

Metsähovi station report Q2/2017-Q1/2018
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1) Receiver status

Following Metsähovi's VLBI-receivers are working fine: 2/8, 43 and 86 GHz. We had some problems with our 22 GHz-VLBI-receiver. The power supplies of the receiver were replaced, and in addition the helium cooler of the receiver was serviced. The receiver will be tested in Session 1 – 2018 (3/2018) at Part 3 the first time after repairing's.

2) DBBC status

No special notices about dBBC. dBBC has been working exceptional reliable in the past sessions. We did not decide to update our dBBC to the "standard" configuration (4 x IF-input). Our dBBC only has two IF inputs.

3) Mark5B+ and other recording systems

Flexbuff have been used successfully both in EVN and GMVA sessions. Local Flexbuff is available with the space capacity of 93.67 TB. We had problems with Mark5B+ during the 2/2018 OoS. The Mark5B+ went for so called "magic mode" in the middle of the session. This was caused probably that the disk2file procedure and recording were simultaneously on or several disk2file procedures were running simultaneously. We have modified our station procedure file thus it will abort the disk2file procedure after 3 seconds and this hopefully prevents "magic mode". In addition we had some compatibility problems with the StreamStor driver and the newest OS Debian version.

4) Software versions

We have installed FS 9.11.19, SDK 9.4 and jive5ab 2.8.1 (Mark5B+) and 2.8.1 (Flexbuff). We are using DBBC firmware versions DDC v 106 and DDC v 106E and PFB version v 16_2. In addition FILA10G version v3.3.2_1 is in use.

5) EVN sessions in 2017 (Q2)-2018 (Q1)

Metsähovi participated following regular EVN-sessions:

- 3/2018: K-band

In addition Metsähovi Radio Observatory (MRO) participated in following EVN-Out-of-Sessions (OoS):

- 10/2017: K-band
- 1/2018: K-band
- 2/2018: K- and Q-band
- 3/2018: K-band

Metsähovi also participated in one GMVA session (9/2017).

6) Other issues

- Phase coherence tests will be done before every session. Also signal chain will be tested using

- software tools from mark5access libraries.
- Continuous calibration (80 Hz) is implemented into 22 GHz-VLBI receiver but not yet tested during the real observations.
 - Some antenna mechanics were replaced in fall 2017 (e.g. azimuth motors).