



Report from the event supported by RadioNet

TITLE *GTG AND TOG MEETINGS*

DATE: *22-23.5.2017*

LOCATION: *VENTSPILS, LATVIA*

MEETING WEBPAGE: *<http://evntog2017.venta.lv/>*

HOST INSTITUTE: *VENTSPILS INTERNATIONAL RADIO ASTRONOMY CENTER (VENT)*

**RADIO NET
BENEFICIARY / NO:** *UAH (12), MPG (1)*

Report:

1. SCIENTIFIC SUMMARY

Meeting webpage: <http://evntog2017.venta.lv/>

GTG: https://deki.mpifr-bonn.mpg.de/GMVA/GMVA_Technical_Group/2nd_GTG_Meeting_Ventspils_May_22nd_2017

TOG: <http://www.radionet-eu.org/radionet3wiki/doku.php?id=na:eratec:tog:tog-meeting-08>

RadioNet Wiki: <https://radiowiki.mpifr-bonn.mpg.de/doku.php?id=na:sustainability:tog>

MEETING OBJECTIVES

The GTG (GMVA Technical Group) and TOG (Technical & Operations Group of the EVN) meetings take place every 9 months (for the TOG) and 18 months for the GTG. The meetings are attended by VLBI friends from the individual telescopes of the two VLBI networks: the GMVA and the EVN.

These two meetings have a direct impact on the RadioNet community since they serve to maintain and improve the quality of observations performed by the networks. During these meetings participants have discussed on how to deal better with operational issues, improve calibration, detect errors and correct them for data acquisition and recorders, have reported about local problems and have shared solutions. Future developments in hardware and software areas were also discussed. The presentations and subsequent discussions have been compiled in the minutes of the meeting.

MAIN RESULTS

Several areas were identified that need to be addressed in order to further improve the operations of the two networks. Concrete action items have been assigned to various participants. These will be reviewed during the next meeting and ideally should be resolved by then. The list of action items that were assigned can be viewed online:

GTG: https://deki.mpifr-bonn.mpg.de/GMVA/GMVA_Technical_Group/2nd_GTG_Meeting_Ventspils_May_22nd_2017

TOG: https://deki.mpifr-bonn.mpg.de/Working_Groups/EVN_TOG/Current_Action_Items

2. AGENDA OF THE EVENT

22 MAY 2017 - GTG AGENDA

1. Local arrangements/opening remarks
2. Agenda
3. Minutes from last meeting
 - a. Review AIs from last meeting
4. Reports from the stations (all)
 - a. Metsähovi (Kallunki)
 - b. Pico Veleta (Sanchez)
5. Report from correlator
 - a. Session 1/2016 (Alef)
 - b. Session 2/2016 (Alef)
 - c. Session 1/2017 (preliminary results) (Rottmann)
 - d. Changes in procedures/personnel (Rottmann)
6. GMVA observations & operations
 - a. News on setting-up and running observations (Bach, all)

- b. Communication during observing? (Rottmann)
- c. Changes in scheduling (Fringe tests, calibration runs, regular test runs)
- d. repository for common GMVA tools?
7. GMVA calibration - Discussion session
 - a. necessary steps to improve the calibration quality
 - i. weather, TPI/TPICAL/CALTEMP, chopper wheel
 - b. antab file generation:
 - c. determine K/Jy conversion on e.g. bright planet (in gaps?)
 - d. gain curves, new gain curves for next session
 - e. opacity
 - f. plots of TSYS, weather, tau (e.g. Ef tsm plots)
 - g. calibration quality control at the correlator
 - h. store all files on Bologna server
 - i. additional topics
8. ALMA and GMVA
 - a. Overview of the current state
 - i. sampler stats and AC after each scan needed
 - b. calibration with full-band mode, ANTAB (DBBC2) (Bach, all)
9. AOB:
 - a. control and monitoring
 - b. Going to 4Gbps?
 - c. GMVA block schedule - comments?
 - d. Next meeting?
10. Closing remarks

GTG PRESENTATIONS

- J. Kallunki: [Station report Metsähovi](#)
- S. Sanchez: [Station report Pico Veleta](#)
- W. Alef: [Correlation report spring / fall 2016 \(presented from the correlation wiki pages\)](#)
- H. Rottmann: [Preliminary Correlation Report \(Spring 2017\)](#)

23 MAY 2017 - TOG AGENDA

1. Local Arrangements/Opening Remarks (Bezrukovs, Vicente)
2. Approval & last minute additions to Agenda (all)
3. Acceptance of minutes from last meeting (all) [Minutes St. Petersburg meeting](#)
4. Review of Action Items from last meeting (all; see [Action Items from last meeting](#))
5. Review of Permanent Action Items (all; see [Permanent Action Items](#))
6. Reliability/Performance of the EVN
 - a. Reliability/Performance of the EVN (Blanchard/Campbell)
 - b. NME results (Blanchard/Campbell)
 - c. Feedback from last sessions (Blanchard/Campbell)
7. Amplitude Calibration
 - a. Quality of calibration (Blanchard)
 - b. Continuous cal: availability at stations (Vicente)
 - c. antabfs script (Vicente)
8. VLBI backends
 - a. DBBC2 firmware issues: V105E and PFB modes (all).
 - b. Other VLBI backends: DPV, DAS R1002,
9. Recorders: Mark 5,6, Flexbuf
 - a. VDIF available for DAS R1002, KDAS, CDAS? Would require usage of Mar5C.
 - b. jive5ab & m5copy news? (Verkouter)
 - c. Status: Mark 5A/B/B+/C software, firmware, SDK9 (all)
 - d. Disk inventory and purchase status (Vicente, all)

- e. Flexbuff status (all)
- f. Possible flexbuff upgrades: more space
10. Stations
 - a. eMerlin in the EVN.
11. EVLBI
 - a. Current correlator capabilities and future ones.
 - b. KVAZAR network integration in the eVLBI. Dates.
 - c. 2 Gbps in the remaining stations.
 - d. Potential longer eVLBI sessions (Gunn?)
12. Technical Developments
 - a. Improvement of PCAL Signal Distribution on RT-32 Radio Telescopes of «Quasar» VLBI Network
 - b. 4 Gbps status. Last tests (Vicente)
 - c. m5copy graphical tool for transfers (Eldering)
 - d. Auxiliary scripts. Central repository? (Vicente)
 - e. DBBC3. Current status, backwards compatibility and available firmware (Alef)
 - f. BRAND (Alef)
 - g. Future backends compatibility: BRAS, CDAS2, DPV, DBBC3
 - h. Uniboard.
 - i. 4 Gbps eVLBI tests
13. JIVE
 - a. Technical Operations and R&D at JIVE, (Szomoru)
14. LBO (was NRAO VLBA)
 - a. LBO status report (?)
15. Haystack
 - a. Haystack status report (?)
 - b. RDBEG features (Ruszczyk).
 - c. R2DBE status (Ruszczyk).
16. Field System, status and new features
 - a. Status report, new developments (Himwich)
17. Long term future
 - a. Technological developments for the future. How should we prepare: 1 GHz IFs? Optical fibers from Rxs?
 - b. Wide bands
 - c. DBBC3 tests
 - d. DBBC3 implementation at the FS
18. Jumping JIVE
 - a. WPs
19. Date and place of the next TOG meeting
20. AOB

TOG PRESENTATIONS

- P. de Vicente: TOG chair notes
- J. Blanchard: EVN performance
- J. Blanchard: EVN ampcal report
- H. Verkouter: jive5ab & m5copy developments
- D. Marshalov: Phase cal issues at Quasar antennas
- B. Eldering: Graphical tool for copying flexbuff scans
- Smozoru JIVE correlator status and developments
- W. Alef: DBBC2 - DBBC3 report
- Ruszczyk: [Haystack status](#)
- E. Himwich: [FS status & developments](#)

3. PARTICIPANTS

The GTG and TOG meetings were attended by 31 people from the following countries:

- China
- Germany
- Greece
- Finland
- Italy
- Latvia
- The Netherlands
- Poland
- Russia
- Sweden
- Spain
- United Kingdom
- United States

One of the 31 participants was female. Two international experts from the USA were invited to the meetings and have received RadioNet support. Three persons attended the meeting remotely by video-conference (Ghana, South Africa, USA).



Figure 1: Group picture of the participants of the GTG and TOG meetings held in Ventspils, Latvia.

4. RADIO NET FINANCIAL CONTRIBUTION

The RadioNet funds were used to support the local organization costs (VENT) and parts of the travel and accommodation costs of the following participants:

Name	Institution	Nationality
Gabriele Surcis	INAF	IT
Juha Kallunki	AALTO	FI
Ed Himwich	NASA	USA
Chet Rusczyk	MIT Haystack	USA
Pablo de Vicente	UAH/IGN	ES

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