

Westerbork VLBI station report for the EVN TOG Meeting,  
Ventispils, Latvia, May 23 2017

#### Overview:

As of September 2015, Wb is contributing to VLBI projects with a single dish, equipped with a modified MFFE 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, sharing the DBBC/Mark5B backend. The WSRT is now equipped with the APERTIF receivers and backends at the 12 designated telescopes. Tied array capability at L-band, using the Apertif frontends, will be added at a later stage.

#### Session Participation:

Westerbork participated in the P, X, M, C and L-band experiments of session 2016-3 and 2017-1 (268 hrs with no loss of data). This was the first time P band observations were made with the single telescope and the modified MFFE receiver. Furthermore the WSRT participated successfully in e-VLBI, ToO, OoS and Radio Astron projects.

#### Operational Problems:

On February 28, 2017 the multi-frequency MFFE installed in RT1 warmed up after the compressor suffered a power drop. Observations switched to RT0 using the spare MFFE. A polarization swap was fixed, after it was noticed in the C-band FTP test; no observations were affected.

Observations switched back to RT1 with the repaired compressor in March 28, 2017.

#### DBBC and pending upgrade:

Our DBBC (used operationally since Session 2015-3), has 8 BBC's, 2 Core2 boards and a VSI input. In February 2017, two additional Core2 boards and a Fila10G card were ordered, to make the DBBC capable of delivering 2Gbps to a FlexBuff (though the relatively narrow IF limits the data rate to  $\sim 1$ Gbps). The upgrade is expected to be complete after Session 2017-2.

#### FlexBuff and Disk purchases:

We bought a FlexBuff server equipped with 36 8TB disks (nominal capacity 244TB - delivered on May 4th). Due to the availability of a dedicated broadband fiber link between WSRT and Dwingeloo the Flexbuff will be installed at JIVE, and data will be streamed directly to it through the fiber. This will require the upgrade of

some switch equipment.

The remaining 4TB disks (bought in early 2016) are used to populate the existing PATA disk packs, converting them all to a mix of 32TB and 16TB (most were previously 8TB packs).

Field System:

(before Session 2016-2)  
FS 9.11.8

Mark5B:

(updated before Session 2017-1)  
SDK9.4  
jive5ab 2.8.0

(capable of using 32TB diskpacks)

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