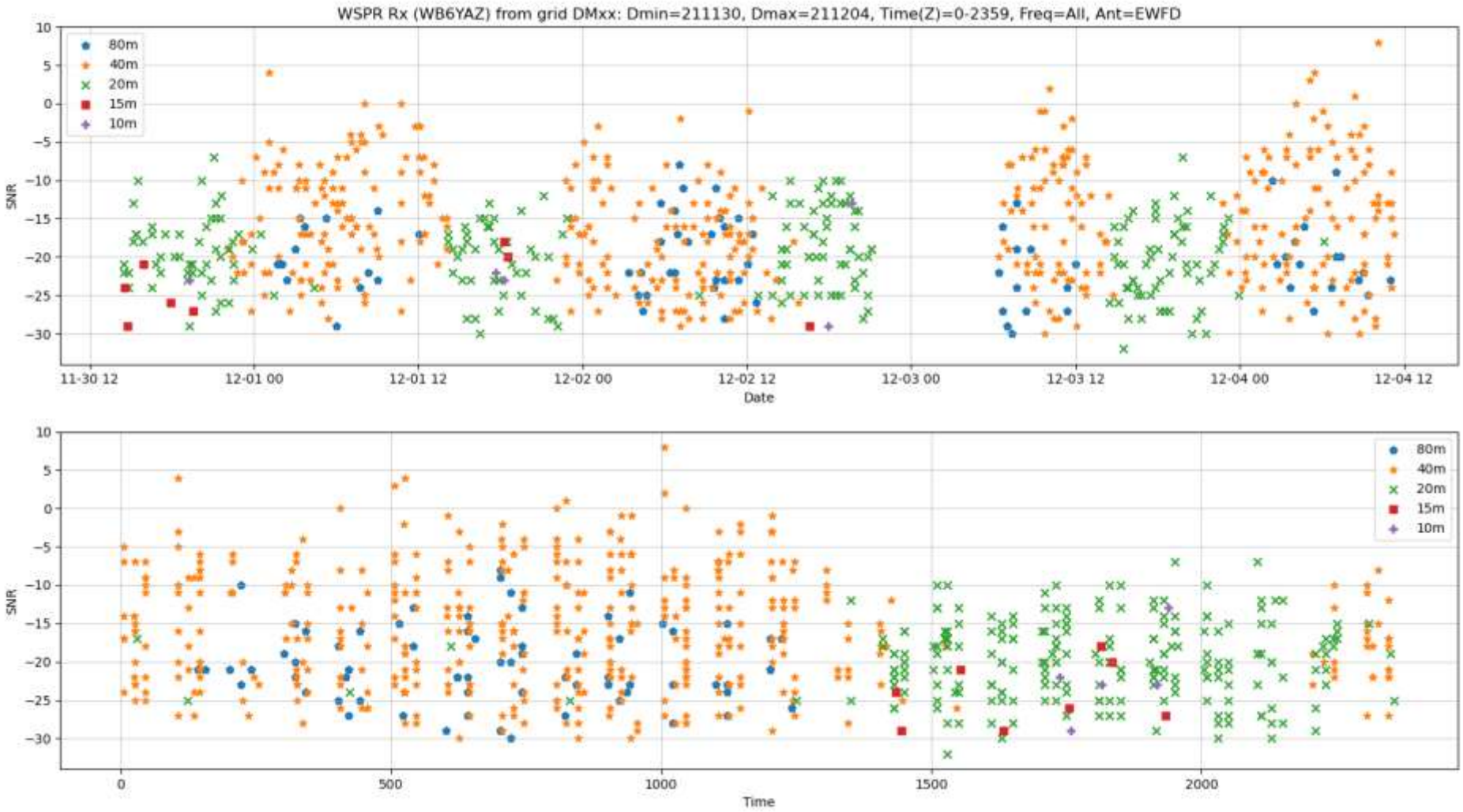
wspr2Rx.py

WSPR Analysis



wsprRx_by_band_and_call.py

WSPR Analysis



wsprRx_by_freq_and_grid.py

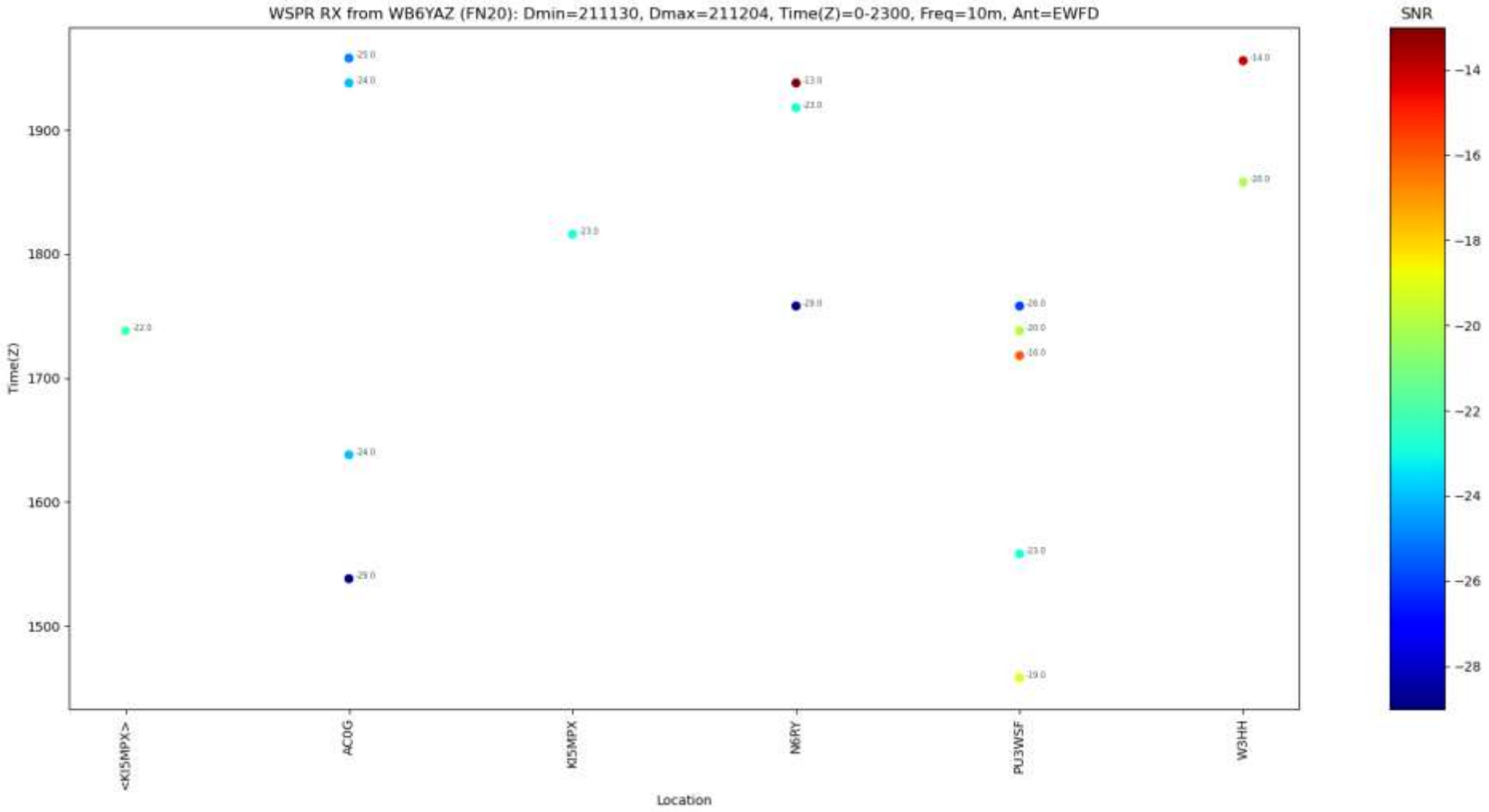
WSPR Analysis

```
mygs = 'FN20'
band = 'All'
callsign = 'WB6YAZ'
antenna = 'EW FD'
dmin = 211139
dmax = 211204
tmin = 0
tmax = 2359
searchgrid = 'CM'
```

```
number of datapoints = 9516
Number of skipped datapoints = 210
No of 160m points =  279
No of 80m points =  1610
No of 60m points =  0
No of 40m points =  4778
No of 30m points =  516
No of 20m points =  1766
No of 15m points =  132
No of 10m points =  0
```

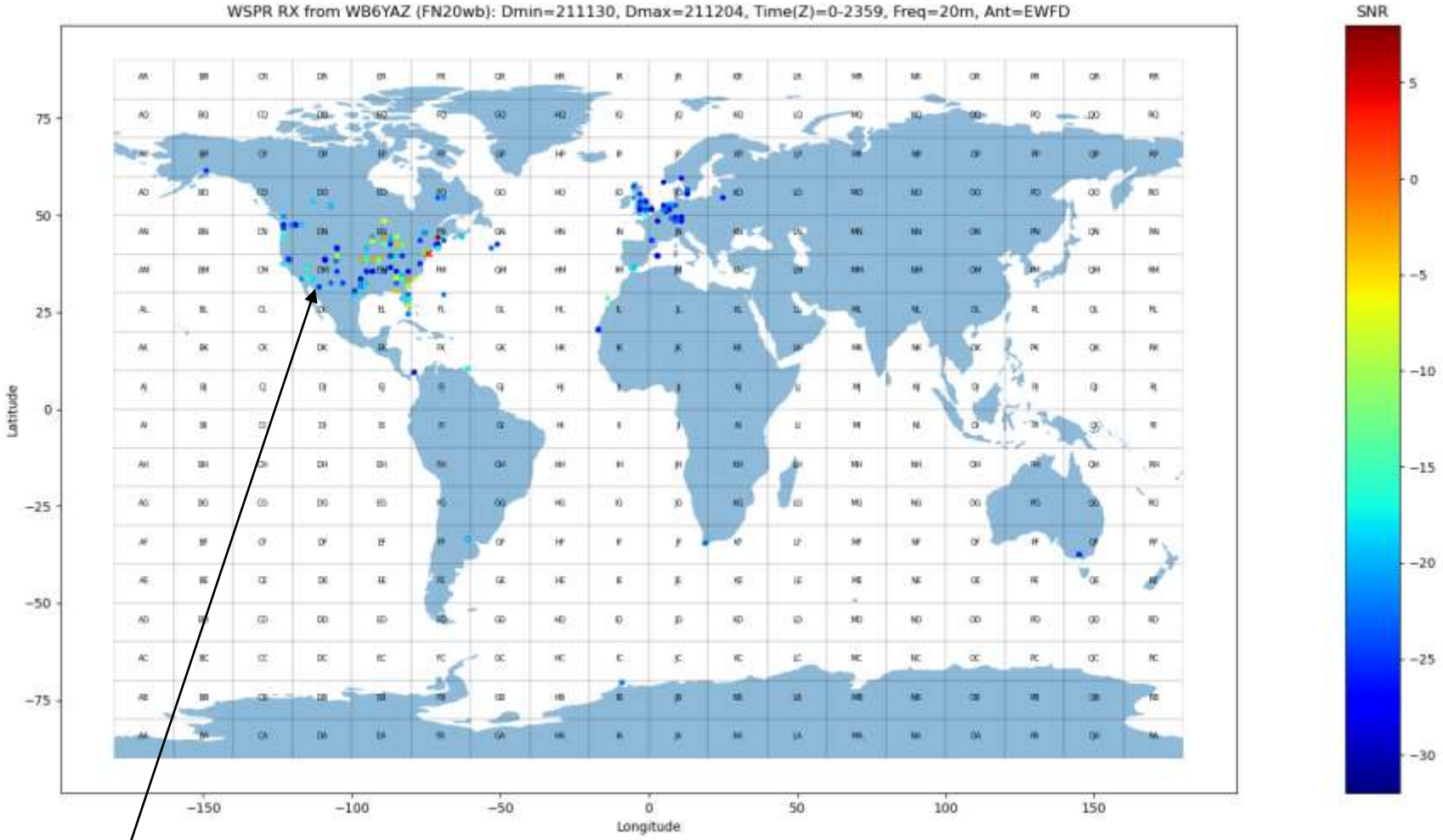
wsprRx_print_allspots_by_freq.py

WSPR Analysis



wsprRx_snr_by_band_callsignplot.py

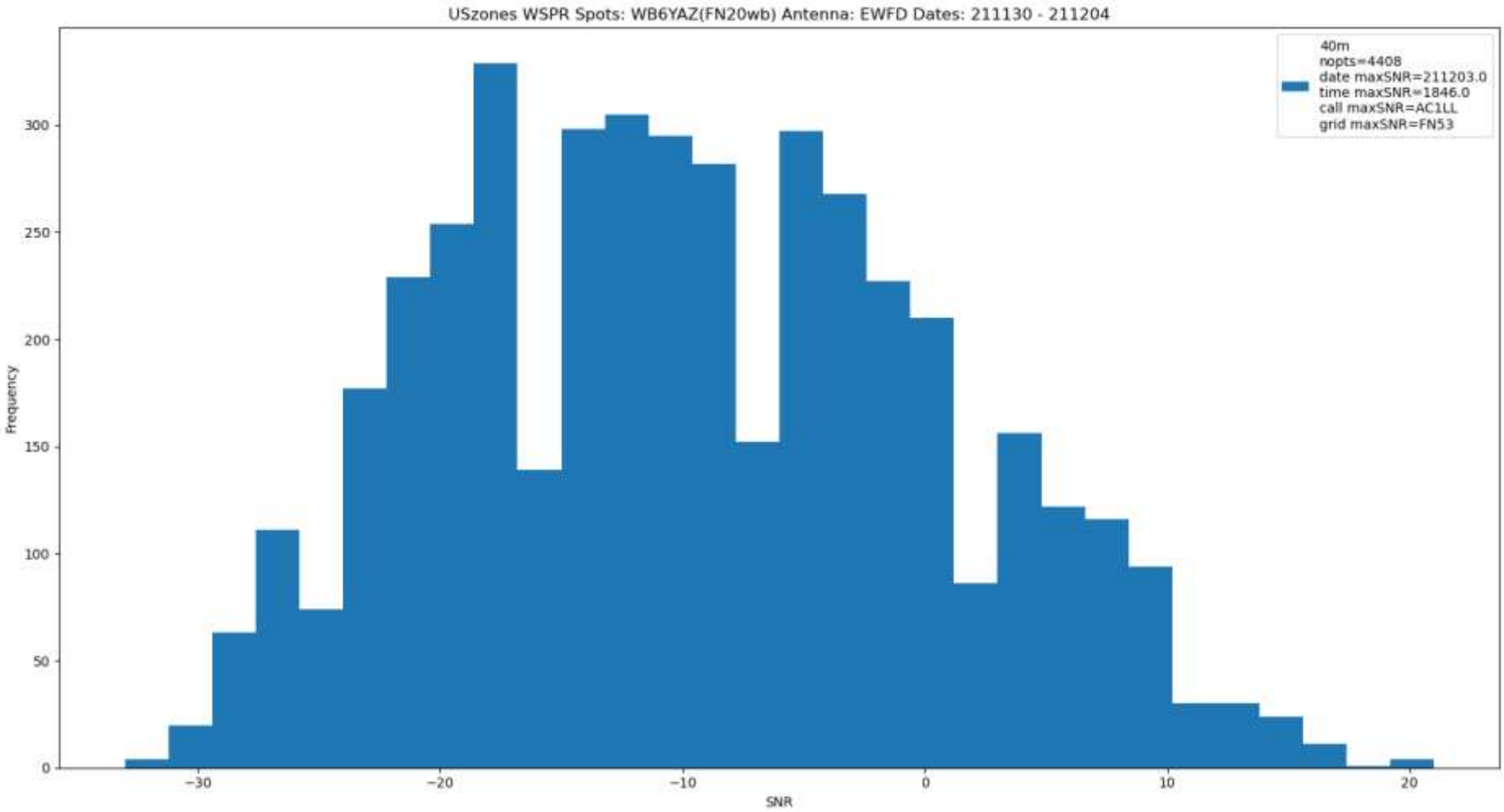
WSPR Analysis



wsprRx_snr_by_band_geoplot.py

Clicking on point displays receive data for location in spyder console window

WSPR Analysis



wsprRx_sort_by_us.py