

**Metsähovi station report Q1/2020-Q2/2020**  
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**EVN TOG meeting, November 24, 2020**

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### **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.

Some improvements for 86 GHz receiver have been planned. The remote-control (for the frequency tuning) option will be added to the local oscillator (LO). In addition, quasi-optics of the receiver will be upgraded. Thus, the better calibration results should be achieved in the future.

Discussions have been continued 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. The dBBC version (v107\_281019) was installed and calibrated in fall 2020, before EVN 2020 session 3.

### **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. Some broken disks of our primary Flexbuff will be replaced in the near future. 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 version 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 EVN 3/2020 session.

### **5) EVN sessions in 2020**

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

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

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

### **6) Other issues**

The renovation of Metsähovi Radio Observatory is still ongoing, but it is near the end. Small laboratory space is still under construction, but it should be completed in January 2021. The bigger, new observatory building, including seminar room, was taken into use in August 2020.

The replacement of the protective radome (the 14-metre radio telescope) was made on June 2020 under the period of three weeks.

Observatory operations are running quite normally even though COVID situation was getting worse in September 2020.