

Observatories Report

Istituto di Radioastronomia

EVN TOG Meeting, January 2014

Medicina station

Period March 2013 - January 2014

A. Orlati, A. Orfei., G. Maccaferri

1) Antenna:

- VLBI and e-VLBI exp tests have been performed by using fiber optic link instead of coaxial cables to send receiver outputs to VLBI data acquisition system. Fringes were found and compared to the fringes obtained by the coaxial link, nothing of significantly different was observed. Fiber optic link allows much less band disequalization with respect to coaxial connection when using large bandwidth receivers, so Medicina will use fiber optics from now on.

- Last TOG, stations were asked to provide Aard Keimpema with beam shapes at various VBLI bands. We recently have been able to start these measurements (see an example below) and we think we could provide all requested maps in the near future.

2) DBBC:

- Many VLBI tests were performed in combination with a Mark5C in parallel with the MK4. We are currently running version 104 (Aug14) of the firmware. The FILA10G is now equipped with a new release of the firmware (provided by 'HAT LAB') in order to work around the problem related to the decimation and the track mapping of the Mark5C (see below). Last test with this firmware produced good fringes.

3) Mark5C

- After the reparation and upgrade by Conduant, the unit still showed many problems, even if the larger part of them has been solved. The crucial issues still under investigation are:

1. decimation and track mapping capabilities are not yet implemented in Mark5C software, This prevents the unit to work fully compliant to Mark5B mode.
2. reliability and robustness of drs program. We are currently running buggy version 0.9.9-1. The latest release 0.9.9-19 is not usable at all, the system crashes every time "reset=erase" is performed.

All issue and problems encountered during the test have been reported to VLBI support web page. Unfortunately the support ceased to reply starting from middle of October.

4) Mark5 disks

- We purchased 60, 2TB hard disks, for an amount of 6.3K€ . Three 16TB modules will be assembled and delivered to EVN pool soon. The remaining disk will be used to populate new frames that we are going to acquire this year.

5) Field System

- Release 9.11.4 has been installed and almost tested. We plan to run February session with this release.

- In order to make our FS able to command our mark5C we put in place some ad-hoc solutions. Hopefully we are now able to run a VLBI observation fully compliant to other markb stations.

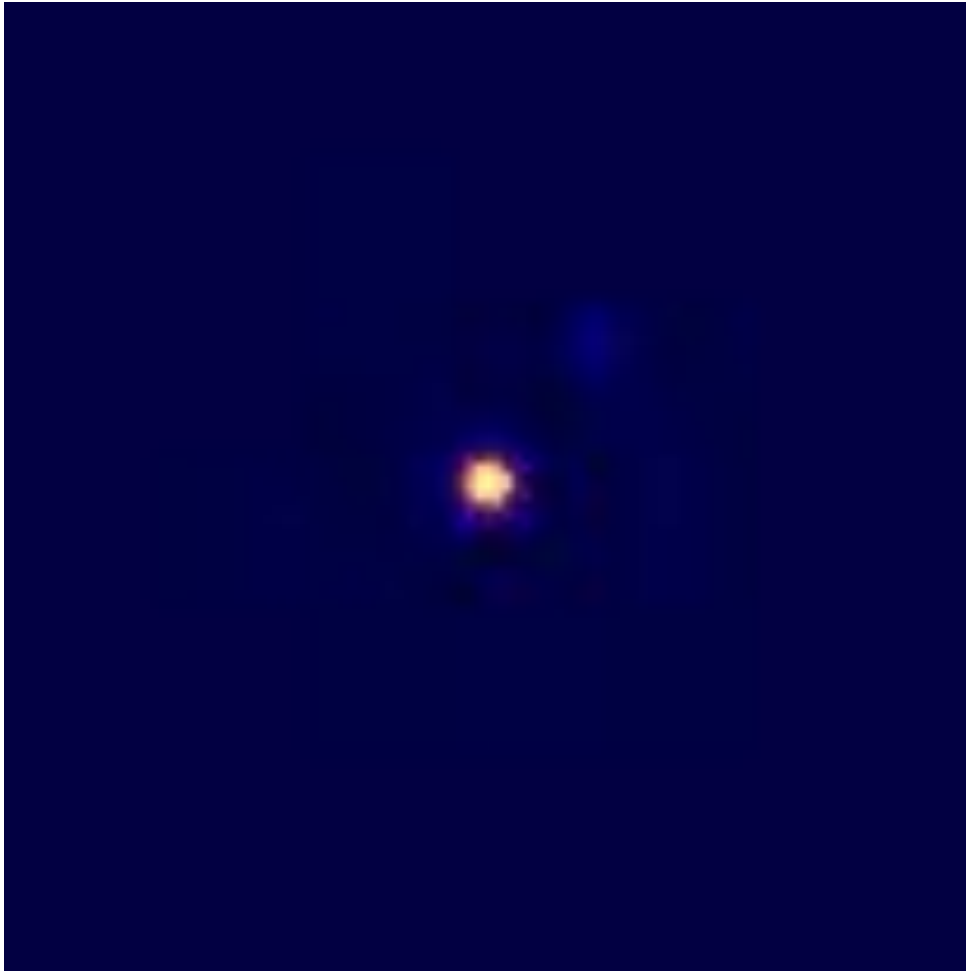


Figure 1 Medicina beam shape at 5GHz. Source is 3c84