Observatories Report To EVN TOG
INAF-Institute of Radioastronomy

Medicina station Period - January 2023

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1) Antenna

No news with respect to the last TOG report.

2) Receivers

The K-band receiver has been refurbished. The old cryogenic amplifiers have been substituted and routine maintenance performed.

We had two failure in LO chain distribution. One frequency synthesiser was replaced and repaired. The second failure, occurred during VLBI session 2022-2, was discovered late and it compromised five user experiments.

3) Towards the high frequencies

The triple band receivers (3mm, 7mm and 13mm) was delivered at the end of August by KASI and is ready to be installed as soon as the new Active Surface system is completed.
The new panels for the primary mirror for the Active Surface have been delivered, showing a rms surface manufacturing accuracy of about 60 microns.
The design of the new surface for the secondary mirror is at an advanced stage and it is foreseen a rms surface manufacturing accuracy of 50 microns (hopefully 40 microns). This will be provided both for Medicina and Noto.
All the parts necessary to the electromechanical actuators are about to be delivered. Then we plan to begin the assembling of more than 240 actuators.

4) VLBI terminal

Our Flexbuff system is presently equipped with 360TB.
jive5ab 3.1.0, 64bit, released 28/09/2020
We're running DBBC V107
PFB with v16 firmware
Fila10G with V4.1 231118 firmware

We are going ahead with test on DBBC3 and new FlexBuffer.

5) Field System
We are running the new FS 10.0.0 on a FSL10 Debian machine

6) VLBI sessions

EVN 2022-2: lost five user experiments, plus half of another, due to LO distribution chain failure

EVN 2022-3: No known issue. Fringes in all NMEs as expected. Just 11 minutes of a user experiment were lost due to an overlap with another schedule