

Noto Station Report

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

23/11/2020

Reference period May 2020 – November 2020

1) Antenna.

In our previous report to the TOG in May we outlined a problem in two steel girders composing the reticular structure that supports the two counterweights. The girders were found broken and the telescope was immediately idled.

After a fatigue analysis (based of the Finite Element Model) we realised that the stress (during normal working cycles)

on the two broken girders was higher than all the other of the structure.

We also planned a complete inspection of the structure and the replacement of the broken girders.

Restrictions related to the COVID-19 pandemic caused a significant delay but eventually the repair was finalised successfully.

The Telescope was back to operations from middle of July.

At the end of September we had a failure on the mechanics of the Z Axis (focusing) of the servo system that moves the box of the primary focus

receiver into position. The problem is due to a seized recirculating sphere screw which blocks the actuator. This failure does not allow focus

switching so only primary focus frequencies are available (L-,S- and X-band), C-,M- and K-band are not. We are now procuring the required spare parts and we hope to complete the repair before the end of the year.

Unfortunately the timeline is strictly dependant on the evolution of the pandemic so delays are very much possible.

At the end of October one the bearing used to couple one azimuth wheel and its motor was found broken. This forced to abort the remaining part of 2020 session 3. The bearing is already been procured and replaced.

A new rubidium clock has been purchased and installed as a backup frequency reference.

Also a new pointing software has been installed. All required checks and test were performed.

2) 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

3) VLBI sessions

Session 2-2020: Due to the damage on the reported mechanical structure, Noto did not observed.

Session 3-2020: Only L- and X- band were available. FTP Fringe test showed fringes in X-band. Some tests and user experiments not observed because of the reported failure in the azimuth wheel.