

EVN Performance and Reliability

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Highlights of the EVN performance

- ☺ The EVN sensitivity has been boosted by the Russian KVAZAR stations since Session 2/2010.
- ☺ The new Sheshan 5cm receiver significantly improves the EVN resolution.
- ☺ Pulsar binning correlation is available at JIVE now.
- ☺ NEXPreS has been founded.
- ☺ Channel dropping works now at Mc and Ys in 1-Gbps e-VLBI observations.
- ☺ Urumqi has turned out being a 5B station since Session 1/2010.

Ftp fringe tests in Session 2/2010

N10C2: BdDaKnEf JbMcOnShTrUrWbZc

-- **Ur:** Software correlator crashed because of problems with the ftp data (bad header?). The 1pps signal could not be synchronized stably.

N10M2: CmEfJbMcOnShTrWb

-- **Cm:** no fringes in RCP.

-- **Mc:** no fringes in VCO2.

N10L2: CmDaEfJbMcOnShTrWbZcBdUr

Sh: Used both MK5A and 5B recorders in the NMEs and sent both ftp data to JIVE. The 5B fringes were also detected although the data did not have a good sampler statistics distribution.

Nt & Sv: Not scheduled in the session.

MERLIN-out stations: The time between ftp fringe-test scans is short. We would appreciate it if the exact stations to use and IF/BBC patching setup information were communicated well (>24 hour) before the experiment to help use provide faster feedback.

Bd, Zc, & Sv: Daily sampled gps data file is not available now.

Station feedback of Session 2/2010

Ys: problem with antenna structure and failed to participate in any experiments.

Tr: Significantly sensitivity loss in EF022A after the recovery from power shortage.

Ur: Problems with 1pps synchronization occurred frequently during some experiments.

Jb, Bd, & Zc: Missing feedback.

Sampler statistics

- ✧ It has been monitored by the ftp fringe tests since session 1/2010.
- ✧ Significantly poor sampler statistics is less seen. However, it is still hard to achieve a good distribution for some BBCs at a certain stations (Jb, Tr, Nt, Mc).
- ✧ We wish stations to keep your BBCs in a good state till they are replaced by the DBBC.

Preliminary report of Session 1/2010

Cm: Fringes were too weak.

Ys: Had a technical problem and failed to participate in GH009A & RY002A.

Tr: Bad playback in some diskpacks (more details, see Leeuwinga's presentation). No useful data in the 2nd diskpack in GB070. MK5A-related problems reported quite often. Problems of 1 MHz LO offset was found in some 5cm experiments (EB039F et al.).

Nt: Suffered a H-maser casualty in the L-band part and went to Rb, and fixed the H-maser in the 5 cm part. Problems with FS in EM080. The schedule was not able to read the setup01 procedure. Lost 27 hours observations for an antenna problem in GC034A.

Ef: Slewing speed slightly affected due to a problem with an antenna motor. Lost most scans of EM080A due to heavy snow and last 3 hours due to wind in GC034A.

Mc: Due to snow, had to park the antenna in GA025A.

Jb: Telescope encoder failures giving brief periods off source in some experiments (e.g. EI010, EM080A).

Summary of Session 3/2009

Tr: No fringes in ES062B and N09M3 because of 1 MHz LO offset.

Ys: Started 8.5 hour later in EP066 and

No "preob" in the FS log files of Mc, Tr, & Mc in N09M3.

Bits missing reported by "scan_check" at Ef, Wb, Tr, On, Mc, Jb & Ur in 1Gbps experiment. The problem was also reported in Session 1-2/2009.

Problem with a disk pack at Nt in EM077A, Mc in EC029A, and Tr in GF015B.

Mc: No fringes in RE001. Instable H-maser in ES062A and other experiments of Session 2.

Sh: the 2nd head connection between formatter and Mk5a on VLBA connection instead of MK4 resulting in no valid headers. Found and solved after F09C2.

On: a strange problem with the noise diode.

Cm: replaced by Da and Kn.

Overview of e-VLBI sessions

Network related problem:

Ef: 1 Gbps -> 512 Mbps in Nov. 2009 and Feb. 2010

Ar: 512 Mbps -> 256 Mbps in Nov. 2009

Jb: No data transmission in Dec 2009.

Other problems:

Ys: No operator available at night in Mar 2010.

Tr: No observations due to a serious control computer crash in Mar 2010

Ar: No observations due to a problem with antenna in Feb 2010

Wb: Had cooling machine problem and started late in Feb 2010.

Jb: Failure due to a problem with receiver and a serious power failure in Feb 2010

Ef: Lost most scans due to snow and wind in Jan and Feb 2010

Mc: Clock jumps in Feb 2010