

Metsähovi station report Q2/2019-Q1/2020
Juha Kallunki, juha.kallunki@aalto.fi
EVN TOG meeting, May 5, 2020

- 1 – Receiver status*
- 2 – DBBC status*
- 3 – Flexbuff and other recording systems*
- 4 – Software versions*
- 5 – Sessions*
- 6 – Other issues*

1) Receiver status

Following Metsähovi's VLBI-receivers are currently operational: 2/8, 22, 43 and 86 GHz. All receivers have been working without any failures.

Preliminary discussions have been started for purchasing a new wide-band (triple-band) receiver (for K-, Q- and W-bands).

2) DBBC status

The dBBC has mainly been working without any problems. We had some reliability issues with the dBBC version (v107_281019). In addition, the calibration (v107_281019) is not functional.

3) Flexbuff and other recording systems

Flexbuff has been used successfully both in EVN and GMVA sessions. Local Flexbuffs are available with the space capacity of 196 TB (primary Flexbuff 144 T and secondary Flexbuff 52 TB). All astronomical VLBI-sessions are recorded to Flexbuffs. Mark5B+ is currently only use in geodetic-VLBI-sessions.

4) Software versions

We have installed FS 9.13.2, SDK 9.4 and jive5ab 2.8.1 (Mark5B+) and 2.8.1 (Flexbuff). We are using DBBC firmware versions DDC v 106, DDC v 107_300119, DDC v 107_281019, and PFB version v 16_2. In addition, FILA10G version v3.3.2_1 is in use. The latest dBBC's firmware version 107_281019 was successfully tested during the GMVA I/2020 and EVN 3/2020 sessions.

5) EVN sessions in 2019 - 2020

Metsähovi Radio Observatory (MRO), Aalto University participated in following EVN-sessions with this period of time (II/2019 – I/2020):

- 6/2019: K-band
- 10/2019: K-band
- 3/2020: K-band

In addition, MRO participated in following EVN-Target-of-Opportunity-sessions (ToO):

- 9/2019: K-band

MRO also participated in two GMVA sessions (October 2019 and April 2020).

6) Other issues

The renovation of Metsähovi Radio Observatory is now ongoing. The observatory premises will be renovated: the oldest part of the observatory will be dismantled and, new compensatory spaces will be built. The major part of the new premises should be available in August 2020. The whole renovation project should be ready at beginning of next year (2021).

The replacement of the protective radome (the 14-metre radio telescope) is postponed due COVID-19 pandemic. The replacement will be started immediately after the global travel restrictions are removed. The original schedule for the replacement was May 2020.

The motors (+drives) of the 14-metre radio telescope have been replaced. The work was completed in April 2020. The old DC-servo drives were replaced with modern AC-drives.