

Observatories Report To EVN TOG
INAF-Institute of Radioastronomy

Medicina station Period October 2018 – June 2019

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1) Antenna.

INAF funded the upgrade of the Medicina primary mirror. A new active surface system will be installed. The upgrade will include new aluminium panels and a number of actuators to move them in order to compensate for gravitational deformation. A completely new sub reflector with low RMS surface will also be installed. Once completed Medicina will be able to observe at high frequencies with good overall efficiency. The timeline is impossible to be disclosed right now. Probably next year we will be able to have a more precise guess.

2) Receivers.

INAF succeeded a call for fundings (PON) issued by the Ministry Of Research. In the framework of the PON (Programma Operativo Nazionale), our institute asked for a simultaneous 3-bands receiver (18–26, 33–50, 80–116GHz) to be installed on the Medicina radio telescope. The receiver is planned to be available within three years.

The continuous calibration system is now available for primary focus receivers: X- and L-band.

The filters installed in the L band receiver has been recently changed. Now the bands (100MHz width) instantaneously available are 1585–1715MHz and 1350–1450MHz.

3) VLBI terminal

Our Flexbuff system is presently equipped with 360TB.

We're running DBBC V106 and V107 according to experiment requirements.

Always referring to the PON(see above), funds to buy a DBBC3 are also in the budget. The backend might be available within 24–30 months.

4) Field System

We're running FS 9.13.0 (9.13.1-rc2 when firmware V107 in loaded) on FSL9.

5) VLBI sessions

EVN 1–2019. All NMEs succeeded with good fringes. DBBC V106 was loaded.

An L-band experiment had a couple of BBC out of band.

EVN 2–2019. All NMEs succeeded with good fringes. Some time lost during user experiments due to recording problems with the flexbuffer.

Also some issues arose with the cont_cal in combination with the FS 9.13.1-rc2 and DBBC firmware V107. Two L-band (1.4GHz) experiments not observed because of the frequency setup completely out of band boundaries of our receiver.