

CORRELATOR OPERATIONS REPORT, JIVE  
EVN TOG MEETING, February 2016, Madrid

3 February 2016 (statistics cover 20 Jun 2015 - 31 Jan 2016)  
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SCIENCE OPERATIONS

The table below summarizes projects correlated, distributed, and released from 20 June 2015 to 31 January 2016. The table lists the number of experiments as well as the network hours and correlator hours for both user and test/NME experiments. Here, correlator hours are the network hours multiplied by the number of multiple correlation passes required. This definition carries over to the EVN software correlator at JIVE (SFXC), even though it may actually run faster or slower than real time.

	User Experiments			Test & Network Monitoring		
	N	Ntwk_hr	Corr_hr	N	Ntwk_hr	Corr_hr
Correlated	53	505.5	572.5	16	70.5	94.5
Distributed	57	554	682	15	67.5	91.5
Released	62	547.5	685.5	13	41	41

The following table summarizes the sessions having some user experiments to finish or with activity since the previous report (entries = remaining to do / total).

	N_to.corr	Corr.hrs	N_to.dist	
Jan'15 OoS	1/1	12/12	1/1	GA035B: late Yy pack
Sess 1/2015	0/17	0/272	0/17	
Mar-May e-VLBI	0/7	0/45	0/7	
Sess 2/2015	0/29	0/335.5	6/29	
Jul'15 OoS	1/1	22/22	1/1	
Jun-Oct e-VLBI	0/8	0/66.5	0/8	
Sess 3/2015	14/19	178/240	18/19	incl. 1 RadAst
Oct-Nov'15 OoS	2/2	19/19	2/2	
Nov-Jan e-VLBI	0/9	0/58.5	0/9	

After the report cut-off, there has been another experiment from sess.3/15 distributed, and an e-ToO and an e-EVN day observed/correlated (4 obs, 22hr). A prognosis for sess.1/16 is not included.

If there has been a dominant thread weaving through the past few months, it has been one of falling behind (e.g., the remaining sess.2/15 user experiments to distribute should have been out the door before Xmas). The principal contributing factors are being undermanned in support scientists (down to two since early September, when Dima left for CalTech; a new one has arrived in mid-January) and the diversion of resources to the unprecedented confluence of coeval RadioNet reporting and proposal activities. Looking ahead, two support scientists leave between February and mid-April, with two new ones arriving in May.

Some landmarks since the previous TOG report:

Session 3/2015

First 2Gbps user experiment (global)  
first Irbene participation in NMEs and most user experiments (not L-band with 16MHz subbands because of the 20MHz limit to the L-band receiver).  
Successful ftp fringe-test fringes in all NMEs (L, C, 5cm, X).  
Still waiting for packs (will re-do NMEs; have started user experiment correlation with ones not having Ir, or ones least affected by its absence).

Session 1/2016 look-ahead

We're running late with the schedule preparation process (I moved the due date for PIs from 28 Jan to 4 Feb, since we were late in getting the new DBBC-related plug-ins for sched out to them).

## NETWORK SUPPORT

We changed the schedule depositing procedure for session 3/2015. Instead of PIs uploading their sched output directly to vlbeer and isolating PIs from stations via the .latest/ subdirectory, PIs now send the key file to us, and we run sched and populate vlbeer. The motivation for this was a recurrence over the past couple sessions of stations downloading wrong versions of schedules; the new procedure aims to separate PIs further from the stations, and better matches the procedure that the VLBA has used for quite a while. It also enables us to run beta versions of sched with features not yet in any distribution version -- specifically 2Gbps for the DBBC/DDC personality and inclusion of pointing-sector control for EVN stations. As an additional (unplanned) advantage, it also facilitates incorporation of revised station-patching information that may be communicated to us after the sched plug-ins have been distributed to the PIs.

### Backend evolution summary:

session 2/2015: Jb shifts to DBBC

session 3/2015: Wb shifts to DBBC  
(the last "core" EVN station to shift to digital:  
Ar still has 5A or RDBE (but not RDBE/DDC)  
and we have received 5A from Wz in sess.2/15)  
Mc,Sr shift to VDIF

session 1/2016: Ef,On shift to VDIF for disk experiments

### Test observations/correlations:

fila10G

parallel 5B && flexbuff (Ef,On) in disk observations

PFB personality

Torun remote time/frequency standard

FR022 (v105E -- analysis not yet exhausted)

eMERLIN - in N15L3: fringes found; phases largely hang together  
sampler stats weird

R1680 - correlation of 4 stations from an IVS R4 (initiated by L.Petrov)  
2 Gbps e- (after the report cut-off)