

Effelsberg Station Report

General Status

Restrictions due to the pandemic are still severe in Germany. Where every possible, employers are working in home office since autumn 2020. Nevertheless the observatory is operating more or less as usual. Technical staff provides support to maintain the equipment on site and perform repairs if necessary.

Past Sessions

Since the last report there was only one session and Effelsberg has participated in all observations of EVN session I 2021, as well as all of the e-EVN sessions. Most of the observations were successful. Some observations were not observed or had to be stopped in between because of weather (high wind, or thunderstorms).

EC071K could not be observed because of a storm. Unfortunately, most of the K-band part was observed at non optimal weather conditions for high frequencies. Short stops due to strong wind and/or snow also happened during EC071J, EB085, ET045C, and RM016C. During EB046I we lost control of the antenna because of a network switch failure. The antenna could track only the main target source until the end of the observation. No switching to calibrators or pointing possible.

Current Equipment Status

Effelsberg uses the DBBC2, Fila10G and a Mark6 recorder for all EVN, global, GMVA, and geodetic VLBI observations. Most of the recorded data is e-transferred to the correlators in JIVE and Bonn. In addition there are two NRAO RDBEs connected to one of the Mark6 recorders that are used for observations with the VLBA and HSA. Mark6 modules to Socorro are still being shipped.

The two Mark6 recorders currently provide about 340 TB of disk space in a raid configuration and are mounted as flexbuff mount points. The modules in one of the recorder are mounted as raids, each module of 8 disks forms a raid of type 5. One disk can fail without data loss. One slot is currently kept for modules that can be shipped. This is required because VLBA+Eb and HSA observations that are being correlated in Socorro are now recorded on Mark6 as well. The Mark5C recorder is no longer used.

Technical Developments

The DBBC3 for Effelsberg is back and is working since one week. Test and further commissioning have to be done in the next weeks. The installation of the BRAND receiver is delayed because the labs were closed for some time because of the pandemic restrictions and was shifted to autumn 2021. Ef is going to place an order for a new Flexbuff at JIVE within the next weeks.

Since March 2021 Effelsberg is using a new maser (T4 science, i3000) as time reference. The maser was monitored against the previous maser (T4 science, i45) since about a year and appears to run stable. A new room with special housings for the masers was constructed, with better shielding and temperature control. The new maser was directly installed in the new room, but the old maser will now move to a new housing and will be kept as a reference and backup.