

Station report for EVN TOG meeting, Jodrell Bank Observatory, UK, June 26, 2019

Irbene station, Ventspils.

Irbene Ir – RT-32 radio telescope

Since start of 2019, Hydrogen maser has been back from the repair and operational. It means, that both, RT-32 and RT-16 can be used for VLBI simultaneously. C/M/X receiver is also back from repair and was successfully used at recent, May/June EVN session. Improved, but still uncooled L band receiver (1600...1720 MHz) has been available at RT-32 since start of 2019 and has been successfully used in Feb/Mar and May/June as well as e-VLBI sessions. Good fringe amplitudes were obtained in all experiments and tests show sensitivities of about 700 Jy. Receiver is installed permanently with offset and switching between L band and C/M/X bands are matter of seconds.

Irbene Ib – RT-16 radio telescope

Observations with RT-16 currently are halted due to standard maintenance, but otherwise telescope is operational and will be available for observations within few months. C/M/X band receiver will still be available for VLBI observations.

VLBI equipment status

RT-32:

Field System: 9.11.19/9.13.1-rc1.

DBBC: 4xADB3L, Internal Fila10g, DDC,107, November 14 2018

Mark5c + Glapper, jive5ab : 2.9.0 64bit, AMAZON,10GbE

We noticed that with 9.13.1, when scan lengths are short (for our local use), sometimes they do not get recorded. It is like Jive5ab 'record=on' command would not even be sent. It may be communication issue between FS and Flexbuff. For this reason, we keep 9.11.19 just in case.

Since v107 firmware, previous issues with weak fringe amplitudes have been solved.

RT-16:

Field System: 9.11.19/9.13.1-rc1

DBBC: 4xADB2, External Fila10g (only one VSI connection right now), DDC v107

Mark5c + Glapper, jive5ab : 2.9.0 64bit, AMAZON,10GbE

Flexbuffs:

1. Capacity: 8 TB, jive5ab : 2.9.0 64bit on Ubuntu 16.04

2. Capacity: 288 TB (36x8TB), jive5ab : 2.9.0 64bit on Debian 9.3.

Another 288 TB Flexbuff is shipped to Jive. Flexbuff has been used fully during EVN sessions since start of 2019.

Continuous calibration

There have been preliminary tests with L band receiver and DBBC, which seemed promising, but permanent implementation, including also for C/M/X band, is still pending due to current technical priorities.

Report prepared by: VIRAC technical department