

Noto Station Report

From Noto staff (INAF-Institute of Radioastronomy)
To EVN-TOG

Reference period October 2018 – June 2019

1) Antenna.

A complete refurbishment of the helium pipes to the vertex room and the cooling system of the telescope have been funded by INAF.
The timeline of the task is not defined but our goal is to complete by the end of the year.
Also the Active Surface will be partially refurbished. Some actuators are not working properly so their electric components and their cabling are going to be replaced with new parts.

2) Receivers.

K-band receiver showed no fringes during 1-2019 session. After investigating the problem, the local oscillator was replaced.
During session 2-2019 a similar issue in M-band, eventually led to a joint effort with the JIVE staff so we managed to identify a problem in the procedure that, at the correlator, computes the clock offsets starting from the file with GPS readout. This issue was promptly resolved and the new correlation of the test turned out to be successful. We plan further tests to make sure that the lack of fringes in K-band is definitely solved as well.

Q-band receiver has a broken IF chain. The failure is due to a damaged cryogenic LNA. The amplifier is now being repaired.

The L-S-X primary focus receiver will be installed starting from June the 24th. We are confident that it will be operative in July.

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 Noto radio telescope. The receiver is planned to be available within three years.

3) VLBI terminal

FS Version: 9.13.1-rc2
DBBC fw version: DDC V107, PFB V16
FiLa10G fw version: 4.1
Flexbuff sw version: 2.8.1
Flexbuff disk space: 360 TB

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) VLBI sessions

Session 3-2018: No fringes during C-band NME. The problem related to a 10MHz cable was promptly solved during the session. The first stage LNA of the X-band receiver failed during the session. The receiver will not be available until the new one is installed. Good fringes during K-band test and no known problems.

Session 1-2019: No fringes during K-band NME and Fringe test. The C band part of the session showed no evidence of problems.

Session 2-2019: Fringe tests affected by the issue about clock offset (see above). Fringes produced anyway.