

COSMIC Commensal SETI processing at the VLA

Ross Donnachie


```

uvh5c99 > tests > telinfo_ata.toml
RocketRoss, 4 years ago | 1 author (RocketRoss)
1 # Name of telescope
2 telescope_name = "ATA"
3
4 # Geodetic location of telescope reference point. `latitude` and `longitude`
5 # may be given in decimal degrees as a float, or as a sexagesimal string with
6 # `:` separators.
7 # `altitude` is in meters above the geodetic reference ellipsoid (probably
8 # WGS84, but the UHF5 spec is unclear on this point).
9 latitude = "40:49:03.0"
10 longitude = "-121:28:24.0"
11 altitude = 1008
12
13 # Default diameter for antennas
14 # Not needed if all `antennas` entries have `diameter` field.
15 antenna_diameter = 6.1
16
17 # Reference frame for the antenna positions. Can be `ecef` for the ITRF (i.e.
18 # Earth-Centered-Earth-Fixed XYZ) frame or `enu` for a topocentric
19 # East-North-Up frame with origin at the telescope reference point. If not
20 # given, it will be assumed to be `ecef` unless the magnitude of the first
21 # antenna's position vector is less than 6 million meters in which case it will
22 # be assumed to be `enu`. Best practice is to explicitly specify this.
23 # This is not case-sensitive.
24 antenna_position_frame = "ecef"
25
26 # List of antennas. Each entry is a hash containing keys:
27 #
28 # - `name`: A string value of the telescope name
29 # - `number`: An integer number identifying the telescope
30 # - `position`: A 3 elements array of floats giving the position in meters.
31 # - `diameter`: A float value for the diameter of the antenna
32 #
33 # The reference frame of the positions is given in `antennas_position_frame`.
34 # The `diameter` entry is optional if a global `antenna_diameter` is given and
35 # has the correct value for the antenna.
36 [[antennas]]
37   name = "1a"
38   number = 1
39   position = [-2524135.705898576, -4123447.8660837733, 4147709.021116979]
40 [[antennas]]
41   name = "1b"
42   number = 2
43   position = [-2524112.178080583, -4123474.9384315712, 4147696.162193383]
44 [[antennas]]
45   name = "1c"
46   number = 3
47   position = [-2524141.219461439, -4123507.7286108406, 4147649.0368876057]
48 [[antennas]]

```




radonnachie May 19th, 2022 at 7:03 PM

A small asides that is related to the above thread but I think could be a separate one. Surely the 25m dishes aren't actually being moved. So why not go with pad names instead of antenna names?

16 replies



radonnachie May 19th, 2022 at 7:04 PM

If moving an antenna between pads is actually just moving the label around.. I'd love to hear that the 25m dishes are on wheels and move around.



davidm May 19th, 2022 at 7:05 PM

I haven't been to the VLA, but typically there is a special antenna transporter vehicle that shuttles them around when the array is configured.



TBH, don't know whether it really matters what we use for antenna name. I suppose CASA might have some built-in awareness of VLA antennas names, but I would hope not. CASA likes to show the antenna as "NAME@PAD" (e.g. [ea15@M48](#))



radonnachie May 19th, 2022 at 7:11 PM

I guess if they are really moved then one needs to reference the measured characteristics of the physical antenna for calibration reasons. Otherwise, just referring to whatever is at the pad by the pad's name still makes more sense.



davidm May 19th, 2022 at 7:11 PM

I think of it as "pad" being a name for the position and "name" being as name for the antenna itself. It's probably best to favor antenna name since it's (at least theoretically) possible for different antennas to live on the same pad in different configurations (i.e. at different times). Then again, antenna number could differentiate that.

Probably equally bad options 🤔



radonnachie May 19th, 2022 at 7:13 PM

yeah, pad is a physical spot. antenna is the physical dish. If you move them either you update the antenna-specific delay for the pad, or you update the position of the antenna to that of its pad.



Chenoa Tremblay May 19th, 2022 at 7:46 PM

The antennas get moved around for the different array configurations. There is a schedule. We need the pad names for the delays because the antennas can be shuffled around on different pads even in the same configuration. (edited)

They have 28 antennas with 27 pads. 1 antenna is always out for maintenance.



Chenoa Tremblay May 19th, 2022 at 7:55 PM

The antenna movers are cool to watch.

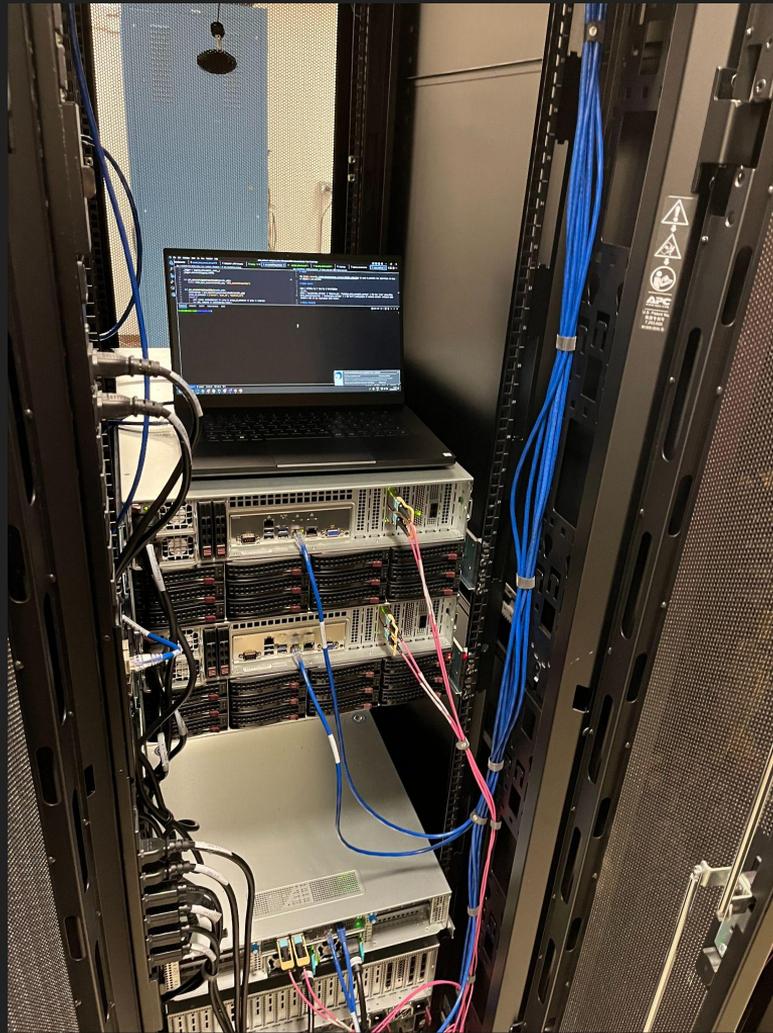


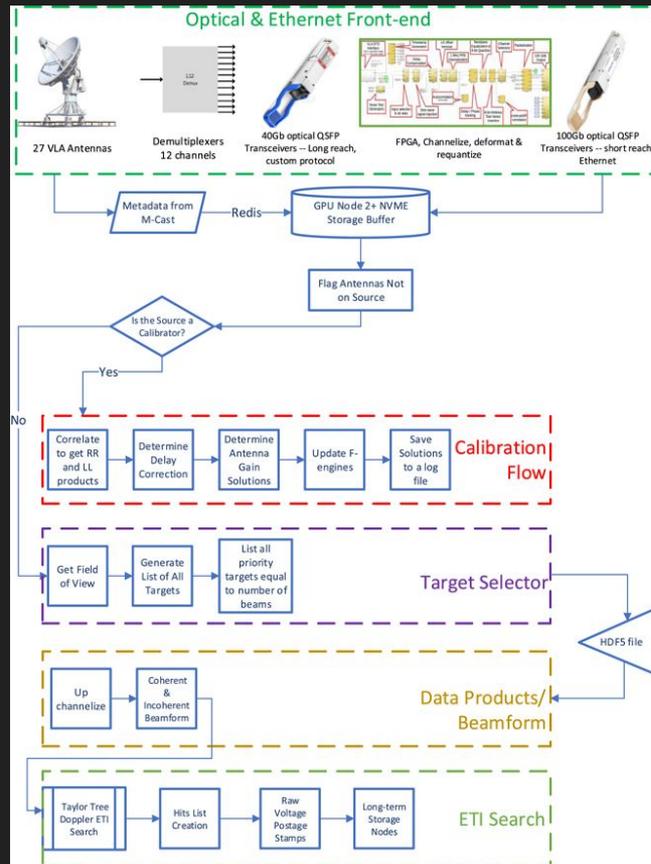
<https://public.nrao.edu/vla-webcam/>

NRAO EVLA 2025-09-25 10:34:02



<https://public.nrao.edu/vla-webcam/>

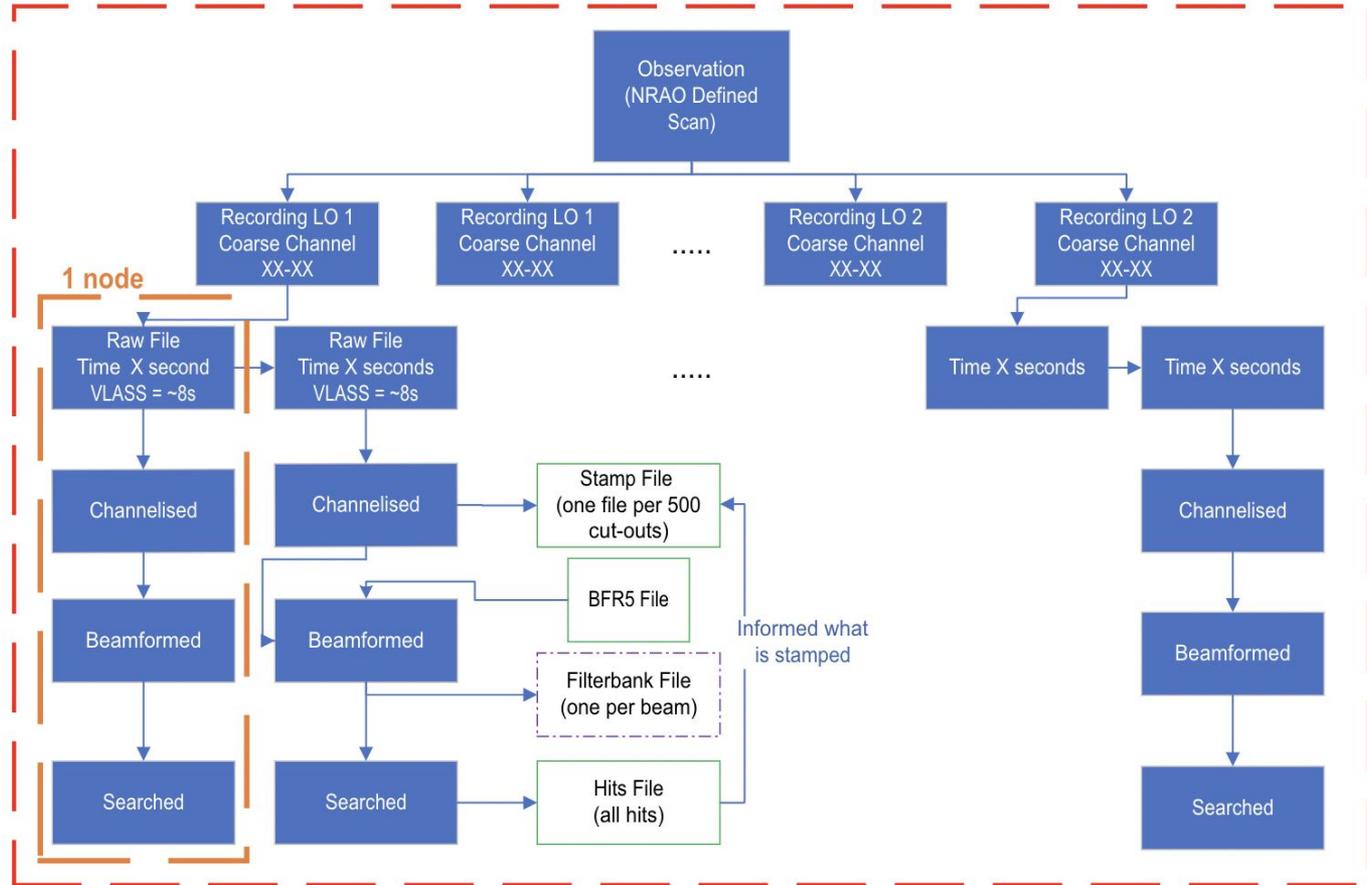




<https://doi.org/10.3847/1538-3881/ad0fe0>

Single Folder

Naming: obs_id, tuning_name, subband_coarse_chan0, raw_part_enumeration)



<https://www.seti.org/projects/>