Report from the event supported by RadioNet

TITLE	*TOG MEETINGS*
DATE:	*19-20 MARCH 2018*
LOCATION:	*SHANGHAI, CHINA*
MEETING WEBPAGE:	*http://evn2018.csp.escience.cn/dct/page/1*
HOST INSTITUTE:	***SHANGHAI OBSERVATORY (SHAO)***
RADIONET BENEFICIARY / NO:	*UAH / 12*

Report:

1 SCIENTIFIC SUMMARY

<u>Links</u>

Several pages contain information about the meeting:
http://evn2018.csp.escience.cn/dct/page/1
https://radiowiki.mpifr-bonn.mpg.de/doku.php?id=na:sustainability:tog:2018_03
https://events.mpifr-bonn.mpg.de/indico/event/72/

<u>Objectives of the meeting</u>

The TOG (Technical and Operations Group of the EVN) meeting takes place every 9 months in a different observatory of the EVN to allow direct contact with the personnel from the stations. Every 18 months they take place together with the GMVA technical group. The meetings are attended by VLBI friends and technical staff of the stations and the correlator and they also get attendance by external experts.

These meetings have a direct impact on the RadioNet community since they serve to maintain and improve the quality of observations performed by the EVN. During this meeting participants have evaluated operational issues and how to improve its management, improve calibration, detect errors and correct them for the instruments used, mainly data acquisition equipment and recorders, they have also reported about local problems and they have shared solutions. Future developments in hardware and software were also tackled. The presentations and subsequent discussions can be found in the minutes of the meeting. The minutes have been uploaded to the web pages listed at the top of this section.

<u>Main results</u>

Several issues were identified that need further work and need to be tackled to improve the operations and quality of the data from the EVN. The actions to undertake have been assigned to different participants. During the next TOG meeting these will be reviewed to check the advances and applied solutions. The list of action items together with the people they have been assigned to can be found within the minutes of the meeting, which can be looked up at this link:
https://radiowiki.mpifr-bonn.mpg.de/lib/exe/fetch.php?media=na:sustainability:tog:tog_2018_1_minutes.pdf

2 AGENDA OF THE EVENT

March 19th, 2018

1. Local Arrangements/Opening Remarks (Bin Li, Vicente)
2. Approval & last minute additions to Agenda (all)
3. Acceptance of minutes from last meeting (all; Minutes Ventspils 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
   - Reliability/Performance of the EVN. New web page with Grafana (Blanchard)
   - NME results (Blanchard)
   - Feedback from last sessions. New Grafana web page (Blanchard)
   - Issues from last session (Campbell, Vicente)
   - New EVN communication channel: Mattermost (Blanchard)

7. Amplitude Calibration
   - Quality of calibration. New web page (Blanchard)
   - Review of continuous cal: availability at stations (Vicente)
   - Continuous cal: processing at the correlator (Campbell, Blanchard)
   - Reminder of antabfs script (Vicente)
8. VLBI backends
   - DBBC2 firmware issues: V105E, V106 and PFB modes (all).
   - Other VLBI backends: MDBE
   - Other VLBI backends: OCTAD (Jung)
9. Recorders: Mark 5,6, Flexbuf
   - jive5ab & m5copy news? (Verkouter)
   - Status: Mark 5A/B/B+/C software, firmware, SDK9 (all, Verkouter)
   - Disk inventory and purchase status (Vicente, all)
   - Flexbuff status and 2 Gbps (all)
   - Possible flexbuff upgrades: more space (Vicente)
10. Stations
    - Current status of eMerlin in the EVN (Varenius)
    - Status on Nk in Ghana. (Duah Asabere)
    - Kunming (?)
11. EVLBI
    - Current correlator capabilities and future ones.
    - KVAZAR network integration in the eVLBI. Dates.
    - 2 Gbps at the remaining stations.
12. Technical Developments
    - 4 Gbps status. Last tests (Vicente)
    - Auxiliary scripts. Central repository (Vicente)
    - DBBC3. Current status, backwards compatibility and available firmware (Tuccari)
    - BRAND update (Tuccari)
    - Future backends compatibility: MDBE, CDAS2, DPV, DBBC3, OCTAD
    - Uniboard correlator.
13. JIVE
    - Technical Operations and R&D at JIVE, (Szomoru)
14. VLBA
    - VLBA status report (?)
    - Globals and recording compatibility
15. Field System, status and new features
    - Status report, new developments? (Himwich)
    - List of priorities for next version (All, Vicente)
16. Long term future
    - Technological developments for the future. How should we prepare: 1 IFs? Optical fibers from Rxs?
    - Wide bands: low and high frequency bands
    - RFI: measurement and mitigation
    - DBBC3 tests & future implementation at the FS
17. Jumping JIVE
    - WPs
18. Date and place of the next TOG meeting
    - Granada.
19. AOB

TOG presentations:
- Developments at JIVE. A. Szomoru (Netherlands)
- New backend at the KVN. T. Jung. (South Korea)
- BRAND status. G. Tuccari. (Italy)
- DBBC3 status. G. Tuccari (Italy)
- eMerlin status. E. Varenius (UK)
- EVN amplitude calibration. J. Blanchard (Netherlands)
- EVN performance. J. Blanchard (Netherlands)
- Amplitude calibration at mm wavelengths (KVN). T. Jung (South Korea)
- Kutunse status. B.D. Asabere (Ghana)
- Quasar internet tests & performance. D. Marshalov (Russia)
- TOG chair notes. P. de Vicente (Spain)
- JIVE5ab status. H. Verkouter (Netherlands)
- Activities at XAO (Urumqi). G. Li (China)
- Kunming status. H. Longfei. (China)

March 20th, 2018

Talks during the morning:

Vicente (Spain)	A technical overview of the EVN
Tao/Weimin (China)	Chinese VLBI Network
Polatidis (Netherlands)	Recent scientific highlights with the EVN
Junzhi/Bin (China)	Tianma Telescope
Muxlow (UK)	Prospects for e-MERLIN-EVN
Qinghui (China)	Chinese Space VLBI
Jung (Korea)	KaVa/EAVN Activities.

Activities during the afternoon:

Visits to Sheshan area:
- Visit to the Tianma 60m radio telescope
- Visit to the correlation center

3   PARTICIPANTS

There were 66 attendees, belonging to 12 different countries from Europe, Asia, and Africa. Two women attended the meeting; a third one was involved in the Local Organizing Committee. No external experts funded by RadioNet attended this time. There was one person attending from Ghana, Africa who requested economic support from RadioNet since they are setting up a new radio telescope at Ghana for whom the meeting was very useful.

The conference picture was taken in front of the SHAO headquarters in Shanghai where the meeting took place.

4   RADIONET FINANCIAL CONTRIBUTION

RadioNet has supported the event expense of the local organiser (2500€) and to subsidise travel expenses of the 2 participants (each 1000€).

5   PUBLICATIONS

No publications from the event.