

## Performance and Reliability of the EVN

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EVN Session 2/2012

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The session consisted of four frequency blocks (3.6/13cm, 6cm, 1.3cm, 18cm). In each block, ftp-fringe tests and NME experiments were performed before the user experiments. There were no fringes to Nt (1 MHz LO offset), Jb (problem with synthesizer), Mh (a blow-up power supply in 5 MHz H-maser reference) in N12K3. Both Nt and Jb found the problem after NME experiment and the follow-up user experiments were saved. Tr was out in N12L2 to repair telescope control system. Nt antenna was out of source during N12SX1.

There were 20 user experiments (3 at 3.6/13cm, 5 at 6cm, 3 at 1.3cm, and 9 at 18cm) in Session 2/2012. There was one To0 experiment R0004A during the 1.3cm part. There were five experiments (EM095A, B, C and EP083A, B) done in the e-VLBI mode. There were two experiments (GB073, EY013E) correlated at Bonn.

Station and correlator feedback for individual stations:

Ef - Started one hour late in ET024B due to a power failure caused by thunderstorm. 50% time of GB073 was done without phase-cal due to a software failure. Out for two hours in EE008D to repair a broken oil pump.

Wb - No known problems.

On - There were a few report of a problem with slow disks, while there was no apparent influence on the correlation data quality. No phase-cal in the first night of GB073. Lost 3 hours in EY018B because of no operator during the night. Correlation amplitude at 22 GHz varied significantly on time scale of a few minutes simultaneously. As the variation was simultaneous in all subbands and on all baselines, it was most likely caused by some instrumental problems (pointing?) rather than source structure. Further investigation is going on.

Tr - Minor loss (1 hour) in GF018A due to a problem with telescope drive. No observations in EG049E because of problems with telescope control system.

Nt - Lost 1 hour in GF018A due to disk-pack problems.

Mc - Lost 1 hour due to a recorder problem at bank switch in GB073 and 7 hours in GF018A due to MK5 problems.

Ur - No known problems.

Sh - Out for the whole session for antenna maintenance.

Ys - Low correlation amplitude at least for some scans in EP075B. There was a problem with IF-BBC patching in the first 17 hour of GB073.

Mh - No fringes at 22 GHz as its receiver was broken.

Jb1 - Fringes were clearly seen while had poor stability (full of phase jumps on time scale of 1-10 seconds) in all the 5 GHz experiments.

Hh - There was a maser failure in GB073 and 40 minutes were lost to replace it with a new maser.

Ro70 - As expected from the block schedule, it participated a L-band experiment ED038 and a K-band experiment EE008D. There were tracking error reported in EE008D. As expected from the pointing error, its fringes were barely seen, while only in RCP channels. It is not clear why there were no fringes in LCP channels. Fringes to Ro at 18cm were fine.

Ar - Only in ED038. No known problems.

Bd - No known problems.

Zc - No useful data for 5 hours in GF018A due to a bad disk-pack. No fringes in 10 BBC channels in EP075C. All LCP BBC channels had low correlation amplitude during some parts of GF018B. There were some clock jumps in the last 12 hours of GF018B.

Sv - No/very weak LCP fringes in GF018A and EP075C. Low sensitivity/correlation amplitude (0.1x) was also reported in some experiments of the previous session.

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