

Current Performance of the EVN

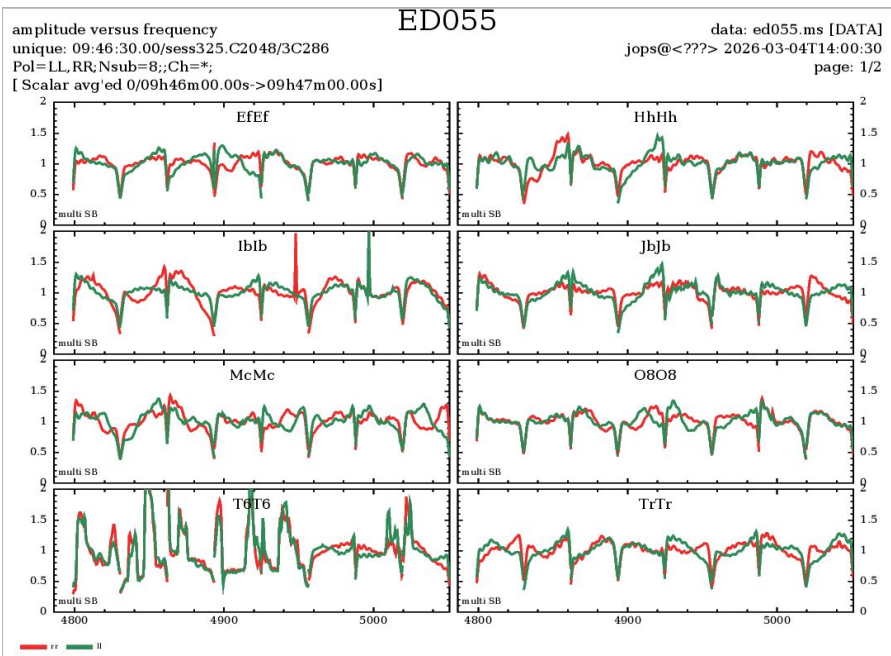
Status Report
F. Eppel, B. Marcote, M. Nyamai, J. Oh

Overall EVN technical performance

- Most challenging are stations (spontaneously) dropping out of observations occasionally
- Recurring technical issues are mainly T_{sys} , polarization (LCP/RCP) or IF anomalies, RFI

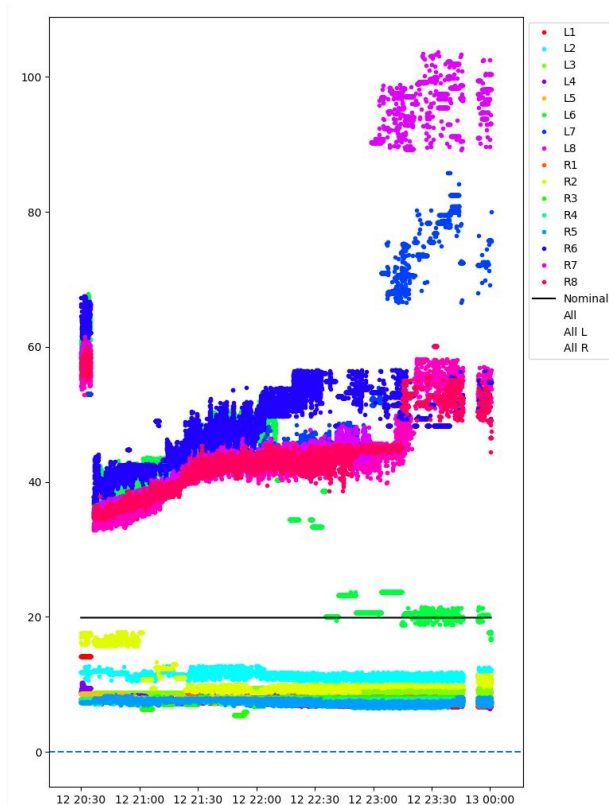
=> Overall performance is good, but reliability is mostly limited by intermittent station drop-outs and some station-level data-quality problems.

Tianma



- RFI(?) - related spikes in autocorrs at C-band

Tianma

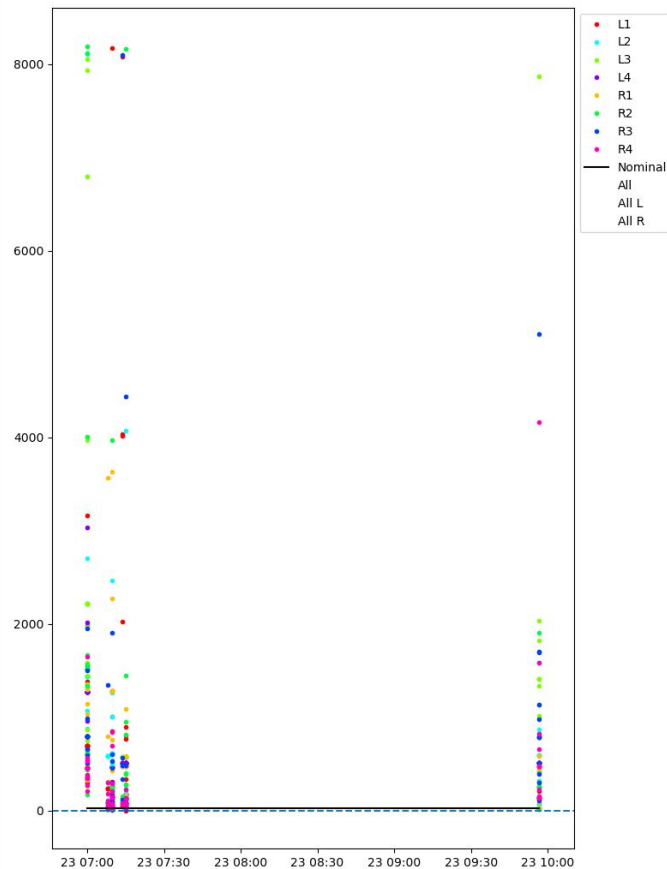


ES121B (example)

- unreliable (or no) system temperatures

Urumqi

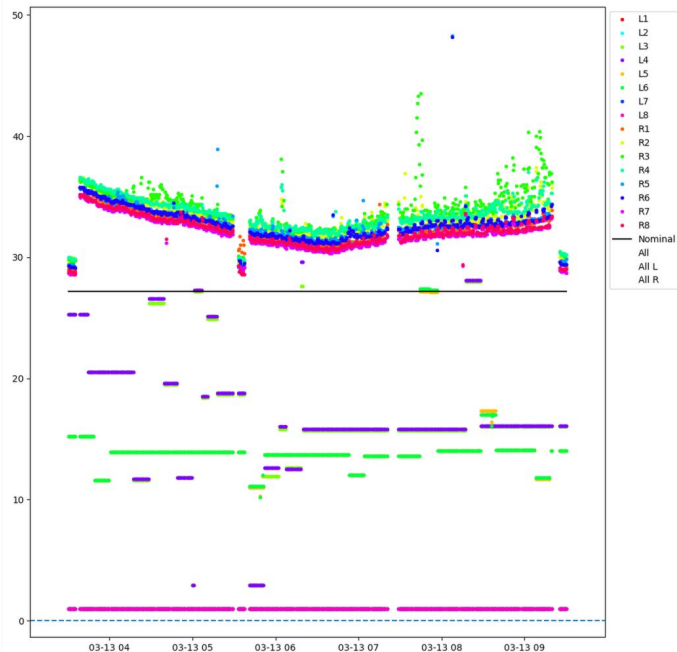
- Often no or unreliable Tsys (example EY053, L-band)



Medicina

EW053B (example, C-band)

- often one polarization (either LCP or RCP) shows suspicious system temperatures



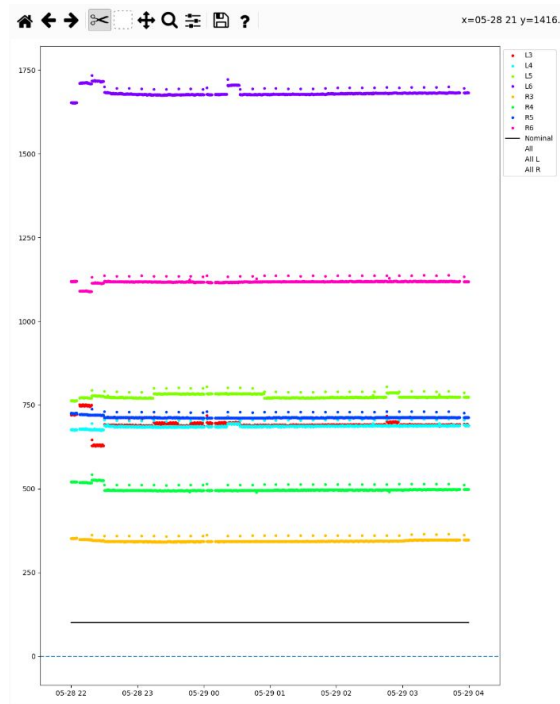


- faulty frequency setup, seen in some experiments, here only affecting LCP

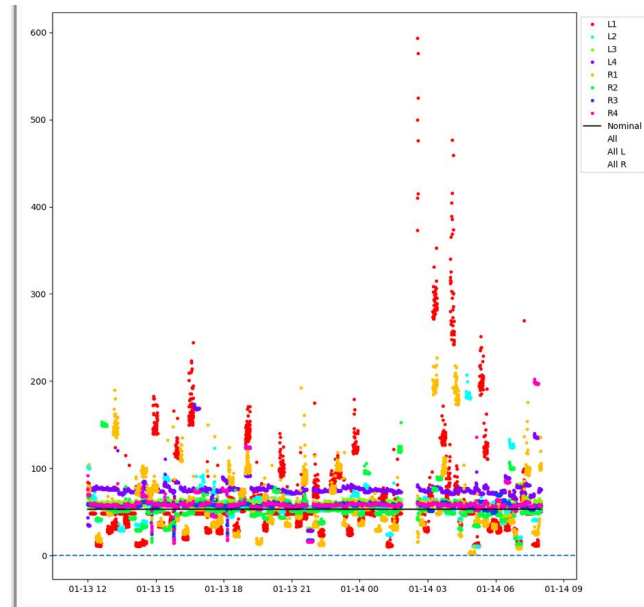
Westerbork

- possible time offset between logs and pointing?

X-band - EW053C

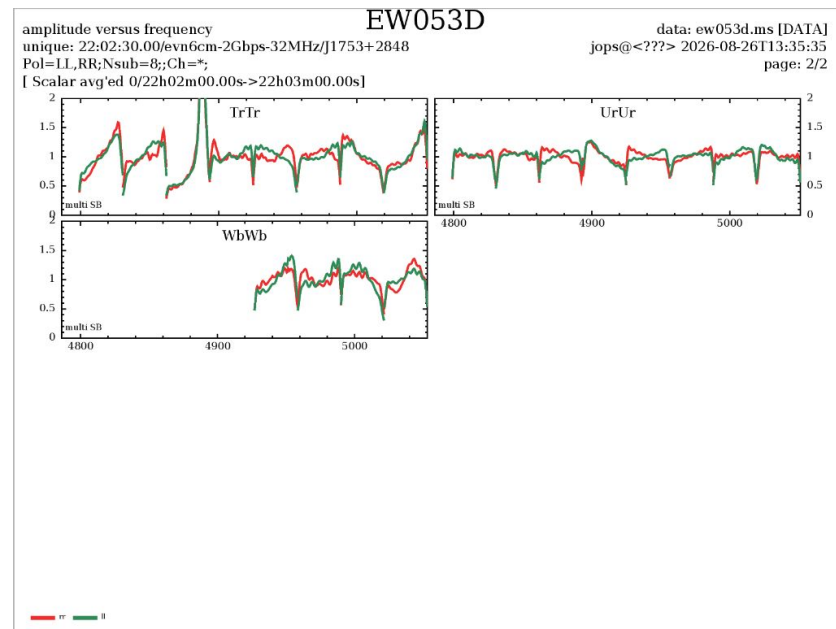


L-band - EB115F



Torun

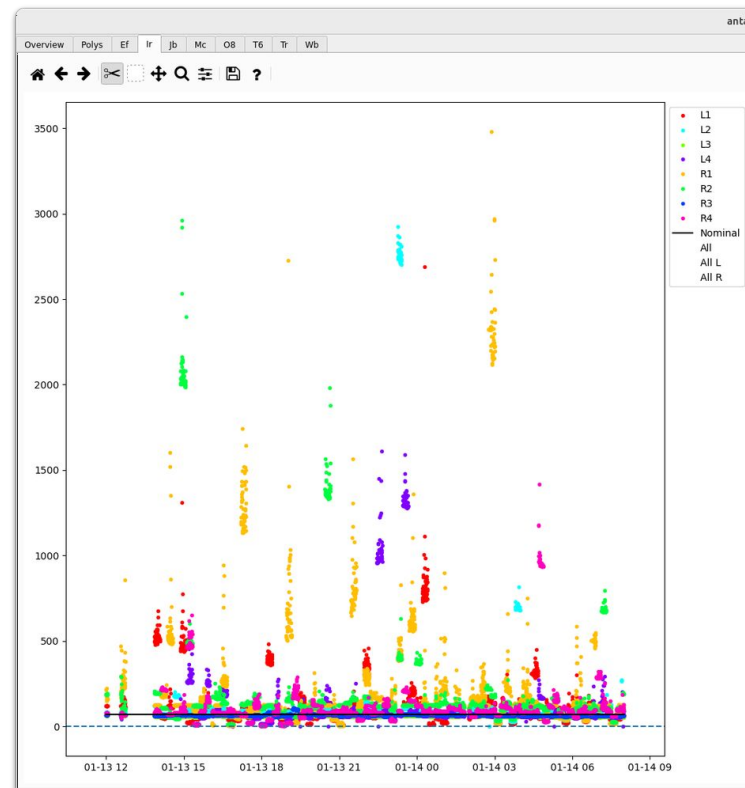
- peculiar bandpass features in IF3 at C-band (so far only one epoch)



Irbene

L-band - EB115F

- frequent system temperature issues



antabfs.py

Some developments done from the support scientists.

Thanks to Richard and Jonathan for testing it at Wb and Hh so far.

Feature requests to marcote@jive.eu (or via Mattermost / EVN GitHub).

```
> antabfs ry013awb.log -h
Usage: antabfs [-h] [-r RXG_DIR] [-f RXG_FILES] [-o OUTPUT] [-i] [--no-smooth] [--plot] [--sigma SIGMA]
              [--smooth-window SMOOTH_WINDOW] [--smooth-method {savgol,median}] [--vlbeer] [-d] [-V]
              logfile
```

Generate ANTAB-format amplitude calibration files from Field System log files.

Positional Arguments:

logfile Path to the Field System log file.

Options:

-h, --help show this help message and exit

-r, --rxg-dir RXG_DIR Directory containing RXG calibration files. Overrides any config-file paths. directories are read from \$XDG_CONFIG_HOME/evn/evn_rxg.config (or ~/.config/evn/evn_rxg.config), falling back to the current directory.

-f, --rxg-files RXG_FILES Comma-separated list of RXG filenames to use (e.g. -f Ys_6cm.rxg,Ys_13cm.rxg). Output ANTAB filename (default: <experiment><station>.antabfs).

-o, --output OUTPUT Open the interactive multi-channel editor to flag outliers before smoothing. runs non-interactively (auto-smooth, no window).

-i, --interactive Disable Tsys trend smoothing (smoothing is ON by default). Outliers are still and replaced with the local median.

--no-smooth Show a read-only plot of the smoothed Tsys result before writing the file.

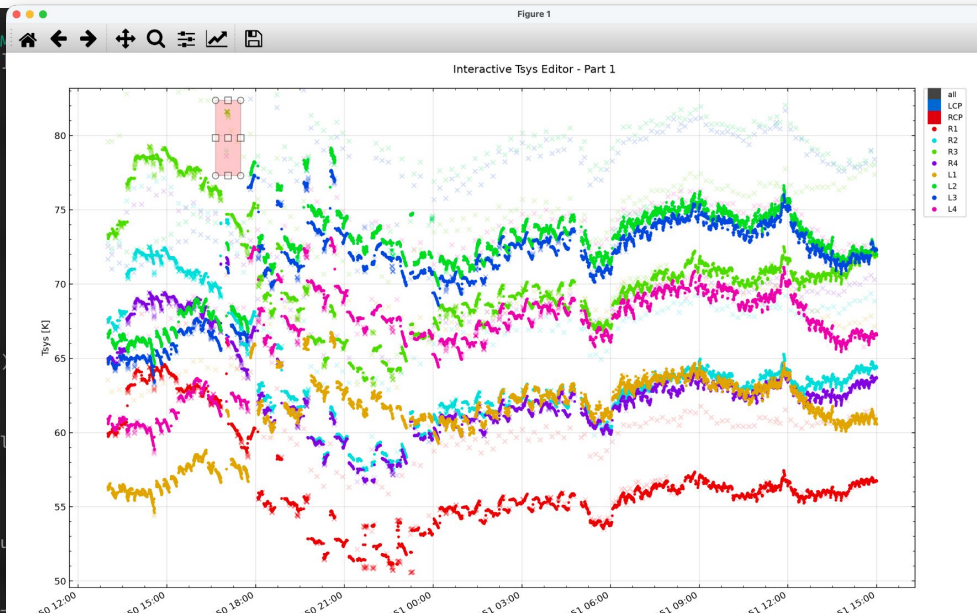
--plot Sigma-clipping threshold for smoothing (default: 3.0).

--sigma SIGMA

--smooth-window SMOOTH_WINDOW Per-scan smoothing window size (0 = auto: the full length of each scan, default: 10).

--smooth-method {savgol,median} Smoothing method: savgol or median (default: savgol).

--vlbeer Upload the output ANTAB file to vlbeer.ira.inaf.it (as user 'evn') into vlbi.



EVN Grafana

Someone using it?

Broken for the last year (no injected data from the EVN pipeline), nobody has complained about it...!