

Westerbork VLBI station report for the EVN T0G Meeting, Zoom meeting, Feb 08, 2022

Overview:

Westerbork is contributing to VLBI projects with a single dish, equipped with a modified MFFE providing circular polarization and a DBBC backend. Two radio telescopes are available for VLBI operations, one equipped with the MFFE receiver, and the other with the 5cm receiver, currently sharing the DBBC/Mark5B/FlexBuff backend.

The remaining 12 radio telescopes of the WSRT are equipped with the APERTIF receivers and backends.

DBBC:

Our DBBC (used operationally since Session 2015-3), has four Core2 boards and eight BBC's and an internal Fila10G card and its running on Windows 7 and firmware version 1.07.

The WSRT DBBC is capable of delivering 2Gbps setups to a FlexBuff (though the relatively narrow MFFE IF, limits the data rate to >~1Gbps).

FlexBuff:

WSRT's FlexBuff server is equipped with 36 8TB disks (nominal capacity 244TB).

Fieldsystem:

Fieldsystem version 9.13.2.

Session Participation:

Westerbork participated in the X, C, M and L-band experiments of sessions 2021-1,2021-2 and 2021-3

VLBI Operations result report of session EVN 2021-1

18/21	cm(L)	total: 90 hr	lost: 0 hr
6	cm(C)	total: 61 hr	lost: 0 hr
3.6	cm(X)	total: 37 hr	lost: 37 hr
Total:		188 hr	37 hr

Total 19.68% lost

VLBI Operations result report of session EVN 2021-2

18/21	cm(L)	total: 147.45 hr	lost: 57 hr
6	cm(C)	total: 81.15 hr	lost: 0 hr
Total:		229 hr	57 hr

Total 24.89% lost

VLBI Operations result report of session EVN 2021-3

18/21 cm(L) total: 148.00 hr lost: 0 hr
6 cm(C) total: 36.00 hr lost: 0 hr
5 cm(M) total: 23.00 hr lost: 0 hr
3.6 cm(X) total: 30.00 hr lost: 14 hr

Total: 237 hr 14 hr

Total 5.91% lost

Operational problems during recent sessions:

EVN 2021-1

Problem 1: No fringes in the 3.6cm fringe test. Receiver (MFFE 11) has no signal in X band. Weather conditions were too bad to change receivers.

Problem 2: Fringe data was not uploaded during the X band fringetest. Jive had no free space left on their FTP server, after Jive made some space the fringe data was uploaded by hand to Jive.

Problem 3: MASER out of lock, in between the 6cm and the 3.6cm. We managed to get the MASER back in lock before the 3.6 cm observations. We are waiting for the new MASER to arrive.

EVN 2021-2

Problem 1: Telescope steering software crashed a few times even after restarting all the steering software. In the steering software log file there was an error regarding the wind direction value. This was fixed in the steering software. The reason why this happened now is unknown since the steering software is running for a few years now.

Problem 2: The DBBC has a broken fan this caused the temperature inside the DBBC to rise. Because of the high temperature the DBBC boards lost their configuration. A temporary fan has been installed and a new fan is ordered.

EVN 2021-3

Problem 1: Just before the last observation of the EVN session the MFFE lost power. Possibly one of the fans in the focus box caused a short circuit causing the power failure.

Richard Blaauw
Technical VLBI friend