

Westerbork VLBI station report for the EVN T0G Meeting, Zoom meeting, Apr 29, 2021

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.

Hydrogen Maser

The new Maser has arrived and is installed in Westerbork. New and old Maser side by side.



Session Participation:

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

VLBI Operations result report of session EVN 2021-1

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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  
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Total:                188 hr                37  hr
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Total 19.68% lost

Operational problems during recent sessions:

EVN 2021-1

Problems:

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.

** How much disk space do you plan to install this year at your stations and at JIVE? The commitment from the CBD is that each station should provide 1000 TB by the end of 2021, split between the station and JIVE (500TB/500TB).*

Westerbork has only one flexbuf (244TB) this one is installed at Jive we choose to use only one flexbuf since we have a direct fiber connection to Jive. We plan to buy a new flexbuf in 2022.

** Did your station purchase/order a DBBC3 or plans to do so? Or any other VLBI backend that is capable of recording rates of more than 4 Gbps.*

We have no plans to buy a DBBC3.

** How fast is your eVLBI connection speed currently and if below 10 Gbps, are there options/plan to increase it to 10 Gbps?*

We have a direct fiber connection to Jive, I think its 10Gbps.

Richard Blaauw
Technical VLBI friend