

**Westerbork VLBI station report for the EVN TOG Meeting,  
IAA, Granada,  
October 4, 2018**

**Overview:**

The 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.

Since the previous TOG, ASTRON's FlexBuff (installed at JIVE) has been operational; data are streaming from the DBBC/FILA10G installed at the WSRT site directly to the FlexBuff installed at the JIVE correlator.

The remaining 12 radio telescopes of the WSRT are now equipped with the APERTIF receivers and backends. Commissioning is in progress.

**DBBC upgrade:**

Our upgraded DBBC, with two additional Core2 boards and an internal Fila10G card is in operational use since March 2018. The WSRT DBBC is now capable of delivering 2Gbps setups to a FlexBuff (though the relatively narrow MFFE IF, limits the data rate to  $>\sim 1$ Gbps).

The legacy Mark5B is used for recording RadioAstron experiments.

**FlexBuff and Disk purchases:**

WSRT's FlexBuff server is equipped with 36 8TB disks (nominal capacity 244TB - delivered on May 4th, 2017). Following the action from the November 2017 EVN CBD meeting, ASTRON bought 36 10TB disks (12 in December 2017 and 24 in March 2018) and delivered them to JIVE to upgrade existing FlexBuffs (for an additional total of nominal 360TB, netto 252MB in FlexBuff RAID capacity).

**Session Participation:**

Westerbork participated in the X, C and L-band experiments of sessions 2018-1 (160hrs with a loss of 14.8% of the data) and 2018-2 (86 hrs with a loss of 2hrs of data). Furthermore the WSRT participated successfully in e-VLBI, ToO, OoS and RadioAstron projects.

**Operational Problems:**

During the first months of 2018, we experienced multiple problems with the legacy MFFE receivers, resulting in the loss of eVLBI and some of the Session 1/2018 observations.

The maser developed an instability that was fixed with a visit from the manufactures in summer 2018.

The setup of the FILA10G caused it to lose time synchronisation during observing resulting in incorrect timestamps recorded in the data for some of Session 2/2018 experiments. This was fixed subsequently.

**Field System:**

FS 9.11.19

**Mark5B:**

SDK9.4  
jive5ab 2.8.0

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