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European VLBI Network  
Call for Proposals  
Deadline 1st October 2016  
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This text is also available on the web at  
<http://www.oso.chalmers.se/evn/call.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 ERIC (JIVE) can provide support and advice on proposal preparation, scheduling, correlation and analysis. See EVN User Support at <http://www.jive.eu>.

Future Standard EVN Observing Sessions (disk recording)

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2017 Session 1    Feb 23 - Mar 16        18/21 cm, 6 cm ...  
2017 Session 2    May 25 - Jun 15        18/21 cm, 6 cm ...  
2017 Session 3    Oct 19 - Nov 09        18/21 cm, 6 cm ...

Proposals received by 1st October 2016 will be considered for scheduling in Session 1, 2017 or later. Finalisation of the planned observing wavelengths will depend on proposal pressure.

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

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2016 Dec 06 - Dec 07 (start at 13 UTC)    18/21 cm, 6 cm, 5 cm or 1.3 cm  
2017 Jan 17 - Jan 18 (start at 13 UTC)    18/21 cm, 6 cm, 5 cm or 1.3 cm  
2017 Feb 14 - Feb 15 (start at 13 UTC)    18/21 cm, 6 cm, 5 cm or 1.3 cm  
2017 Mar 23 - Mar 24 (start at 13 UTC)    18/21 cm, 6 cm, 5 cm or 1.3 cm  
2017 Apr 11 - Apr 12 (start at 13 UTC)    18/21 cm, 6 cm, 5 cm or 1.3 cm  
2017 May 09 - May 10 (start at 13 UTC)    18/21 cm, 6 cm, 5 cm or 1.3 cm  
2017 Jun 20 - Jun 21 (start at 13 UTC)    18/21 cm, 6 cm, 5 cm or 1.3 cm

Please consult the e-VLBI web page at  
[http://www.evlbi.org/evlbi/e-vlbi\\_status.html](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 October 1 deadline will be considered for scheduling in the above e-VLBI sessions starting from December 6 2016.

Note that only one wavelength will be run in each e-VLBI session, selected based on proposal priorities.

See <http://www.jive.eu/jivewiki/doku.php?id=evn:guidelines> for

details concerning the e-VLBI observation classes and observing modes.

#### New Features for the Next Standard EVN and e-VLBI Sessions

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- \* The Irbene 32 m telescope is an affiliated EVN station located 30 km north of Ventspils, Latvia. The telescope may be requested on a best efforts basis for EVN disk recording observations at 18 (single pol., RCP, uncooled receiver), 6, 5 and 3.6 cm wavelengths.
- \* e-VLBI at 2 Gbps is available at 6 cm and 1.3 cm at a subset of the EVN telescopes. The remaining telescopes will observe at 1 Gbps (mixed mode observation). The current status is given here:

[http://www.evlbi.org/evlbi/e-vlbi\\_status.html](http://www.evlbi.org/evlbi/e-vlbi_status.html)

- \* Disk recording at 2 Gbps is available at 6 cm, 3.6 cm, 1.3 cm and 0.7 cm at a subset of the EVN telescopes. The remaining telescopes will record at 1 Gbps (mixed mode observation). The current status is given here:

[https://deki.mpifr-bonn.mpg.de/Working\\_Groups/EVN\\_TOG/2Gbps](https://deki.mpifr-bonn.mpg.de/Working_Groups/EVN_TOG/2Gbps)

Use of this data rate should be clearly justified and limited to projects which really need it.

- \* For integration of e-MERLIN telescopes into the EVN, see below.
- \* Please consult [http://www.evlbi.org/evlbi/e-vlbi\\_status.html](http://www.evlbi.org/evlbi/e-vlbi_status.html) and the EVN User Guide [http://www.evlbi.org/user\\_guide/user\\_guide.html](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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Global proposals can be proposed up to 2 Gbps including VLBA, GBT and the JVLA.

Some modes may require different bandwidth channels from EVN & NRAO telescopes; correlation at JIVE can handle this.

JIVE support staff and Amy Mioduszewski at Socorro will assist during the scheduling process of such observations.

Global observations will be correlated at the SFXC correlator at JIVE (default) or at the DiFX correlator in Bonn or at the DiFX correlator in Socorro (if appropriate justification is given in the proposal).

#### RadioAstron Observations

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Proposals requesting the EVN as ground array support for RadioAstron A04 observations in the period: February 23 2017 - June 30 2017, may be submitted at this deadline.

## Large EVN Projects

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Most proposals request 12-48 hrs 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.

## Availability of EVN Antennas

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- \* The WSRT will be participating with a single telescope, equipped with dual circular polarization receivers. The frequency coverage will remain the same. Proposers who wish to use the EVN Calculator, should select "W1" instead of "Wb".
- \* Tm65 is the 65 m telescope at Tianma, about 6 km away from the 25 m Seshan telescope (Sh). The 2-letter abbreviation for Tm65 telescope is T6. Both of these telescopes can observe at 18, 13, 6, 5, 3.6, and 3.6/13 cm. Tm65 can also observe at 21 cm. Tm65 is the default telescope; Sh will be used if the Tm65 is not available for some reason. If you select both, you should also discuss the motivation for the very short baseline in the proposal.

## Integration of e-MERLIN Telescopes into the EVN

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Integration of e-MERLIN outstation antennas into the EVN is now possible following recent software upgrades on the e-MERLIN correlator at Jodrell Bank. EVN experiments can now include multiple e-MERLIN outstation antennas in addition to an antenna at Jodrell Bank. The total recorded bandwidth for the outstations will be limited to 1 Gbps but can be divided between 1, 2 or 4 e-MERLIN antennas. PIs of proposals should indicate in the scientific justification which e-MERLIN antennas they wish to record. These data will then be available for correlation with all other EVN stations in mixed mode, providing a fully integrated additional set of short spacing EVN data for the first time. For example, within e-MERLIN, the baseline coverage from Jb + Da, Kn, De, and Cm would span separations of 11 to 220 km.

Proposers can alternatively still request a full bandwidth e-MERLIN observation for high sensitivity lower surface brightness imaging where the e-MERLIN telescopes are correlated at JBO. At L-Band the maximum bandwidth is 2x512 MHz, from Session I 2017, we envisage that at C- and K-Band a maximum bandwidth of 2x2 GHz will be available on a best efforts basis.

For any technical queries contact: [vlbi@jb.man.ac.uk](mailto:vlbi@jb.man.ac.uk)

## Use of Korean VLBI Network Antennas

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The Korean VLBI Network (KVN) is an Associate Member of the EVN. KVN telescopes may be requested for EVN observations at 1.3 cm and 7 mm wavelengths. For more details regarding the KVN, see: [http://kvn-web.kasi.re.kr/en/en\\_normal\\_info.php](http://kvn-web.kasi.re.kr/en/en_normal_info.php)

## Use of Australian VLBI Network Antennas

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Some Australian Long Baseline Array (LBA) time will be made available for simultaneous scheduling with the EVN, thus enabling the possibility of joint LBA/EVN observations. The easternmost stations of the EVN are in a similar longitude range to the LBA telescopes, and for sources in equatorial regions, baselines to western European stations are also achievable. Joint LBA time is likely to be heavily oversubscribed, and authors are requested to note whether they are prepared to accept scheduling without LBA antennas being present.

Any proposals for joint EVN+LBA observations submitted to the EVN by its 1 October 2016 deadline should also be submitted to the LBA by their mid December 2016 deadline and will first be eligible for scheduling in EVN Session 1/2017.

For more details regarding proposing time on the LBA, see:

<http://www.atnf.csiro.au/observers/apply/avail.html>

&

<http://www.atnf.csiro.au/vlbi/index.html>

EVN+LBA observations should be possible at all principal EVN wavebands from 21 cm to 1.3 cm.: See: ([http://www.evlbi.org/user\\_guide/freq\\_cov.html](http://www.evlbi.org/user_guide/freq_cov.html)) and [http://www.evlbi.org/user\\_guide/EVNstatus.txt](http://www.evlbi.org/user_guide/EVNstatus.txt).

## Out of Session Observing

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Out-of-Session observing time (up to a maximum of 144 hours/year), is now available to all proposals (disk recording or e-VLBI).

Proposals requesting Out-of-Session observing time must provide full scientific (and technical if appropriate) justification as to why observations must be made outside standard sessions.

Out-of-Session observing blocks should be no less than 12 hours in duration (although individual observations can be shorter), and occur no more than 10 times per year.

Proposals should specify which dates/GST ranges are being requested and indicate the minimum requirement in terms of numbers of telescopes (and any particular telescopes).

Proposals will only be considered for dates occurring after the regular EVN session that follows EVN proposal review.

Observations requiring much shorter lead times should be submitted as "Target-of-Opportunity" (ToO) proposals.

## Joint observations with other facilities

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For joint observations with other facilities, e.g., EVN+XMM, separate proposals should be submitted to the EVN and to the other facility. Such proposals will be considered by the EVN PC on a case-by-case basis.

## How to Submit

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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.

New proposers should register at <http://proposal.jive.eu>.

Proposals must include the following sections:

1. Science & technical justification
2. Figures, tables and references (optional)

These sections shall be submitted as a single PDF document. The total length of this document is limited to 4 pages (A4 or US Letter format), with a font size no smaller than 11 points. Proposers are free to adjust the length of the various proposal sections within this overall length limit.

The strongly recommended breakdown is 2 pages for the Science & technical justification and 2 pages for Figures, tables and references.

Figures and tables may be interleaved with the science justification, so that e.g. figures appear close to the location in the text where references are made to them.

When specifying requested antennas from the LBA, please specify 'LBA' under the "other" row in the telescope-selection box - this selects all that are available for joint observations.

The deadline for submission is 23:59:59 UTC on 1st October 2016.

## Additional information

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Further information on EVN, EVN+MERLIN, Global VLBI and e-VLBI observations, and guidelines for proposal submission are available at: <http://www.jive.eu/jivewiki/doku.php?id=evn:guidelines>

The EVN User Guide ([http://www.evlbi.org/user\\_guide/user\\_guide.html](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](http://www.evlbi.org/user_guide/EVNstatus.txt)

For the e-EVN array see [http://www.evlbi.org/evlbi/e-vlbi\\_status.html](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.

A selection of recent highlights is presented here: [http://www.jive.eu/jivewiki/doku.php?id=evn:evn\\_science](http://www.jive.eu/jivewiki/doku.php?id=evn:evn_science)

A selection of refereed EVN publications during 2016 is presented here: [http://www.jive.eu/jivewiki/doku.php?id=evn:evn\\_publications](http://www.jive.eu/jivewiki/doku.php?id=evn:evn_publications)