

Effelsberg Station Report

General Status

Although most of the employees were sent to home office for several weeks in spring 2020 the observatory was kept open and running through all the time. Technical staff provided minimum support to maintain the equipment on site and perform repairs if necessary. After a more relaxed time in summer the restrictions were tightened again in November, but so far with no limitation for the operation at the Effelsberg observatory.

Past Sessions

Since the last report, Effelsberg has participated in EVN session II and III 2020 and 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).

In session II 2020 ED046A failed because of an IF filter that was not switched to the correct pass band. The weather was quite good and only two observations suffered from short stops because of thunderstorms, EN006D (1.5h) and EV022 (1.5h). In session III the highest frequency part at K-band suffered from rain, wind, and thick clouds. ED045F could not be observed because of a broken amplifier in the receiver.

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 in the lab in Bonn and is being upgraded for the use with the BRAND receiver. It will be equipped with more and new boards and optical Ethernet inputs for the BRAND signals. The same hardware can be used for other receivers as well. The installation is delayed because the labs were closed for some time because of the pandemic restrictions. The budget plan for 2021 foresees to buy a new raid for JIVE to fulfil the 500 TB commitment.