

Andy's Antenna Comparison

- Ted Cline, Sep-1-2024

Hi Andy,

You sent me a link for several data files, for your Alex Yagi and your Pharmigan array,

LRO_AP_21CM_YAGI240825_04.txt
LRO_AP_21CM_YAGI240826_00.txt
LRO_AP_21CM_YAGI240827_00.txt
LRO_AP_21CM_YAGI240828_00.txt
LRO_AP_21CM_YAGI240829_00.txt
LRO_AP_21CM_YAGI240830_00.txt

LRO240825_04.txt
LRO240826_00.txt
LRO240827_00.txt
LRO240828_00.txt
LRO240829_00.txt
LRO240830_00.txt

Eventually I ran the commands

```
py ..\ezRA\ezCon.py
  data\LRO_AP_21CM_YAGI240825_04.txt
  data\LRO_AP_21CM_YAGI240826_00.txt
  data\LRO_AP_21CM_YAGI240827_00.txt
  data\LRO_AP_21CM_YAGI240828_00.txt
  data\LRO_AP_21CM_YAGI240829_00.txt
  data\LRO_AP_21CM_YAGI240830_00.txt
  -ezConAntXTFreqBinsFracL 0.4 0.6
```

```
py ..\ezRA\ezSky.py
  LRO_AP_21CM_YAGI240830_00.ezb
  -ezSkyInput 14
```

```
py ..\ezRA\ezSky.py
  LRO_AP_21CM_YAGI240830_00.ezb
  -ezSkyInput 18
```

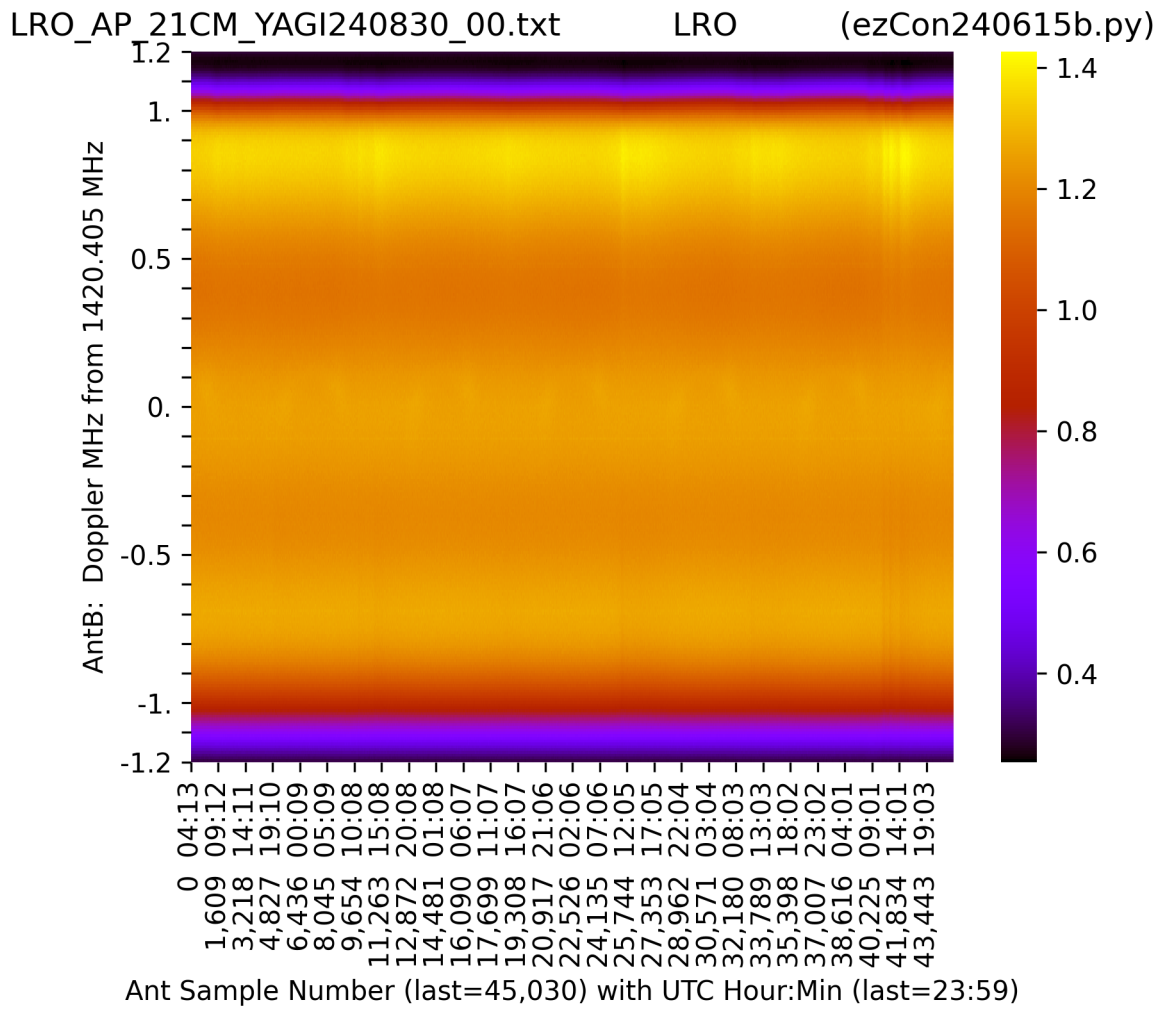
and

```
py ..\ezRA\ezCon.py
  data\LRO240825_04.txt
  data\LRO240826_00.txt
  data\LRO240827_00.txt
  data\LRO240828_00.txt
  data\LRO240829_00.txt
  data\LRO240830_00.txt
  -ezConAntXTFreqBinsFracL 0.4 0.6
```

```
py ..\ezRA\ezSky.py
  LRO240830_00.ezb
  -ezSkyInput 14
```

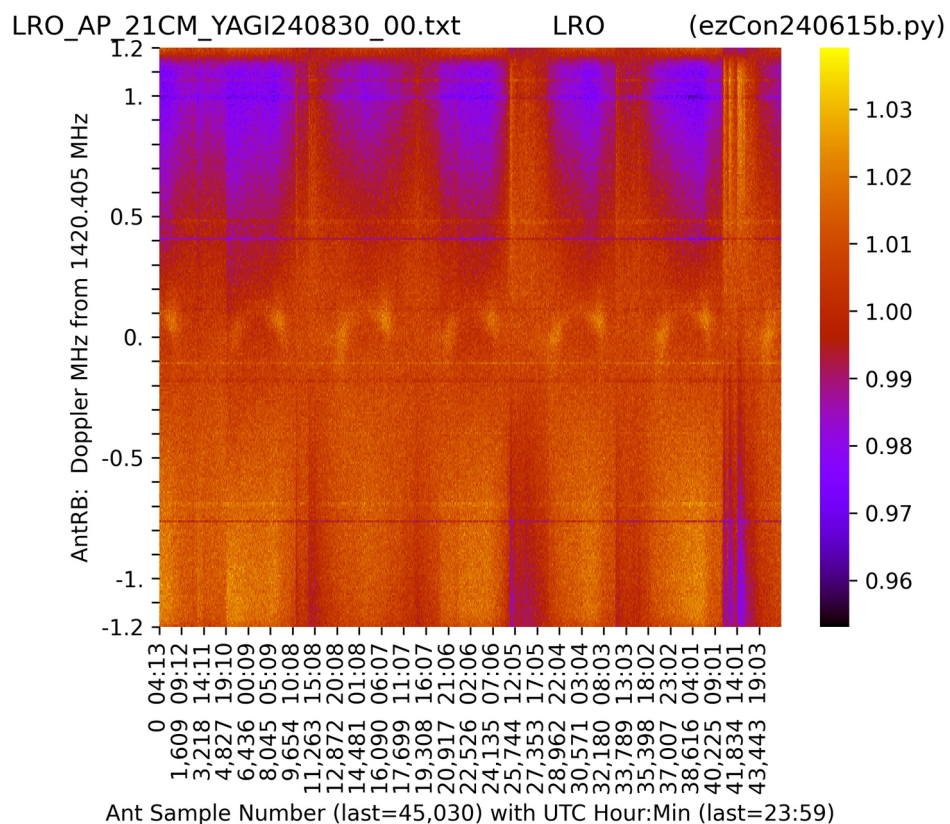
```
py ..\ezRA\ezSky.py
  LRO240830_00.ezb
  -ezSkyInput 18
```

The Yagi's AntB signal in ezCon047 was surprisingly weak,

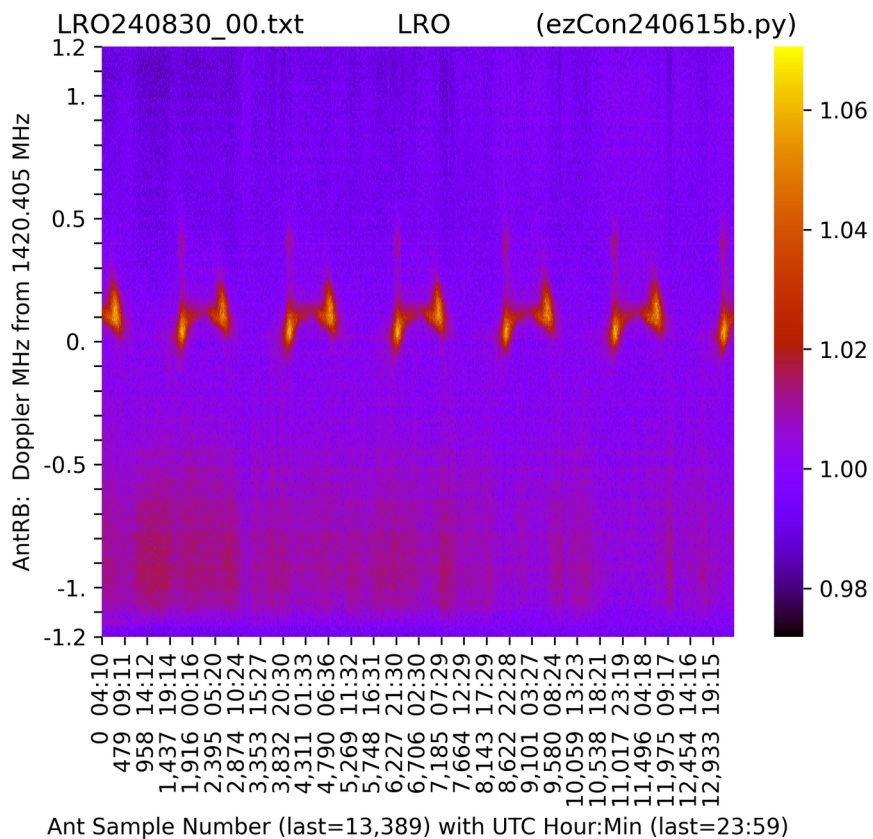


The signal is in there, but it is weak.

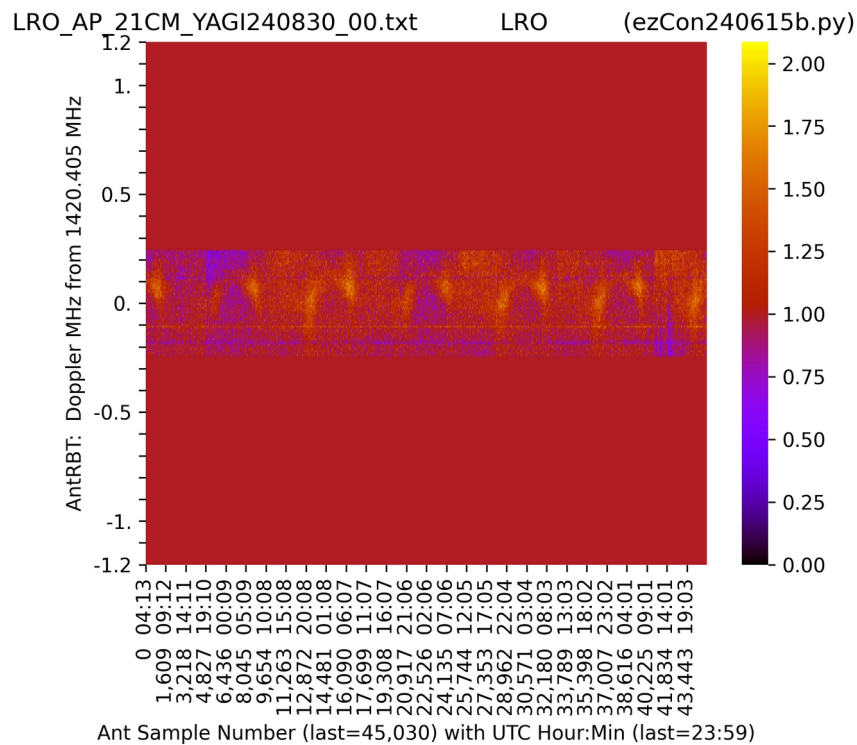
The Yagi's AntRB signal in ezCon067 was also weak,



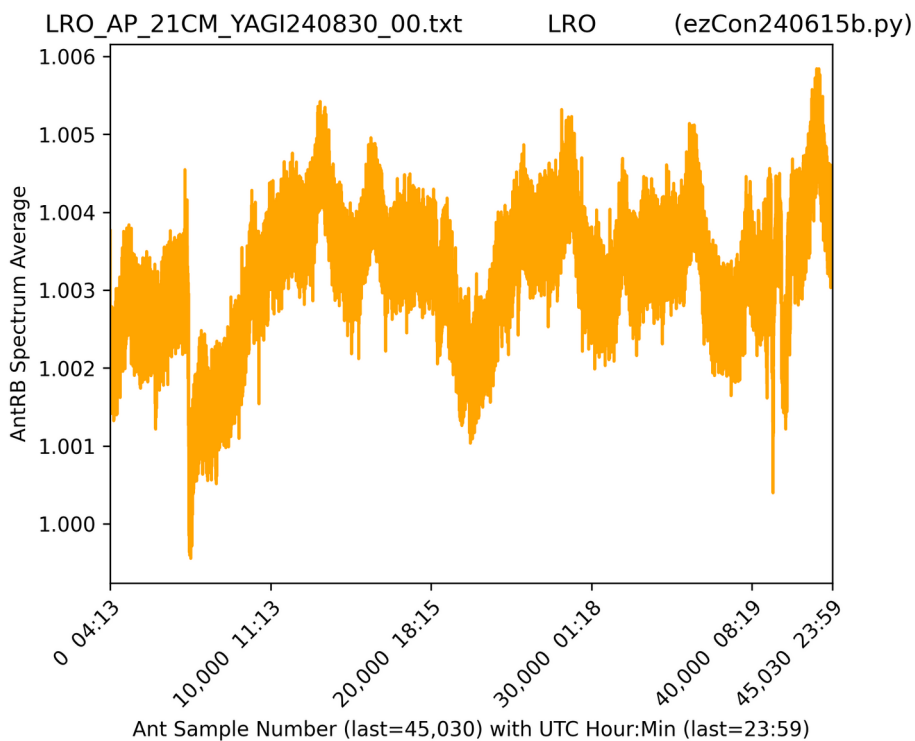
compared to that of the Pharmigan antenna,



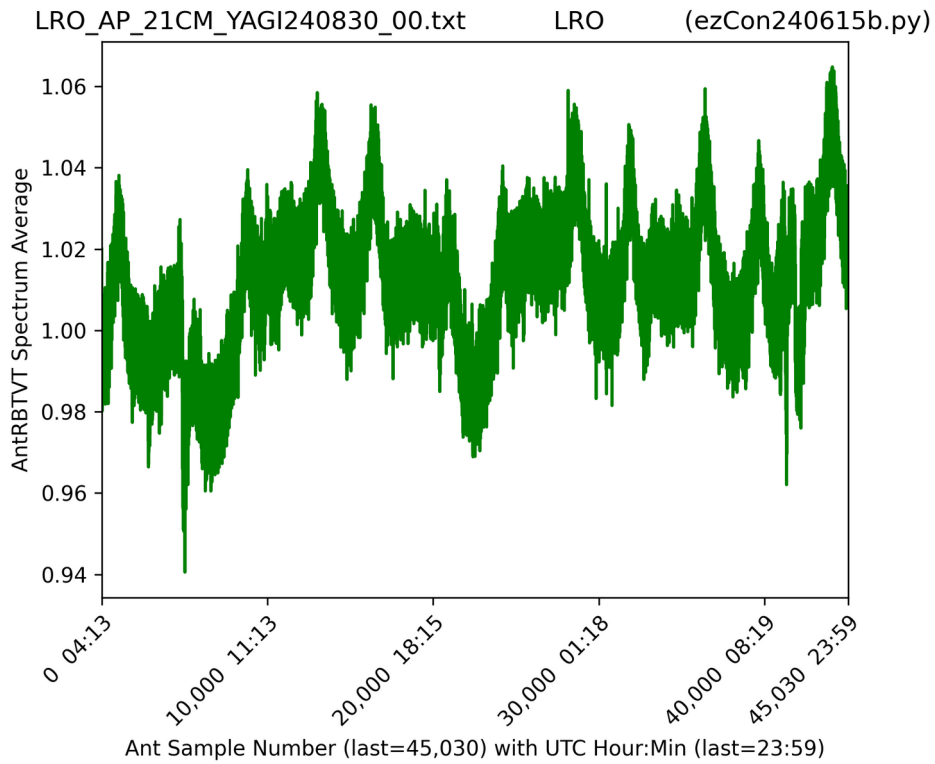
So that is why I cut off the unneeded non-hydrogen frequencies, by adding
-ezConAntXTFreqBinsFracL 0.4 0.6
to the command above.
As seen in the AntRBT ezCon081 plot,



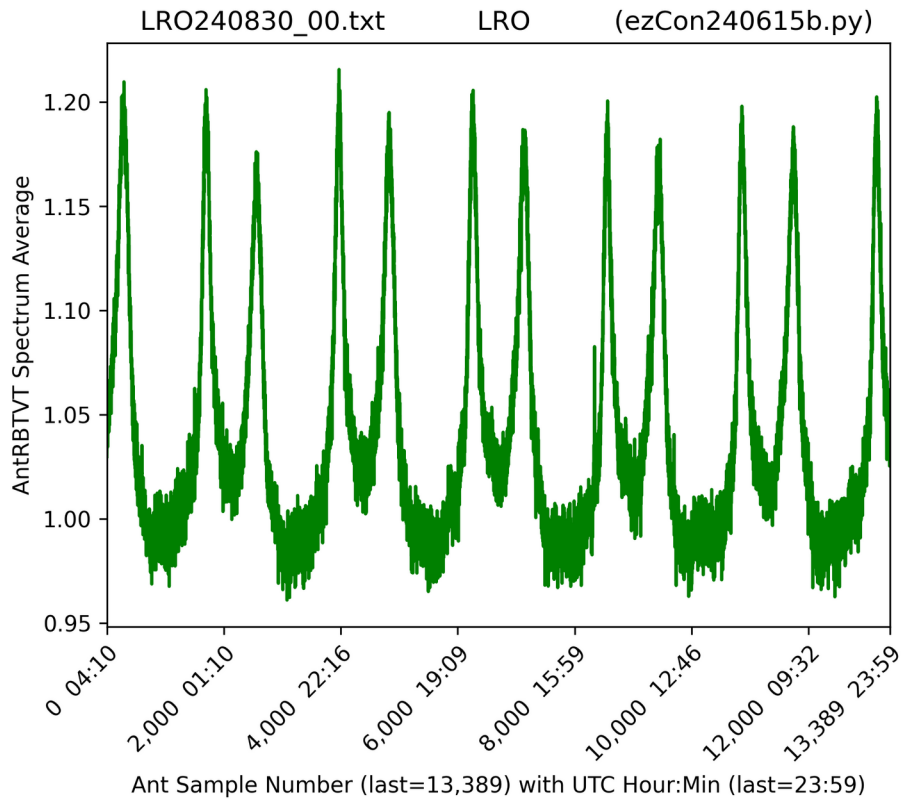
That improved the irregular AntRB Average ezCon116,



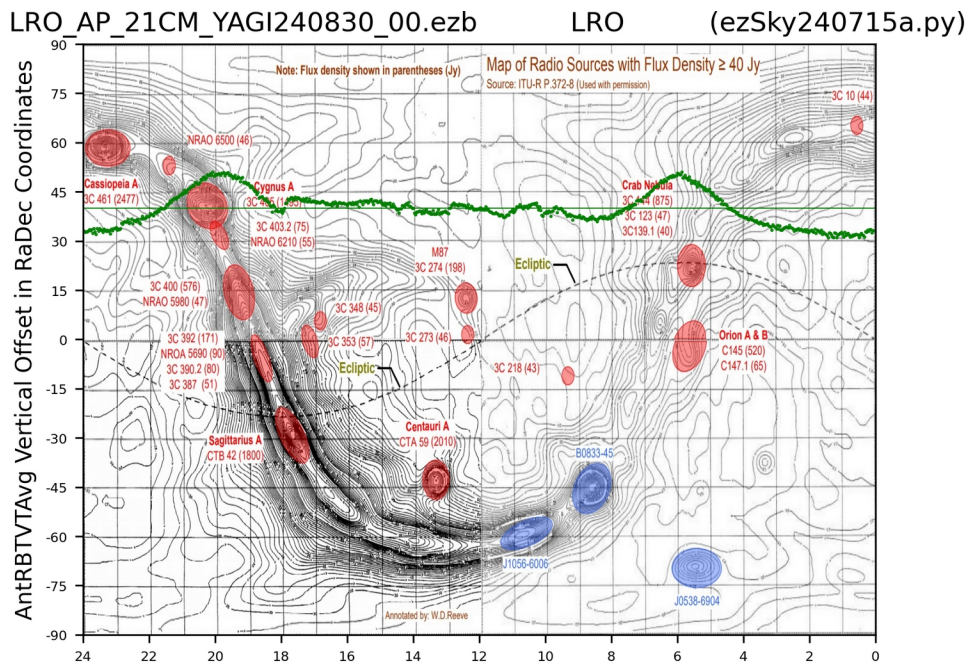
to the slightly better AntRBTVT Average ezCon118,



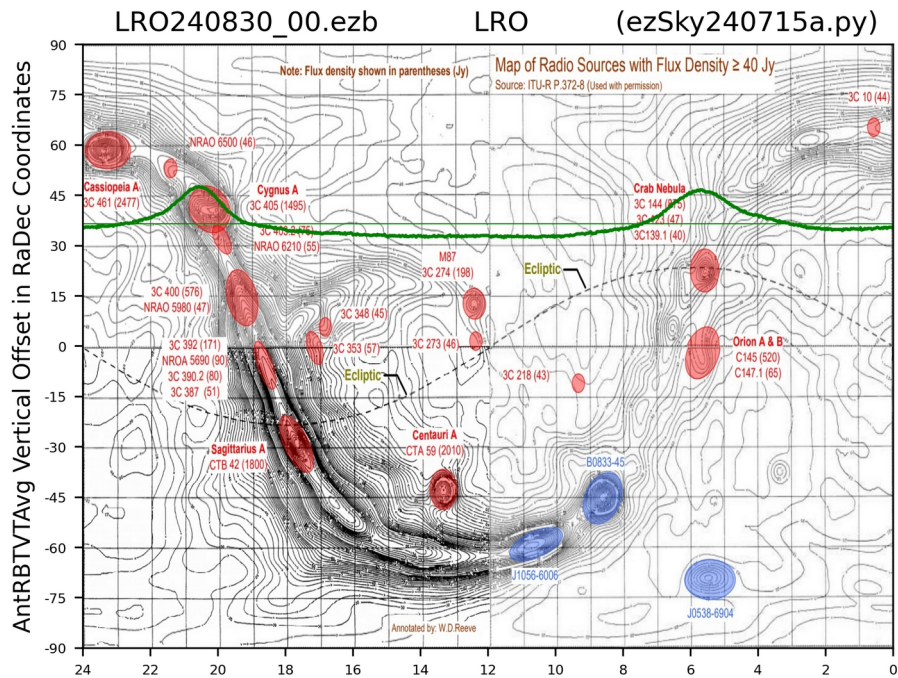
which again is not as good as that of the stronger signal Pharmigan antenna,



So I arrive at the Yagi's ezSky200,



versus the Pharmigan's ezSky200,



I am surprised the Yagi did not work better.