



# DiFX vs Mark IV: A Geodetic User's Perspective

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Difx is in use routinely for geodesy since about 4 months.

- Easy preparation of correlation files (20 min against 40 min with the Mark IV).
- Faster correlation (12 hours for a 24 hours/ 6 stations experiment against 30 hours with the Mark IV).
- Enough diagnostic tools for detecting problems.
- Pcal extraction working.
- Path into '*fourfit*' available and mostly working.

Geodesy (like EVN) is using an heterogeneous array of telescopes and the background of the stations's personnel is ranging from basic to expert.



This can enlarge the spectrum of possible failures and errors that need to be corrected at the correlator.

Geodesy cannot (should not) discard stations otherwise the geometry of the observation is compromised and so are the resulting EOPs.



Sometimes would be useful to use the Mark 5A programs, but they conflict with the mk5daemon.

Solution: one Mark5 should be kept with Mark 5A software running.

Recently failure of a formatter (loss of one channel) for two stations => data unreadable from DiFX.

Solution: program to change the sync word and copy dummy data (taken from another 'track') onto the track with stuck bit. In one case the data needed to be copied onto RAID with FuseMark5A.

As said in November in Socorro:

**DiFX:** More opportunity of screwing up everything but happily correlate 😊.

Whatever real number given to a double array won't prevent a software code from running.

**Mark IV:** usually it either correlates or it does not.

As geodetic user I am happy of the DiFX.

Very fast and satisfactory support from DiFX developers: many thanks to you all !!!

Still some open questions: geodesy will suffer more problems than the VLBA (just my guess) and will require fixes, which need to happen fast.

First need: ancilliary program capable of coping with stuck bits.

Second need: I like the '*plotapd*' but geodesy scans are too short to use it.