

# ***Torun (Tr) Station Report***

(January 21<sup>st</sup>, 2013)

## **Brief Report of Recent EVN Session Problems**

The May/July 2013 session passed without any major problem. All experiments scheduled were carried out. In some experiments one or two of our old analogue BBCs were malfunctioning (unlocked state). During N13K2 we started observing with wrong LO (corrected after the first ftp scan).

The last session, Oct/Nov 2013, was much less successful since as many as 4 scheduled experiments could not be observed (EP087D, EP088A, ER030B and EG075). This was a result of serious breakdown of telescope control electronics, and (in case of EG075) problems with the recorder (Mark5A on loan from JIVE; suspected cause could be overheating, having diskpacks mounted in both the banks). There were also a number of minor problems (such as hang-up of telescope control system, operator's fault, bad disk-pack).

Post-session calibration results (Tcal and Tsys) are presented graphically at:

<http://www.astro.uni.torun.pl/~kb/Reports/Cal2013-2/Sesja13-2.html> and

<http://www.astro.uni.torun.pl/~kb/Reports/Cal2013-3/Sesja13-3.html>

Outside EVN sessions we could not participate in number of RadioAstron experiments and e-VLBI session of October 8/9, 2013 because of major failure of the telescope elevation drive that has happened during GA030A on September 30. Luckily, this could be repaired right before the first experiment of the last EVN session on October 16, 2013. Earlier, on August 31 we participated in a ToO experiment in K-band, but there were no fringes to Torun for unknown reason (suspected is formatter time synchronization).

## **Personnel Changes**

Paweł Wolak joined the technical team of Toruń station and replaced M. Kunert-Bajraszewska on her position as of 1st Oct 2013. He will be also our representative during the TOG and SYNERGY meetings.

## **Changes/Upgrades Made to Hardware/Software**

### ***Current software versions***

- Mark5A OS is Debian "Etch" version 4.0 with the package mark5a\_1.0.2-i386.deb
- Mark5A application code is Mark5A2007y.225d
- The StreamStor driver version is 9.21
- FS 9.10.4 version is used since session 3/2011.
- e-VLBI jive5ab version is jive5a-2.4.2-SDK8.

## ***Mark5B upgrade and DBBC***

Before the May/June session an arrangement was made with JIVE to borrow their Mark5A for recording parallel with our Mark5A upgraded to Mark5B and DBBC. Since then a number of tests (full experiment recordings or ftp fringe tests) were performed, some apparently successful, some failed. During the last session there were 6 experiments scheduled for parallel recording with the DBBC, and the ftp tests gave fringes in three of them (the last two unsuccessful, with no hint of the culprit). In case of N13L3 also full correlation at JIVE didn't give fringes.

Currently for our Mark5B with DBBC we use FS 9.11.4 and jive5ab version 2.4.4; the version of software for DBBC in the 'tunable' mode is 1.04.

## ***Problems with frequency standard***

In July 2013 an outage resulted in a failure of setup and monitoring system of our EFOS15 frequency standard. Since then, although the maser works fine, we cannot monitor its parameters nor can we adjust its frequency. Unfortunately, in the present state of affairs there are quite poor chances for repair and equally poor chances for purchase of a new frequency standard.

## **Disk-pack purchase**

In 2013 Tr station has purchased 5 SATA disk-pack modules. Subsequently, they were populated with 2-TB disks, four per module, and already used during the EVN sessions. Thus we added 40 TB capacity to the EVN pool.

## **e-VLBI**

Our station has participated, without major problems, in almost all regular and a few testing experiments organized by JIVE. The exception were the ToO in August (no fringes, suspected formatter sychro) and EG079a in October (when our telescope was out of order, as mentioned above.)

## **RadioAstron Observations**

In January 2013 Tr joined VLBI observations in the RadioAstron mission at K, C and L band and continues to observe. A few hundred short-duration experiments were carried out in 2013.

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