



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

Links

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/>

Objectives of the meeting

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.

Main results

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, 2018Talks 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 RADIO NET FINANCIAL CONTRIBUTION

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

- RadioNet beneficiaries Carlo Mignoni (INAF-OA/Italy), Uwe Bach (MPIfR/Germany), Andrea Melis (INAF-OA/Italy), Marcis Bleiders (VUC/Latvia) and Roman Feiler (UMK/PL)
- Bernard Asabere: 1000 €; the lead local senior operations astronomer at the Ghana Radio Astronomy Observatory and has requested to attend the TOG meeting to gain experience and establish links with the EVN experts. It comes from a country with low economic resources and their antenna took part in an EVN observation some months ago. It is foreseen that they will take part in future EVN observations with our help.

5 PUBLICATIONS

No publications from the event.

No.	Name	Institute	Buffet March 19th	Sheshan Visit March 20th	Subscribe the RadioNet-news (default Yes)	Signature
1	Alastair Gunn	Jodrell Bank Observatory	✓	✓	Y / N	
2	Alexey Melnikov	Institute of Applied Astronomy	✓	✓	Y / N	
3	Andrea Melis	INAF - Cagliari Astronomical Observatory	✓	✓	Y / N	
4	Antonios Polatidis	ASTRON	✓	✓	Y / N	
5	Arpad Szomoru	Joint Institute for VLBI ERIC	✓	✓ (2)	Y / N	
6	Bernard Duah Asabere	Ghana Space Science and Technology Institute	✓	X	Y / N	
7	Bin Li	Shanghai Astronomical Observatory	✓	✓	Y / N	Bin Li
8	Bo Xia	Shanghai Astronomical Observatory	✓	✓	Y / N	Bo Xia
9	Bob Campbell	Joint Institute for VLBI ERIC	✓	✓	Y / N	
10	Carlo Migoni	INAF - Cagliari Astronomical Observatory	✓	✓	X / N	
11	Cui Lang	Xinjiang Astronomical Observatory			Y / N	
12	Dmitry Marshalov	Institute of Applied Astronomy	✓	✓	Y / N	
13	Dong-Kyu Jung	Korea Astronomy and Space Science Institute	✓		Y / N	
14	Eskil Varenius	Jodrell Bank Observatory	✓	✓	Y / N	
15	Gabor Orosz	Xinjiang Astronomical Observatory			Y / N	
16	Gino Tuccari	INAF & MPIfR	✓	X	Y / N	
17	GuangHui Li	Xinjiang Astronomical Observatory	✓	✓	Y / N	
18	Hammargren Roger	Onsala Space Observatory	✓	✓	Y / N	
19	Harro Verkouter	Joint Institute for VLBI ERIC	✓	✓	Y / N	
20	Hongmin Cao	Shangqiu Normal University	✓	✓	Y / N	
21	Jay Blanchard	Joint Institute for VLBI ERIC	✓	✓	Y / N	
22	Jia Liu	National Time Service Center	✓		Y / N	3/1/13
23	Jian Dong	Shanghai Astronomical Observatory			Y / N	
24	Jintao Luo	National Time Service Center	✓	✓	Y / N	
25	Jun Ma	Xinjiang Astronomical Observatory			Y / N	
26	Jung Taehyun	Korea Astronomy and Space Science Institute	✓	X	Y / N	
27	Junzhi Wang	Shanghai Astronomical Observatory			Y / N	
28	Kai Wang	Xinjiang Astronomical Observatory	✓	✓	Y / N	
29	Kazuhiro Hada	NAOJ	✓		Y / N	
30	Kiyoaki Wajima	Korea Astronomy and Space Science Institute	✓		Y / N	
31	Langming Ma	National Time Service Center			Y / N	
32	Lingyu Zhou	Shanghai Astronomical Observatory			Y / N	
33	Longfei Hao	Yunnan Observatories	✓	X	Y / N	
34	Marcis Bleiders	Ventspils International Radio Astronomy Center (VIRAC)	✓	✓	Y / N	
35	Martin Leeuwinga	Joint Institute for VLBI ERIC	✓	✓	Y / N	
36	Michael Lindqvist	Onsala Space Observatory	✓	✓	Y / N	
37	Minjie Ding	Xinjiang Astronomical Observatory			Y / N	
38	Nan Jiang	Shanghai Astronomical Observatory	✓	✓	Y / N	

No.	Name	Institute	Buffet March 19th	Sheshan Visit March 20th	Subscribe the RadioNet-news (default Yes)	Signature
39	Oh Se-Jin	Korea Astronomy and Space Science Institute	✓	X	Y / N	Oh Se-Jin
40	Pablo Vicente	Observatorio de Yebes (IGN)	✓	✓	Y / N	Pablo Vicente
41	Peng Li	Xinjiang Astronomical Observatory	✓	✓	Y / N	Peng Li
42	Qinghui Liu	Shanghai Astronomical Observatory	✓	✓	Y / N	Qinghui Liu
43	Richard Blaauw	ASTRON	✓ ②	✓ ②	Y / N	Richard Blaauw
44	Roh Duk-Gyoo	Korea Astronomy and Space Science Institute	✓	X	Y / N	Roh Duk-Gyoo
45	Roman Feiler	Torun Centre for Astronomy	✓	✓	Y / N	Roman Feiler
46	Tao An	Shanghai Astronomical Observatory	✓		Y / N	Tao An
47	Uwe Bach	Max-Planck-Institut fuer Radioastronomie	✓	✓	Y / N	Uwe Bach
48	Weimin Zheng	Shanghai Astronomical Observatory			Y / N	Weimin Zheng
49	Wenting He	Shanghai Astronomical Observatory	✓	X	Y / N	Wenting He
50	Wu Jiang	Shanghai Astronomical Observatory	X	X	Y / N	Wu Jiang
51	Xiacong Wu	Shanghai Astronomical Observatory			Y / N	Xiacong Wu
52	Xiaoyu Hong	Shanghai Astronomical Observatory	X	X	Y / N	Xiaoyu Hong
53	Yansong Xue	Shanghai Astronomical Observatory			Y / N	Yansong Xue
54	Yonghua Xu	Yunnan Observatories	X	X	Y / N	Yonghua Xu
55	Yuanwei Wu	National Time Service Center	✓	X	Y / N	Yuanwei Wu
56	Zhiqiang Shen	Shanghai Astronomical Observatory	✓		Y / N	Zhiqiang Shen
57	Yan Hao	Xinjiang Astronomical Obs	✓	✓	Y / N	Yan Hao
58	Chen Wen	YNAO	✓	X	Y / N	Chen Wen
59	Shaogang Gao	SHAO	✓	X	Y / N	Shaogang Gao
60	Ronghui Zhao	SHAO	X	X	Y / N	Ronghui Zhao
61	Shuangjun Yu	SHAO	✓	X	Y / N	Shuangjun Yu
62	Jidun Li	SHAO	✓	X	Y / N	Jidun Li
63	Mu Yajun	SHAO	✓	X	Y / N	Mu Yajun
64	Pianying Gan	SHAO	✓	X	Y / N	Pianying Gan
65	Xingli Chen	SHAO	✓	X	Y / N	Xingli Chen
66	Juan ZHANG	SHAO	X	X	Y / N	Juan ZHANG
67	Ma MaoLi	SHAO	X	X	Y / N	Ma MaoLi
68	Lingling Wang	"		X	Y / N	Lingling Wang
69	Xu Zhijun	"	X	X	Y / N	Xu Zhijun
70	Zhu Renjie	"	X	✓	Y / N	Zhu Renjie
71	Rui ping	"	✓	X	Y / N	Rui ping
72	CHEN ZHONG	SHAO	✓	✓	Y / N	CHEN ZHONG
73	Bo Zhang	"	✓	✓	Y / N	Bo Zhang
74	Lai Lina	"	✓	X	Y / N	Lai Lina
75	Chen Zhonghua	"	X	✓	Y / N	Chen Zhonghua
76					Y / N	
77					Y / N	
78					Y / N	
79					Y / N	
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81					Y / N	
82					Y / N	
83					Y / N	
84					Y / N	
85					Y / N	