European VLBI Network Newsletter

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PDF Version

Contents

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Message from the Chairman of the EVN Board of Directors

It is a pleasure for me to be able to announce in this first EVN Newsletter of 2014 a welcome expansion of the Network. At the November 2013 meeting of the CBD in Dwingeloo, the Korean VLBI Network (KVN), part of the Korea Astronomy and Space Science Institute, was invited as an Associate Member of the EVN, with effect from 1 January 2014. The KVN consists of three 21m telescopes at Yonsei, Ulsan and Tamna in South Korea, which can operate at the EVN frequency bands of 22 and 43 GHz. This brings the grand total of telescopes operated by the 16 EVN institutes to 22 - a number likely to increase soon with the large 65m telescopes in Sardinia and Seshan (Shanghai) coming on line. KVN telescopes may be requested as part of the EVN in proposals submitted by 1 February 2014.

At the Dwingeloo meeting the CBD also welcomed the announcement by Luigina Feretti, Director of the Istituto di Radioastronomia in Bologna, that agreement has been reached to hold the next EVN Symposium in Cagliari, Sardinia. The meeting will take place from 7th to 10th October this year - so please keep this date free.

The Symposium will also include the traditional EVN Users' Meeting as part of the program. There has been some recent discussion as to whether opportunities for EVN Users to raise issues should be provided more frequently than at the biennial EVN Symposia, for example, via the creation of an EVN Users' Group. This topic is currently under review by the CBD.

The CBD also appointed some new members of the Program Committee, and we welcome Sandor Frey (SGO, Fomi, Budapest), Elizabeth Humphreys (ESO, Munich), Angela Bazzano (IAPS, INAF, Rome) and Alexey Melnikov (IAA, St. Petersburg) who will be attending future PC meetings. At the same time I wish to thank departing (and recently departed) members Elmar Koerding (U. Nijmegen), Nektarios Vlahakis (U. Athens) and Jose-Carlos Guirado (U. Valencia) for their diligent work on the committee.

Richard Porcas and Alastair Gunn at the EVN PC meeting in Granada, in November 2013.

The EVN now has a new Scheduler, Alastair Gunn from Jodrell Bank Observatory. Alastair has considerable EVN experience, as VLBI Friend for Jodrell Bank, as schedule reviewer for EVN project schedules and as the Jodrell Bank and MERLIN Scheduler. He has taken over from Richard Porcas as of 1 January 2014; we have been assured by both Alastair and Richard that they have been in constant contact for the last many months, to make sure that there is an orderly transition of duties, and that no projects get forgotten or lost in the change.

The CBD gratefully recognizes Richard's long tour of duty as EVN scheduler and indeed the many contributions he has made to our endeavour in many capacities since the EVN was formally organized in 1980 and even before.

Anton Zensus, MPIfR Bonn, Chairman of the EVN CBD

Call for the EVN Proposals: Deadline 1st February 2014

(online version)

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European VLBI Network
Call for Proposals
Deadline 1st February 2014
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This text is also available on the web at http://www.jb.man.ac.uk/vlbi/EVN/call-feb14.txt

Observing proposals are invited for the EVN, a VLBI network of radio telescopes spread throughout Europe and beyond, operated by an international consortium of institutes (http://www.evlbi.org/).

The observations may be conducted with disk recording (standard EVN) or in real-time (e-VLBI).

The EVN facility is open to all astronomers. Use of the Network by astronomers not specialised in the VLBI technique is encouraged.

The Joint Institute for VLBI in Europe (JIVE) can provide support and advice on project preparation, scheduling, correlation and analysis. See EVN User Support at http://www.jive.nl.

Future Standard EVN Observing Sessions (disk recording)

2014 Session 2   May 29 - Jun 19   18/21cm, 6cm ...
2014 Session 3   Oct 16 - Nov 06   18/21cm, 6cm ...

Proposals received by 1st February 2014 will be considered for scheduling in Session 2, 2014 or later. Finalisation of the planned observing wavelengths will depend on proposal pressure.

Future e-VLBI Observing Sessions (real-time correlation)

2014 Mar 25 - Mar 26 (start at 13 UTC)   18/21cm, 6cm, 5cm or 1.3cm
2014 Apr 14 - Apr 16 (start at 13 UTC)   18/21cm, 6cm, 5cm or 1.3cm
2014 Apr 28 - Apr 29 (start at 13 UTC)   18/21cm, 6cm, 5cm or 1.3cm
2014 Jun 24 - Jun 25 (start at 13 UTC)   18/21cm, 6cm, 5cm or 1.3cm
2014 Sep 16 - Sep 17 (start at 13 UTC)   18/21cm, 6cm, 5cm or 1.3cm

Please consult the e-VLBI web page at http://www.evlbi.org/evlbi/e-vlbi_status.html to check for possible updates, and for the available array.

Successful proposals with an e-VLBI component submitted by the February 1st deadline will be considered for scheduling in the above e-VLBI sessions starting from March 25th 2014.
Note that only one wavelength will be run in each e-session, depending on proposal priorities.

See http://www.e-merlin.ac.uk/vlbi/evn_docs/guidelines.html for details concerning the e-VLBI observation classes and observing modes.

Features for the Next Regular EVN and e-VLBI Sessions
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* Both Jb1 and Jb2 will be available for EVN recording, as will simultaneous EVN+e-MERLIN operations with home-station EVN recording. For such simultaneous EVN+e-MERLIN operations, VLBI data from Cm will be made available at up to 512Mbps (e.g. 64MHz in both hands of circular polarization) on a best efforts basis.
For updated information please consult the web at: http://www.e-merlin.ac.uk/vlbi/

* Please consult http://www.evlbi.org/evlbi/e-vlbi_status.html and the EVN User Guide http://www.evlbi.org/user_guide/user_guide.html for updates on the current EVN and e-VLBI array, availability of different stations per observing band and for the dates of the e-VLBI observing sessions.

Global VLBI Proposals
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* From Session 3 2013, the Global recording modes that used the legacy VLBA recording system will no longer be available. Tests are planned to establish Global standard recording modes and frequencies with the replacement VLBA Roach Digital Backend (RDBE), which will allow successful observations with both NRAO and EVN telescopes at 512 and 1024 Mbps under the new system. These will involve 'Hybrid-mode' correlation of 16 MHz sub-bands recorded with the EVN against 32 or 64 MHz sub-bands recorded with NRAO systems. Access to
observing at 256 Mbps and lower rates (which will also use the VLBA RDBE but do not require Hybrid modes) should remain unaffected. Users may propose Global observations utilizing 512 and 1024 Mbps (with these standard modes only - see 'How to submit' section below) but should note that scheduling Global observations at these data rates will await the successful outcome of the tests.

Observations using these modes will be correlated at the SFXC correlator at JIVE (default) or at the DiFX correlator in Bonn (if appropriate justification is given in the proposal).

A description of the VLBA RDBE can be found at: https://science.nrao.edu/facilities/vlba/docs/manuals/oss2013b/sig-path/rdbe

RadioAstron Observations
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* Proposals requesting the EVN as ground array support for RadioAstron Proposals for the AO2 period (1 July 2014 - 30 June 2015) should be submitted at this deadline.

Large EVN Projects
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* Most proposals request 12-48hrs observing time. The EVN Program Committee (PC) also encourages larger projects (>48 hrs); these will be subject to more detailed scrutiny, and the EVN PC may, in some cases, attach conditions on the release of the data.

Use of Korean VLBI Network Antennas
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* The Korean VLBI Network (KVN) has now become an Associate Member of the EVN (as from January 2014). KVN telescopes may be Requested for EVN observations at 1.3cm and 7mm wavelengths.

How to Submit

All EVN, and Global proposals (except ToO proposals) must be submitted using the NorthStar on-line proposal submission tool. Global proposals will be forwarded to NRAO automatically and should not be submitted to NRAO separately.
When specifying your "Recording format" for Global modes in the EVN proposal tool, select 32. 64. 128, 256, 512, or 1024 Mbps from the "Specify aggregate bitrate (use network defaults)" menu

New proposers should register at http://proposal.jive.nl.

The SCIENTIFIC JUSTIFICATION MUST BE LIMITED TO 2 PAGES in length. Up to 2 additional pages with diagrams may be included. The deadline for submission is 23:59:59 UTC on 1st February 2014.

Additional information

Further information on Global VLBI, EVN+MERLIN and e-VLBI observations, and guidelines for proposal submission are available at: http://www.e-merlin.ac.uk/vlbi/evn_docs/guidelines.html

The EVN User Guide (http://www.evlbi.org/user_guide/user_guide.html) describes the network and provides general information on its capabilities.

The current antenna capabilities can be found in the status tables.
For the standard EVN see http://www.evlbi.org/user_guide/EVNstatus.txt
For the e-EVN array see http://www.evlbi.org/evlbi/e-vlbi_status.html
The On-line VLBI catalogue (http://db.ira.inaf.it/evn//) lists sources observed by the EVN and Global VLBI.

Tom Muxlow, University of Manchester, EVN PC Chairman,

EVN Science Highlights

Radio Jets Clearing the Way Through a Galaxy: Watching Feedback in Action

The energy released by an active galactic nucleus (AGN) has a strong impact on the surrounding interstellar medium (ISM). This feedback is considered to be the regulating factor for the growth of the central massive black hole and for the rate of star formation in a galaxy. Gaseous outflows can help tracing such a release of energy and identify which mechanism is providing the feedback. Using global VLBI observations, we have imaged, on parsec scales, the distribution and kinematics of the fast outflowing component of the neutral hydrogen in 4C12.50, one of the best-known ultraluminous infrared galaxies (ULIRGs) that hosts a young—recently restarted— radio-loud AGN. Galaxies like 4C12.50 are particularly relevant because they are considered to be the link between ULIRGs and AGNs; hence, they represent a particularly interesting phase in the evolution of a galaxy. An HI outflow of about 1000 km s^{-1} was previously detected with the WSRT (Morganti, Tadhunter, Oosterloo, 2005 A&A 444, L9) and later found to have a markedly similar counterpart of molecular gas (CO(1-0) and (3-2), Dasyra, Combes, 2012, A&A 541, L7).

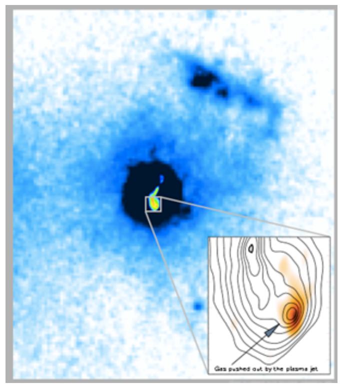

Figure 1. Optical image (blue) of the galaxy 4C12.50. The inset shows a zoom in of the plasma jet and the cold gas (orange). The gas is distributed in a compact cloud (dark orange) and filaments (light orange) as result of the strong impact with the plasma jet.
Credit: optical: HST/STSci Tadhunter et al.; radio: VLBI, Morganti et al. 2013.

The outflowing component (~1000 km s^{-1} blueshifted from the systemic velocity) is seen at the end of the distorted southern jet (see Fig.1). This HI component appears to consist of a compact cloud (unresolved in our images) and a diffuse, tail-like structure. The compact cloud is seen—in projection—to be cospatial with the hot spot observed in radio continuum (Lister et al., 2003, AJ. 584, 135). The faint and diffuse component extends at least 50 pc around, and in front of, the southern lobe. For a number of radio sources, it has been proposed that the radio jet is responsible for the fast gas outflows. For 4C12.50, we could pinpoint the location of the outflow gas and recover the distribution of the cold gas associated with the most blueshifted HI absorption in relation to the radio jet. The extreme kinematics, together with the location of the HI, suggests that we are indeed witnessing gas being expelled from the galaxy at a (projected) speed of 1000 km/s as a result of the interaction between the radio jet and a dense cloud in the ISM. The cold gas in the compact cloud may represent the core of an originally larger cloud that is encountered by the jet. The extended, diffuse trail observed against and around the radio lobe would instead represent the expanding medium dispersed after the interaction.

These observations show that the radio plasma drives the outflow and removes gas from the central regions and that jet-driven outflows can play a relevant role in feedback mechanisms.

This result has appeared in the September 2013 issue of Science (Morganti, Fogasy, Paragi, Oosterloo, Orienti 2013, Science 341, 1082). Interestingly, part of the study was carried out as summer student project in 2012 by Judit Fogasy from Budapest (presently, a PhD student at Chalmers University, Gothenburg, Sweded). For more information about ASTRON/JIVE Summer Student Programme, see http://www.astron.nl/astronomy-group/summer-school/projects/summer-student-projects.

Raffaella Morganti (1,2), Judit Fogasy (3), Zsolt Paragi (4), Tom Oosterloo (1,2), Monica Orienti (5)
1) ASTRON; 2) Kapteyn Institute Groningen; 3) Eötvös Loránd University, Budapest; 4) JIVE; 5) INAF-IRA Bologna

No evidence for a counter-jet in the TeV-emitting radio galaxy IC 310

The nearby active galaxy IC 310
(z = 0.019), located in the Perseus cluster of galaxies is one of only four radio galaxies detected at very high gamma-ray energies above 100 GeV so far. In contrast to its previous classification as a head-tail radio galaxy, its variability at X-ray and gamma-ray energies and its compact one-sided parsec-scale radio jet suggest a blazar-like nature (Kadler et al. 2012, A&A 538, L1; Aleksić et al. 2013, A&A, in press, arXiv: 1305.5147; Eisenacher et al. 2013, arXiv: 1308.0433). The unusual hard gamma-ray spectrum and variable TeV emission shorter than one day raises questions about the role of the jet orientation angle for the interpretation of the gamma-rays.

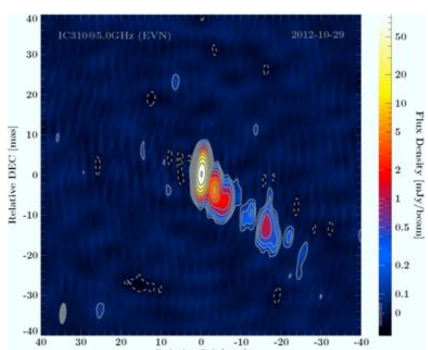

Figure 2. VLBI jet of IC 310 at 5.0 GHz obtained with EVN on 2012-10-29. Contours start at three times the noise level and increase logarithmically by factors of two. The restoring beam is 5.3 × 1.7 mas^2 with a position angle of –5 deg.

From October 2012 to February 2013, the first successful simultaneous multiwavelength program for IC 310 has been organized yielding the detection of an exceptionally bright TeV are of the object on 12-13 Nov. 2012 reaching a flux level of up to > 0.5 Crab units above 1TeV measured with the MAGIC telescopes (ATel #4583, #4581). Further instruments participating in the campaign were: EVN, VLBA (MOJAVE), Effelsberg 100 m, Kungliga Vetenskapsakademien telescope on La Palma, the telescopes at the Observatoire de Haute Provence (France), Swift, INTEGRAL and, Fermi-LAT. The first high sensitive multi-frequency VLBI observations were carried out with the EVN shortly before the bright TeV are at 18 cm, 6 cm, 3.6/13 cm, and 1.3 cm. Fig. 2 shows a preliminary image of IC 310 at 6 cm (5.0 GHz) with no evidence of a counter-jet down to a threshold of three times the noise level in the image.

Following the analysis by Kadler et al. 2012, the jet-to-counter-jet ratio was estimated by taking the ratio of the peak flux density to the aforementioned threshold. An upper limit of the jet angle to the line of sight was estimated assuming a flat spectrum of the compact emission and a jet velocity β ® 1. In comparison to previous (short) VLBA observations the jet-to-counter-jet ratio was significantly better constrained in our EVN observations, due to a higher signal-to-noise ratio. This yields an upper limit of ≤20 degrees, which is substantially lower than the value reported by Kadler et al. 2012 (31 degrees). In combination with jet size-scale deprojection arguments (see Aleksić et al. 2013), the IC 310 jet inclination angle can thus be constrained to 10-20 degrees. The EVN observations have thus helped to estimate a key parameter relevant for the understanding of the enigmatic high-energy source in IC 310.

Robert Schulz (Univ. Würzburg, Univ. Erlangen-Nürnberg), Dorit Eisenacher, Matthias Kadler, Dominik Elsässer, Karl Mannheim (Univ. Würzburg), Eduardo Ros (MPIfR Bonn)

EVN/JIVE Technical Developments

A phase error related to the WSRT phased array

EVN users are usually requested to provide a source position as accurately as possible for their VLBI observations and correlation. A rule of thumb is that source positions for correlation should be better than an arcsecond. The accurate source position helps to reduce significantly the size of the output data and the imaging field. Furthermore, it enables the WSRT (Westerbork Synthesis Radio Telescope) to phase up all of its antennas well when participating in your EVN observation as an array.

If there is a source position error that is not significantly lower than the WSRT resolution (13 arcsec at 1.6 GHz, 4.4 arcsec at 5 GHz), there will be not only a loss of VLBI correlation amplitude but also a systematic phase error on baselines to the WSRT. As they cannot be removed via phase-referencing, the EVN astrometry precision and image reliability may be significantly affected.

The two panels of Fig. 3 show the residual EVN intensity maps of a 30 mJy point-like source (J0639+0601) after the traditional phase-referencing calibration. The source itself has been removed via fitting a circular Gaussian model to the visibility data in Difmap. Here, natural weighting is used to maximize the sensitivity. One may be wondering whether these residual large-scale stripes in the left panel are associated with an extended radio source. Here, the answer is negative. Because of poor a priori knowledge, the target source has a position error of 2.6 arcsec. The right panel gives the residual image of the phase self-calibration on the WSRT only. As you see, these stripes are well removed. The phase solutions vary consistently across all the subbands and smoothly along the time axis, staying within ~20 to ~0 degrees over the 6-hour experiment. When the position error was corrected in the later epochs of e-EVN observations, these stripes were also absent, without any phase self-calibration.

Currently, the EVN provides a couple means to determine more accurate positions for your calibrators, if they can't be known a priori to better than an arcsecond. One typical situation could be having a set of candidate reference sources closer to your target(s), which you have found from some lower-resolution survey. Before starting a series of phase-reference observations, you could use the real-time e-EVN capabilities to check their compactness and refine their positions. There are about 10 ~monthly 24-hour e-EVN observations throughout the year (see the e-EVN status table: www.evlbi.org/evlbi/e-vlbi_status.html).

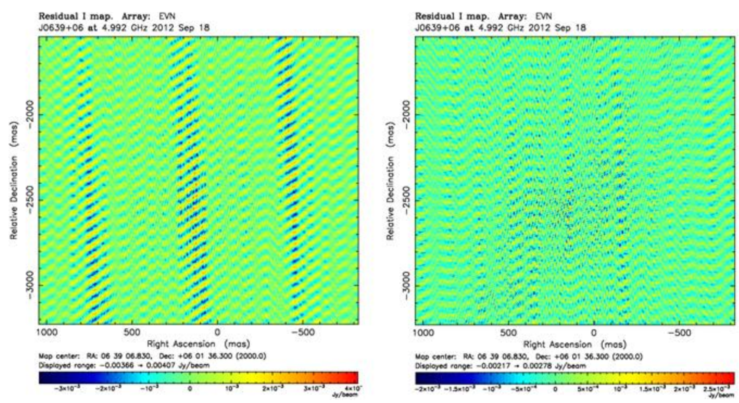

Figure 3. Left: Residual EVN intensity map of a 30 mJy point-like source (J0639+0601) after the traditional phase-referencing calibration . Right: The same residual intensity map, after a single round of phase self-calibration run only on WSRT.

(1) A short e-EVN observation may be requested up to 3 weeks before a given e-EVN day via a letter to the PC chairman. The requested observation itself may be up to 2 hours long. The advantages of a short e-EVN observation thus include a simpler mechanism and a shorter lead-time for proposing. However, they have lower priority than any other e-EVN observation proposed via the normal route of the on-line NorthStar tool -- thus they can only fill gaps in existing schedules for the e-EVN days, and carry no weight in determining the frequency band to be deployed on a given e-EVN day. See the EVN Proposal Guidelines for more details about short e-EVN observations (link in the first bullet of proposing section of the EVN Users' Guide: www.evlbi.org/proposals)

(2) The on-line NorthStar tool permits e-EVN observations to be a part of an EVN+MERLIN or Global proposal. In the situation above, one "observation" could be a multi-epoch phase-referencing study of a target (disk-based or e-EVN), and another "observation" could be a preliminary e-EVN investigation of a set of candidate reference sources (perhaps with the commencement of the multi-epoch observation contingent upon the results of the preliminary e-EVN observation). In this way, the preliminary reference-source observation would not be limited to 2 hours, and would have the same grade as the proposal as a whole when "competing" for GST range within e-EVN days. However, this route would require more advanced planning, since the proposals would be due at one of the three traditional deadlines (but of course, advance planning is not in and of itself a bad thing...).

Feel free to contact the Science Operations and Support group at JIVE for further help or advice.

Jun Yang and Bob Campbell, JIVE Dwingeloo

Phased array mode at the JIVE SFXC software correlator

Recently a phased array mode has been developed for the SFXC software correlator. In this mode the signals from all stations in an experiment are summed coherently rather than being correlated. The main applications of the phased array mode are time domain pulsar studies such as pulsar timing and pulsar searching experiments. Compared to single dish observations the increased signal to noise obtained from the phased array mode will yield higher precision timing information and allows for the detection of weaker pulsations. However, due to the fact that in VLBI the synthesized beam is very small, the field of view of the resulting dataset will be limited. To overcome this limitation a multiple phase center capability for the phased array mode is under development.

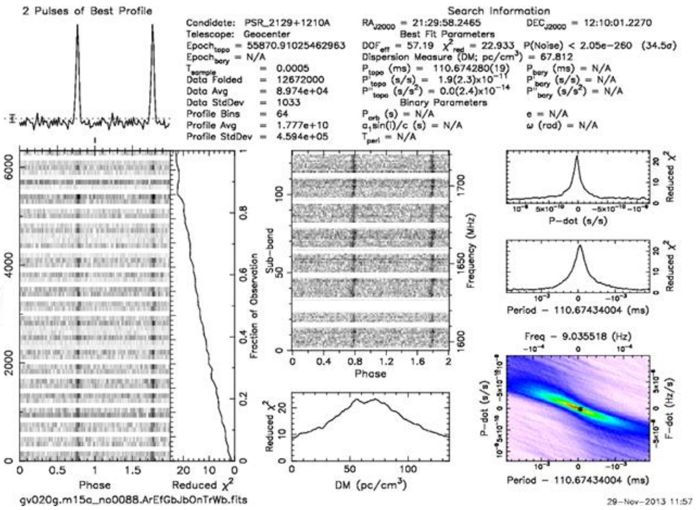

Figure 4. Folded pulse profile for pulsar B2127+11A.

Before the signals from all stations can be summed coherently, phase and amplitude calibration solutions need to be provided. We obtain these calibration solutions by first correlating the experiment like a standard VLBI experiment. The usual calibration steps are then performed in the data reduction package AIPS. These calibration results are exported back to the correlator where they are applied during the phasing up. The resulting time series are stored in the PSRFITS data format which is widely supported by pulsar toolkits such as SIGPROC and PRESTO.

In Fig. 4 we show a folded profile of pulsar B2127+11A (M15A) created from using a coherent sum of the stations Arecibo, Effelsberg, Greenbank, Jodrell bank, Torun, Onsala, and single dish Westerbork. The profile was create using PRESTO. The pulsar has a period P=110.67ms, a dispersion measure DM=67, and an L band flux of 0.2mJy. The observation was performed using phase referencing, with 210s target scans and 60s reference scans. The reference scans are shown as blanked intervals in the phase vs time plot in Fig. 4. Similarly spectral channels that were flagged for RFI are blanked in the phase vs frequency plot.

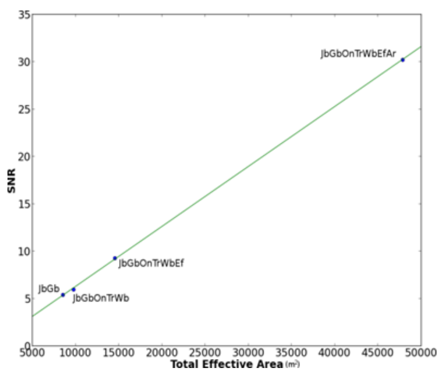

Figure 5. Signal to noise ratio of pulse detection versus total effective collecting area for different array configurations.

The sensitivity of the phased array is proportional to the total effective collecting area in the array. In Fig. 5 we show the signal to noise ratio of the pulse detection versus the total effective collecting area. The figure was created by repeatedly phasing up the same observation that was used to create Fig. 1, using a different set of stations in each run. Each data set was then folded using the same ephemeris.

K. Keimpema(JIVE), M.M. Kettenis(JIVE), H.J. Van Langevelde (JIVE), A. Szomoru (JIVE), F. Kirsten (AIfA), W.H.T. Vlemmings(CHALMERS/OSO)

“OLD” EVN Scheduler’s Report: January 2014

The title of this column has necessarily changed since, as of 1st January 2014, the EVN has a new Scheduler - Alastair Gunn. This is the last of my reports on EVN scheduling activities, which includes the plans for the first 2 e-VLBI run in 2014 and Out-of-Session Radioastron observations up to the end of the AO1 period (30 June 2014). Alastair has produced the plan for EVN Session I 2014.

1) 2013 SESSION 3: 16 October - 05 November

Wavelengths: 1.3, 6, 18/21, 90, 3.6 cm

Number of different user projects observed: 16

SESSION DURATION: 19.9 days: Efficiency: 46.3 %

Breakdown of observations by type and correlator. T-BYTES indicates the estimated disk useage (in TB) at EVN telescopes.

oct13	N-OBS	HOURS	DAYS	T-BYTES
TOTAL	38	220.5	9.2	758.5
EVN-only	21	154.0	6.4	680.2
GLOBAL	2	28.5	1.2	21.5
Short Obs.	0	0.0	0.0	0.0

Tests	15	38.0	1.6	56.8
User: Cont.	19	152.0	6.3	681.8
User: Line	2	14.0	0.6	14.3
User: Pulsar	2	16.5	0.7	5.6
EVN-Corr.	27	154.0	6.4	723.0
Bonn-Corr.	1	15.0	0.6	18.7
VLBA-Corr.	0	0.0	0.0	0.0
eEVN-Corr.	2	8.0	0.3	
Other-Corr.	0	0.0	0.0	0.0
CAL-only	5	18.0	0.8	
MERLIN	4			
Arecibo	3			
VLBA	1			
GBT	1			
VLA	0			
Robledo	2			
Goldstone	0			
RadioAstron	4			

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2) e-VLBI SCHEDULING

					e-VLBI		PROPOSAL	TYPE	
SESSION	DATE	WAVELENGTH	HOURS	Normal	Short	Disk	ToO	T r i g g e r	
13e08	08OCT13	18cm	12	2	0	-	-	0 sched	
13e09	12NOV13	6cm	18	0	0	-	2	1 sched	0 trig
13e10	03DEC13	6cm	24	3	0	-	-	2 sched	0 trig
14e01	14JAN14	18cm	18	1	0	-	-	1 sched	0 trig
14e02	18FEB14	6cm	6	1	0	-	-	2 sched	

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3) EVN OUT-OF-SESSION RADIOASTRON SCHEDULING

RUN	WAVELENGTH	HOURS
A130921	6cm+1.3cm	14
A130929	18cm	18
A131110	1.3cm	16
A140101	18cm+90cm	12.5
A140110	6cm+1.3cm	18
A140118	1.3cm	12
A140204	6cm+1.3cm	15
A140404	1.3cm	15
A140421	6cm+1.3cm	18
A140430	6cm+1.3cm	8

Richard Porcas, MPIfR Bonn

Reports from EVN Institutes

JIVE 20

On December 21 2013 it was exactly 20 years ago that the JIVE foundation was established at the local notary in Dwingeloo. In the summer of 1993 an event had taken place to establish the commitments to our collaborative institute, so in fact JIVE goes back a bit longer than 20 years already. For a large fraction of the lifetime of JIVE its activities centred on the Mk4 correlator, which was dedicated in 1998. That project and the accompanying EVN upgrade started directly with the establishment of JIVE, but also major tasks in user and network support were recognised early on.

JIVE staff and visitors in an informal discussion round.

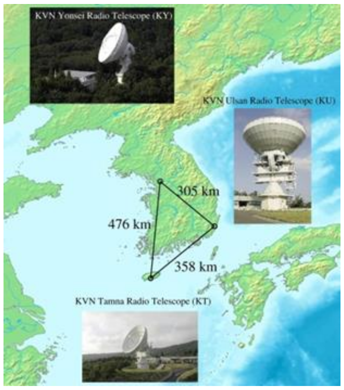
We are anticipating major changes to take place at JIVE in 2014, as the application to establish a European Research Infrastructure Consortium (ERIC), to take over the JIVE foundation role, has recently been reviewed positively by a European expert panel. Of course the EVN software correlator at JIVE (SFXC) has replaced the Mk4 already, which was the main correlation platform during most of the 20 years.

In view of this upcoming transition, and because of the holiday season, we choose to have a modest, local celebration of this 20-year anniversary. A number of commemorative items were designed and a special effort was made to recognize the efforts by JIVE staff and collaborators that made JIVE and its Mk4 correlator a huge success for the EVN. As a result, we now have a nice new JIVE corner, where you are most welcome to have a coffee, rest your feet and read, for instance the EVN newsletter.

Huib van Langevelde, JIVE, Dwingeloo

The Korean VLBI Network (KVN) becomes an Associate Member of the EVN

The Korean VLBI Network (KVN) has recently joined the EVN as an Associate Member. The KVN is a three-element Very Long Baseline Interferometry (VLBI) network in Korea, which is dedicated to VLBI observations at millimeter wavelengths. Three 21-m radio telescopes are located in Seoul, Ulsan and Jeju island, Korea; KVN Yonsei Radio Observatory (KY), KVN Ulsan Radio Observatory (KU), and KVN Tanma Radio Observatory (KT). The baseline lengths are in a range of 305—476 km. All antennas have the identical design. The antennas are equipped with the quasi-optical system that allows simultaneous observations at 22, 43, 86, and 129 GHz.



Locations of the antennas comprising the Korean VLBI Network.

The KVN was built by Korea Astronomy and Space Science Institute (KASI) for achieving the main goals; a)to study the formation and death of stars with observing water (H2O), methanol (CH3OH), and silicon monoxide (SiO) masers at high resolutions, b)to investigate the structure and dynamics of our own Galaxy by conducting highly accurate astrometric VLBI observations toward the galactic radio sources, and c) to study the nature of active galactic nuclei (AGN) and their population at high frequencies. The KVN as a dedicated-VLBI network also aims to study the spectral and temporal properties of transient sources such as bursting star-forming regions, intra-day variable compact radio sources, and gamma-ray flaring AGNs by conducting systematic multi-wavelength monitoring campaigns.

Sang-Sung Lee, KASI, Daejeon

The IAA Golden Medal of Merit Awards

A ceremonial meeting of Scientific Board of the Institute of Applied Astronomy of the Russian Academy of Sciences (IAA RAS), devoted to the awarding the Golden Medal of Merit of IAA RAS "For implementation and realization of astrophysical research on VLBI network "Quasar"" to world-renowned scientists, radio astronomers Prof. Anton Zensus (Germany) and Prof. Leonid Matveenko (Russia) was held on July 26, 2013 in St. Petersburg.

Prof. Leonid Matveenko, Prof. Anton Zensus and the Director of IAA RAS Prof. Alexander Ipatov.

Prof. Anton Zensus is Director at the Max Planck Institute for Radio Astronomy in Bonn. He is leading the research division for Very Long Baseline Interferometry. His research activities focus on studies of the nuclei of extragalactic radio sources associated with active galaxies. He is the coordinator of RADIONET-3, the European Commission's programme for cooperation of radio astronomy facilities and since 2013 he is the Chairman of the EVN consortium Board of Directors.

Prof. Leonid Matveenko is the Chief scientist and the head of VLBI Laboratory of the Institute for Space Research of the Russian Academy of Sciences. He was the first who suggested in 1962 the idea of Very Long Baseline Interferometry technique, the first results he published with co-authors in 1965. He is member of the International Astronomical Union, Deputy Chief Editor of Astronomy Letters Journal, he is a laureate of Gold Medal for Russia of American Biographical Institute, he is a Honored Scientist of Russian Federation. In 2006 he got the Gratitude of the President of Russia.

Representatives of Russian Academy of Sciences, Consul General of Germany in St. Petersburg, journalists took part in the meeting.

Yuri S. Bondarenko, IAA, Sankt Petersburg

XII EVN Symposium in Cagliari, Italy

The XII European VLBI Network (EVN) Symposium will be hosted by the National Insitute of Astrophysics (INAF) in Italy and organized jointly by the Istituto di Radioastronomia and the Osservatorio di Cagliari. The symposium will be held in Cagliari, Sardinia (Italy), in the week of October 7 - 10, 2014. The latest scientific results and technical development from VLBI, space VLBI, and e-VLBI will be reported at the conference. The program will also include a visit to the Sardinia Radio Telescope. All individuals who have interests in the various research fields of VLBI and in related fields are encouraged to attend the symposium and make an oral or poster presentation. At present, different alternatives for the venue are still being explored. One possibility is the new building of the Osservatorio di Cagliari, located in Selargius in the suburb of Cagliari. Alternatively, the symposium could be held in a hotel in Cagliari.

Luigina Feretti, IRA, Bologna

Miscellaneous

Recent and Future Meetings

There is a number of astronomical conferences and workshops to be held in 2014 which are relevant to presenting and discussing scientific, methodological and technical aspects of the EVN and VLBI in general. Listed below is a subset of such meetings.

17-21 February: The conference on "Transformational Science with the SKA, Synergies with ALMA and other Contemporary Instruments" will be held in Stellenbosch, South Africa, marking the twenty years passed since the first discussions of the SKA and offering a broad forum for discussing high-resolution VLBI measurements with the SKA and its precursors.

10-11 April: The "e-Merlin Early Science Meeting" will be held at the University of Manchester, focusing on present and future science directions with the instrument.

20 June – 4 July: The European Week of Astronomy and Space Science (EWASS) will take place in Geneva, with two special events (symposia) dedicated to exploring the low-frequency radio sky in the SKA era and to millimeter and sub-millimeter astronomy in the ALMA era.

2-10 August: The 40th COSPAR Scientific Assembly and Associated Events will be organized in Moscow where the results from the early science and key science programs of RadioAstron will be discussed in a two-day symposium "The Sharpest View of Radio Universe – Results from RadioAstron (Spektr-R) Mission".