

# 3<sup>rd</sup> GMVA Technical Group Meeting

Oct. 5<sup>th</sup> 2018  
Granada, Spain

**DRAFT (29.10.2018)**

## Minutes

### Participants:

[http://www.oan.es/tog2018/show\\_registered.php](http://www.oan.es/tog2018/show_registered.php)

### Agenda:

[https://deki.mpifr-bonn.mpg.de/GMVA/GMVA\\_Technical\\_Group/3rd\\_GTG\\_Meeting\\_Granada](https://deki.mpifr-bonn.mpg.de/GMVA/GMVA_Technical_Group/3rd_GTG_Meeting_Granada)

### Approval / additions to the agenda

The agenda was approved without any requests for last minute additions.

### Review of action items

The action items from the previous meeting were reviewed. Items that remain open have been carried over to the current action item list:

[https://deki.mpifr-bonn.mpg.de/GMVA/GMVA\\_Technical\\_Group/3rd\\_GTG\\_Meeting\\_Granada#section\\_4](https://deki.mpifr-bonn.mpg.de/GMVA/GMVA_Technical_Group/3rd_GTG_Meeting_Granada#section_4)

### Station reports

- Sanchez reports on PV. Several improvements allow faster switching between single dish and VLBI observations. PV will be connected shortly by 10Gbit fiber connection. Transition to flexbuf storage and e-transfer will be investigated.
- Yang reports on On. 2018 fall session went smoothly. Calibration and feedback was uploaded.
- González reports on Ys. Multiple computer crashes during the fall 2018 session have resulted in partial data loss from Ys.
- Kallunki report on Mh. No special remarks.
- Rottmann reports on GLT participation during spring 2018 session. Fringes were obtained but strange polarization behaviour was found during correlation.
- Jung reports on KVN: normal 2Gbps mode now possible.

### Correlator Report

- Yurii Pidopryhora has started his position at MPIfR as GMVA support scientist in 2017.
- Michael Lisakov has started his position at the MPIfR correlator in 2018 to do RadioAstron correlations.

- Eduardo Ros has taken over responsibility as GMVA scheduler from Porcas.
- Pidopryhora gives detailed correlation reports for sessions: spring 2017 (GMVA+ALMA), fall 2017, spring 2018 (GMVA+ALMA) and preliminary results from fall 2018.
- Brisken mentions possible participation of VLBA stations in the pre-session fringe tests. This was considered to be desirable provided stations have enough bandwidth for data transfer to the Bonn correlator.
- Szomoru: in the frame of the BlackHoleCam project a tool was developed that allows to extract selectable snippets from the recorded data and transfer to the correlator. Can be initiated by the correlator without action needed by the station. It was agreed to investigate whether this should be used for the GMVA fringe tests.
- It was agreed that fringe checks should remain to be scheduled shortly (a few hours) before the sessions.
- Discussion about how to improve the feedback between the PIs, the correlator and the stations. Brisken mentions possible usage of bug tracking software and/or meetings between PIs and correlator. No conclusion was reached on this.

## GMVA operations

- Brisken reports on the state of the VLBA / LBO. Major planned upgrades: Switch to Mark6 recording (in 2018), replacement of old VME real-time computers (will impact pointing), possibility for 4Gbps operations. For an interim period Mark5Cs will remain at the VLBA stations.
- Szomoru starts discussion on impact the VLBA upgrade will have on Globals. One possibility would be for JIVE to host Mark6 in order to playback VLBA data. According to Brisken modules could likely remain at JIVE for a period of a few months (but less than 6 months). It was agreed on Campbell writing up a requirement document to be provided to NRAO/LBO.
- MPIfR has ordered Mark6 media (8x80TB) to support VLBA observations during the GMVA session
- Brisken reports that current RDBE equipment is becoming a risk due lack of hardware replacement parts. NRAO/LBO is investigating replacements.
- Rottmann presents possible modes for upgrading the GMVA standard mode to 4 Gbps. Best option would require DBBC2 DDC firmware v107.
- It was agreed to perform the following tests:
  - Before end of 2018: EVN test for commissioning the v107 DDC firmware with 32 and 64 MHz wide sub-bands.
  - Jan/Feb 2019: GMVA test observation with the following goals: Testing of new Ys receiver, VLBA: Mark6 recording and replacement of VME computers, new KVN backend (OCTAD), 4Gbps observations. The GMVA test would be done only if the EVN test of the v107 firmware is successful. The test will be organized by Y.Pidopryhora.
- Discussion on media requirements when changing to 4Gbps operations. Mh, Ys, On, Ef have enough flexbuf capacity. VLBA: the 8x80TB modules purchased By MPIfR are not sufficient for a session at 4Gbps, but VLBA should have enough complimentary capacity. KVN could store extra data volume, however sending Mark6 modules to Bonn would probably be the preferred transfer method. Pv will investigate local flexbuf storage after bandwidth upgrade.

## **GMVA calibration**

- Rottmann presents feedback from the PIs concerning a possible issue of low amplitudes/SNRs from the VLBA stations. Several PIs have independently reported this for the 2017 sessions. Brisken mentions possible cause in high age of the VLBA masers. Further investigation will be done.

## **Any other business**

- It was agreed that an additional meeting bringing together PIs and technical staff to improve the feedback would be desirable. Brisken will investigate whether such a meeting could be held in Socorro during 2019.