



European VLBI Network Newsletter Number 20 June 2008

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1. Call for EVN Proposals - Deadline June 1st 2008

ALL EVN and GLOBAL PROPOSALS must now be submitted with the [ONLINE PROPOSAL SUBMISSION tool Northstar](#).

Email submission is no longer accepted

[Detailed Call for Proposals](#)

(This text is also available on the web at <http://www.obs.u-bordeaux1.fr/vlbi/EVN/call.html>)

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 EVN is open to all astronomers. **Use of the Network by astronomers not specialized 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>.

EVN Observing Sessions in 2007-2008

2008 Session 3	Oct 16 - Nov 06	18/21cm, 6cm, 1.3cm (+ possibly 3.6cm, 7mm)
2009 Session 1	Feb 26 - Mar 19	18/21cm, 6cm, 5cm, + ...
2009 Session 2	May 28 - Jun 18	18/21cm, 6cm, + ...

Proposals received by 1 June 2008 will be considered for scheduling in Session 3, 2008 or later. Finalization of the planned observing wavelengths will depend on proposal pressure. Other wavelengths which may be scheduled in 2008-2009 are 90cm, 50cm, 30cm, and S/X.

Special features for Sessions in 2008-2009

- **Proposals at 1.3cm and 7 mm are encouraged** as this frequencies are likely to be available in Session 3/2008.
- In addition, e-VLBI observing opportunities with a recording rate of 512 Mb/s and at least a 7-station array, including Effelsberg, are available during additional 24-hour slots in September, November, and December 2008. See the e-VLBI Call for Proposals at http://www.evlbi.org/evlbi/call_evlbi.html for further details.
- Target of Opportunity (ToO) proposals in response to a high-priority unanticipated astronomical event may be submitted at any time for observations at any time, inside or outside scheduled EVN sessions. See the [EVN ToO policy \(http://www.evlbi.org/proposals/too.nov07.pdf\)](http://www.evlbi.org/proposals/too.nov07.pdf) for a description of the procedures to apply for such ToO observing time.
- MERLIN is available for joint EVN+MERLIN observations in all sessions, for any EVN wavelengths which MERLIN supports (18/21cm, 6/5cm, 1.3cm). However, limited resources during e-MERLIN construction mean that joint EVN+MERLIN will be scheduled at no more than two of these bands (usually 18/21cm and 5/6cm) in any one session.

Large projects

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.

How to submit

The [on-line proposal submission tool Northstar](#) now replaces the old Latex-email way of submission for all EVN and Global proposals; EMAIL PROPOSAL SUBMISSION IS NOT POSSIBLE ANYMORE. Global proposals will be forwarded to NRAO automatically and do not need to be submitted to NRAO separately.

To use Northstar, people should [register](#) (at <http://proposal.jive.nl>, only for the first proposal submission), enter the information about the investigators and the technical specifications of the proposed observations (equivalent to that previously in the coversheet) using the on-line forms, and upload a scientific justification in pdf or ps format. The scientific justification should 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 1 June 2008.

Additional information

The [detailed Call for Proposals \(http://www.obs.u-bordeaux1.fr/vlbi/EVN/call-long.html\)](http://www.obs.u-bordeaux1.fr/vlbi/EVN/call-long.html) has further information on Global VLBI, EVN+MERLIN and guidelines for proposal submission.

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 [EVN Status Table \(http://www.mpifr-bonn.mpg.de/EVN/EVNstatus.txt\)](http://www.mpifr-bonn.mpg.de/EVN/EVNstatus.txt) gives current antenna capabilities.

The [On-line VLBI catalogue \(http://db.ira.inaf.it/evn/\)](http://db.ira.inaf.it/evn/) lists sources observed by the EVN and Global VLBI.

Patrick Charlot - Outgoing Chairman of the EVN Program Committee

2. Call for EVN e-VLBI Science Proposals - Deadline 1st JUNE 2008

Proposals for EVN e-VLBI observations are invited for submission. New features include;

- The Effelsberg 100-m telescope has been successfully tested for e-VLBI (<http://www.expres-eu.org/Effelsberg.html>) and will participate in future scheduled EVN e-VLBI observations.
- A transmitted data rate of 512Mbit/s is expected from the participating European antennas. Lower bitrates for spectral line observations are also supported.
- Proposals for any science goal, not just rapid response science can be made. In addition a special class of 'triggered' proposal for the pre-set e-VLBI dates is supported. Finally e-VLBI can be combined with EVN session disk observations for denser time monitoring of variable sources.
- e-VLBI can also be used for EVN Target-of-Opportunity (ToO) observations set up at short notice on any date for high priority unanticipated events.. See the EVN ToO policy at <http://www.evlbi.org/proposals/too.nov07.pdf>

Upcoming scheduled eEVN runs are:

Run start	Run end
Tue 9 Sep 13:00 UTC	Wed 10 Sep 13:00 UTC
Tue 30 Sep 13:00 UTC	Wed 1 Oct 13:00 UTC
Thu 13 Nov 13:00 UTC	Fri 14 Nov 13:00 UTC
Wed 19 Nov 13:00 UTC	Thu 20 Nov 13:00 UTC
Thu 4 Dec 13:00 UTC	Fri 5 Dec 13:00 UCT

In the first half of 2009 e-VLBI runs are likely to be scheduled at approximately the same rate between disk sessions.

Participating EVN antennas are Ef, include Wb14 (tied array, except 5cm), Tr, On, Mh, Mc, Jb2, Cm. In addition in some runs other stations (e.g. Ar and Sh) may be added on a best effort basis when technically feasible.

Wavelength bands covered are 18/21cm, 6cm, 5cm and 1.3cm. Please see http://www.evlbi.org/evlbi/e-vlbi_status.html for the availability of different e-VLBI stations per observing band.

Note that because of on-going engineering work participation of Jb2 and Cm cannot be guaranteed and/or they may be replaced by other MERLIN telescopes.

TECHNICAL DETAILS

CONTINUUM OBSERVATIONS - will be run at the highest possible reliable bit rate. Based on recent experience it is expected that **512 Mbit/s** is very likely to be achieved (however Cm is presently limited to 128 Mbit/s of useful data by its microwave link). Continuum observations can be proposed for only one of the available frequency bands in any given 24hr session.

SPECTRAL LINE OBSERVATIONS - can be carried out at recording rates between a minimum of 32 Mbit/s and a maximum of 512Mbit/s. For two-bit, dual-polarization observations, the lower limit implies at least 4 channels of 4 Msample/sec sampling (Nyquist channel bandwidth = 2MHz; with oversampling possible down to spanned channel bandwidths of 0.5MHz). Observations may be proposed for the 18cm/21cm, 5cm and 1cm bands. Note that only standard and short observation proposal types (see below for definitions) are

allowed for spectral line observations. *Triggered spectral line proposals will **not** be accepted.*

e-VLBI OBSERVATION CLASSES

eVLBI proposals submitted for the use of eVLBI on the fixed dates defined above fall into the three classes defined below. Time within the first two classes will only be allocated in response to proposals submitted for the standard EVN proposal deadlines of 1st Feb, 1st June and 1st Oct. PI's should make clear in the proposal text which class of observation is being requested.

1) General e-VLBI proposals

Any proposal requesting e-VLBI observing time during one or several e-VLBI sessions, excluding triggered response science (see below). General e-VLBI proposals can be any scientific purpose and do not need to be justified based on the rapid data delivery of e-VLBI. Proposals for source monitoring may also request complementary observing time during regular EVN sessions using disk recording. Note that the e-VLBI portion of monitoring proposals cannot be guaranteed in every requested run as they may be overridden by higher rated, triggered e-VLBI proposals (see below). General e-VLBI proposals can be either continuum or spectral line. Scheduling will be done by JIVE staff using the technical information included in the proposal; it is therefore vital that all technical aspects are fully specified in the proposal.

2) Triggered e-VLBI proposals

A proposal to be scheduled during an e-VLBI run only if a specific triggering criterion is met. Accurate source coordinates need only be included in the trigger request, not the original proposal. Only continuum observations can be proposed for within this class. Triggered proposals must include a precise and justified triggering criterion. They must also give an estimate of likely time intervals between trigger events, and a maximum number of trigger events that will be observed. The maximum period for which a triggered proposal will remain active is one year.

PIs of successful proposals in this class will be informed after proposal review that their trigger requests will be accepted. Such trigger requests should be sent by e-mail to the EVN PC Chair (Tiziana Venturi, at tventuri@ira.inaf.it) with copies to the EVN Scheduler (Richard Porcas, porcas@mpifr-bonn.mpg.de) and JIVE/EXPREs (Bob Campbell, campbell@jive.nl, Zsolt Paragi zparagi@jive.nl). These trigger requests must be received no later than 0800 UT the day before the e-VLBI run. The email should provide evidence that the

trigger criterion in the original proposal has been met and give the exact GST range and source position requested. All requested technical parameters must match those in the original proposal. The PC Chairman will evaluate the trigger request (and decide on priorities if more than one conflicting trigger request is received) and will inform the PI by 1700 UT whether their experiment is to be observed. The experiment will then be scheduled by JIVE staff in accordance with the instructions given in the original proposal.

3) Short e-VLBI observations

Short eVLBI observations may be requested in order to rapidly obtain results in preparation for a later proposal. Examples include checking calibrator or target source compactness. These projects are limited to less than 2 hours in length. Such requests may be submitted up to three weeks prior to the start of any eVLBI run directly to the EVN PC Chair. There is no need to submit a full proposal via Northstar but the email to the Chair must clearly indicate the purposes and observing details of the proposed observation. A standard VLBI coversheet should also be sent including information on proposed observing modes, stations/GST ranges and precise positions for all targets and calibrators. The information sent must be sufficient to allow central scheduling of the observations by JIVE personnel.

PROPOSAL DETAILS

Proposals requesting observing time for the above runs should be submitted by the 1 June 2008 deadline. Proposals can be made for any length of time within the above advertised slots up to 24 hours in length. Short time requests (defined above) of up to 2 hours in length can be submitted directly to the PC Chair up to three weeks before each run. Proprietary rights on all e-VLBI data are the standard ones of one year after data distribution (see archive policy at http://www.evlbi.org/user_guide/archive_policy.html). All standard and triggered proposals must use the Northstar online submission tool (see details below).

Because detailed scheduling of e-VLBI runs will be done by JIVE staff all e-VLBI proposals must include the observing frequency, the requested GST range, the minimum bit rate and a minimum number and configuration of telescopes required. It is essential that standard proposals also include accurate target and calibrator positions. For triggered proposals as much information as possible should be given about potential targets and their calibrators, which will ease in evaluating the technical feasibility of the proposed observations.

The technical details of all proposals should be discussed with JIVE staff prior to submission to ensure proper and efficient scheduling (contact campbell@jive.nl).

HOW TO SUBMIT

The on-line proposal submission tool Northstar replaces the old Latex-email way of submission for proposals which involving the EVN, including proposals for e-VLBI runs (an exception to this at present are ToO proposals which are submitted by email according to the procedure described at <http://www.evlbi.org/proposals/too.nov07.pdf>).

To use Northstar proposers should register at <http://proposal.jive.nl> (only for the first proposal submission), complete the technical information on-line (equivalent to that previously in the cover-sheet) and upload a scientific justification in pdf or ps format. Standard page limitations apply and will be enforced. If advice is needed about submitting via Northstar please contact Antonis Polatidis (polatidis@jive.nl). **The deadline for submission of standard and triggered proposals is 23:59:59 UTC on 1st June 2008.**

ACKNOWLEDGEMENT

The continuing development of e-VLBI within the EVN is made possible via the EXPReS project funded by the EC FP6 IST Integrated infrastructure initiative contract #026642 - with a goal to achieve 1 Gbit/s e-VLBI real time data transfer and correlation.

John Conway - Chairman EVN eVSAG (eVLBI Science Advisory Group)

3. Message from the Chairman of the EVN Board of Directors

The EVN continues experiencing new developments. Thanks to the FP6 project EXPReS, the connected EVN array (e-EVN) is expanding in a steady and rapid manner. After new successful e-VLBI tests were made with Arecibo last February, real-time fringes were also obtained with Effelsberg at the beginning of April, and very successful tests have also carried out with Hartebeesthoek and with TIGO during May. Clearly the e-EVN opens important new opportunities to the VLBI observer. The enormous gain in flexibility makes of the e-EVN a much more versatile instrument that should allow us confronting new scientific challenges.

Some EVN scientific results are highlighted in this Newsletter. Particularly impressive is the ability of the array to probe the early universe as illustrated by the detection (at 1.6 and 5 GHz) of a quasar at a redshift as high as 6.12. Equally exciting is the new mm-wave VLBI image of the BL Lac object Markarian 501, which can be compared to high sensitivity 1.4 GHz images. Indeed the operations at high frequencies is a technical challenge that our Network will face in the mid-term future.

The EVN Board of Directors met at the Bordeaux Observatory on the 24th of April. Hot points in the agenda were the preparation of a roadmap which expresses the primary technical vision of the future of the EVN, the starting of a project to increase the data rates to 4 Gbps, the needed arrangements for participating in the extremely exciting space project VSOP2, etc. Long discussions were also devoted to compatibility issues and to further increase the coordination with the other VLBI arrays.

After having served for several years at the EVN Program Committee (PC), Patrick Charlot will be replaced as PC chair by Tiziana Venturi on the 1st of June 2008. On behalf of the Board, I take this opportunity to thank Patrick for the excellent work he has made at the PC. I also send my best wishes of success to Tiziana in leading such a crucial committee. The scientific return of the EVN relies indeed on this Committee to which Directors assign the highest importance.

The preparations for the 9th EVN Symposium are progressing very well. The conference will be kindly hosted by our IRA (INAF) colleagues in Bologna on September 23-26, 2008. I warmly encourage all VLBI-friend astronomers, in particular EVN users, to attend it.

Rafael Bachiller, OAN-IGN, Spain

Note from the Editor: The [first issue](#) of the EVN Newsletter was published in May 2002. In its 20th edition, it keeps the format and the goal of serving as a tool to communicate the scientific and technical development of our network, which is continuously changing more and more rapidly thanks to the increase of the data quality and the inclusion of new capabilities. This newsletter intends to serve as witness to all that development. A mirror to which we can look to check whether we are achieving the goals of our users, which are our own. An opportunity to contribute and communicate our interests, thoughts, and achievements.

Francisco Colomer, OAN-IGN, Spain

4. EVN Scientific Highlights

- **EVN CBD approves the annual report 2005-2006**

The EVN Consortium Board of Directors has approved the EVN Annual Report for 2005-2006. The report includes the most important scientific and technical results for the EVN institutes during this period, as well as a description of the EVN operations and a list of publications.



- **A compact symmetric object at $z=6.12$?**

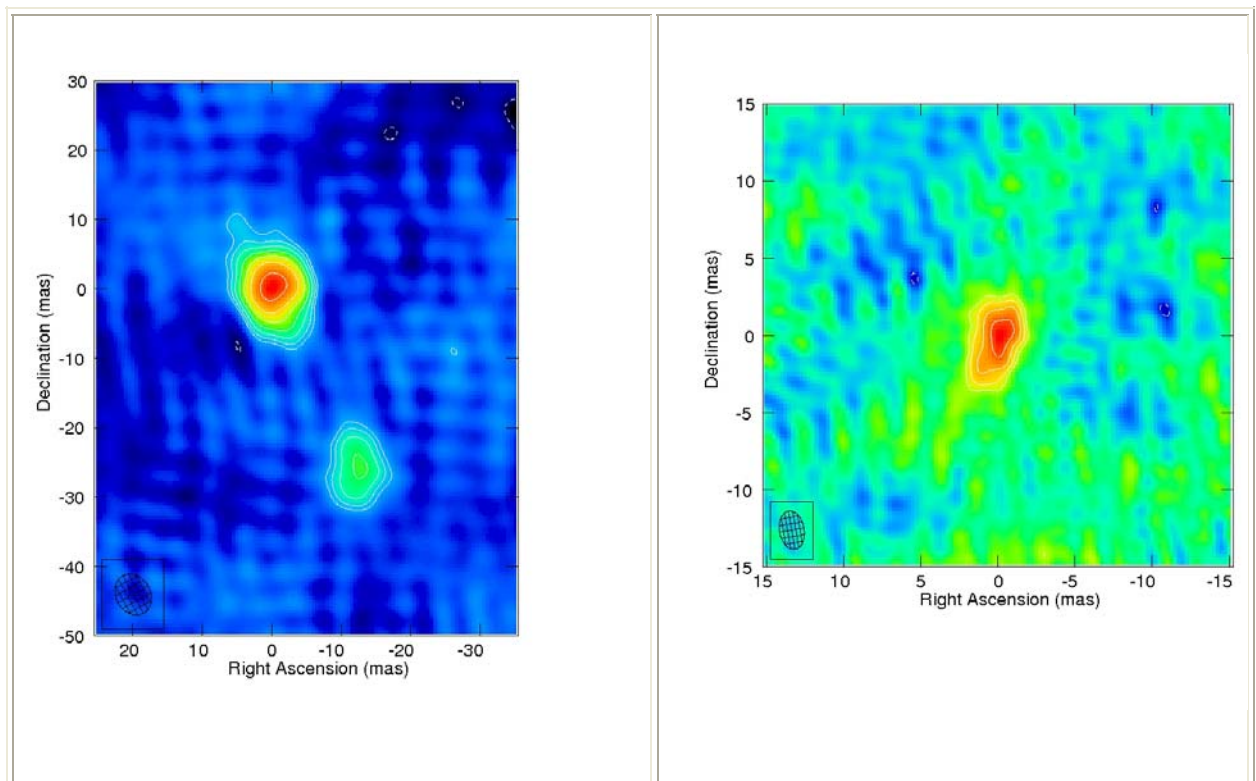
The highest redshift quasars receive considerable attention since they provide strong constraints on the growth of the earliest supermassive black holes. They also probe the epoch of reionisation and serve as "lighthouses" to illuminate the space between them and the observer. The source J1427+3312 ($z=6.12$) has recently been identified as the first and so far the only known radio-loud quasar at $z>6$. We observed this quasar in phase-reference mode with ten antennas of the EVN at 1.6 GHz on 11 March 2007 and at 5 GHz on 3 March 2007 (project EF020).

J1427+3312 was clearly detected at both frequencies. At 1.6 GHz, it shows a prominent double structure. The two components are separated by 28.3 mas, corresponding to a projected linear distance of ~ 160 pc. Both components with sub-mJy flux densities appear resolved. In the position of the brightest component at 1.6 GHz, we detected mas-scale radio emission at 5 GHz as well. The radio

spectrum of this feature is steep with a spectral index of -0.6 . The double structure and the separation of the components of J1427+3312 are similar to those of the young compact symmetric objects (CSOs). There are several indications of the youthfulness of this radio source. Based on its similarity to CSOs, one could speculate that the kinematic age of this extremely distant quasar is not more than a few thousand years.

The Letter describing the observations and the properties of this interesting source has been accepted for publication in *Astronomy and Astrophysics*. (arXiv preprint: <http://arXiv.org/abs/0805.0474>)

S. Frey (FOMI SGO), L.I. Gurvits, Z. Paragi (JIVE), K.E. Gabanyi (FOMI SGO & ISAS JAXA)



The naturally weighted EVN images of J1427+3312 at 1.6 GHz and 5 GHz. The positive contour levels increase by a factor of square root of 2. The first contours are drawn at -50 and 50 microjansky/beam.

- **The jet of Markarian 501 from millions of Schwarzschild radii down to a few hundreds**

The TeV BL Lac object Markarian 501 is a complex, core dominated radio source, with a one sided, twisting jet on parsec scales.

Thanks to new observations at 1.4 and 86 GHz we investigated regions never accessed before. The 1.4 GHz data were obtained in November 2004, using the High Sensitivity Array which includes the VLBA, the VLA phased array, the GBT and Effelsberg (HSA, www.nrao.edu/hsa). Observations were obtained in full polarization, with a final r.m.s. noise of 25 microJy/beam in the total intensity image. The 86 GHz observations were performed in October 2005 with the Global Millimeter VLBI Array (GMVA, www.mpifr-bonn.mpg.de/div/vlbi/globalmm), providing an angular resolution as good as 110 x 40 microarcseconds. Telescopes participating were Effelsberg, Onsala, Metsahovi, Plateau de Bure, Pico Veleta, and 8 VLBA stations. We expect that more EVN telescopes will join the mm-VLBI observations in the future (Noto, Yebes, SRT).

The sensitivity and resolution provided by the new observations make it possible to detect the jet up to about 700 milliarcseconds from its base, corresponding to a projected linear size of about 500 pc (see image 1). Polarized flux is also detected, with polarization vectors clearly aligned with the jet spine, suggesting that the magnetic field is orthogonal to the jet main axis. This is also in agreement with the results of the adiabatic fit to the jet brightness and width as a function of distance from the core. Limb brightening -- already detected on intermediate scales by VSOP observations (Giroletti et al. 2004) -- is now visible on jet transverse profiles at about 60 mas from the core, and is likely present even on the sub-parsec scales imaged with mm-VLBI.

Despite its presumed weakness, Mrk 501 is in fact clearly detected by the GMVA on sub-milliarcsecond scales (see image 2). This result is encouraging given the performance of the existing mm-VLBI array and suggests that not only the brightest AGN can be studied on the smallest scales. The superior resolution of the 86 GHz GMVA observations probes the innermost regions of the jet down to a few hundreds Schwarzschild radii. The brightness temperature of the most compact component is about 6×10^{10} Kelvin. This region has a deconvolved linear size of 0.020 x 0.014 pc or, in terms of gravitational radii, 200 x 140 R_S . Significant extended emission is also revealed in the short baselines between the most sensitive telescopes, and awaits proper imaging with increased fidelity.

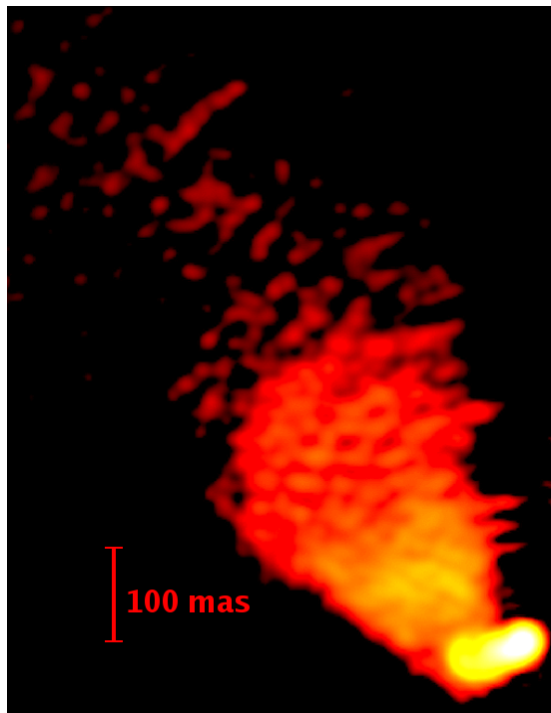


Fig. 1: High Sensitivity Array image at 1.4 GHz. The reconstructing beam is 15×11 mas, the peak level is 762 mJy/beam and the 3 sigma rms noise 75 microJy/beam.

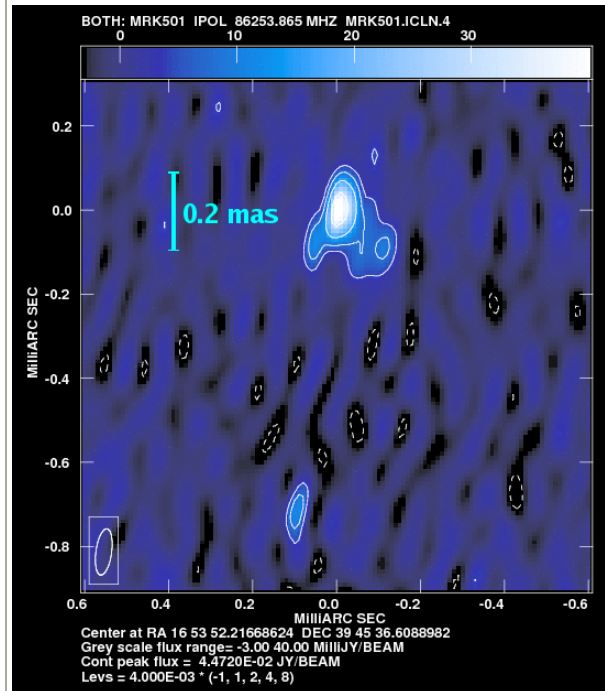


Fig. 2: Mrk 501 at 86 GHz; the restoring beam is 0.11×0.04 mas; the peak is 45 mJy/beam.

Marcello Giroletti (IRA-INAF, Italy)

5. EVN Technical Development and Operations

- Continued expansion of the e-EVN

This last period saw a rapid succession of important EXPRoS milestones, dramatically boosting both the sensitivity and the resolution of the e-EVN array.

First, after a long absence, **Arecibo** finally joined e-VLBI operations again in February. While e-VLBI with Ar was done successfully even before the start of the EXPRoS project, over the years connectivity deteriorated to the point that no transfers were possible anymore. However, thanks to the locally produced Mark5A control code, which enables UDP data transfer and the possibility to fit the amount of

transferred data to the available bandwidth by dropping data packets at the sending side, this situation has changed.

In February connectivity to Ar was still limited by a shared 155 Mbps connection to mainland USA. 64 Mbps produced fringes right away, 128 Mbps was only reached for very short periods, no doubt because of competing traffic. By dropping 20% of the packets at Ar, steady green leds and good fringes were obtained, at an effective transfer rate of ~100 Mbps. At the time of this writing, a lightpath connecting Ar to JIVE has been installed, but still needs testing. With this lightpath in place, we should be able to do production e-VLBI with Ar at 512 Mbps, an enormous improvement.

This success was followed by the first real-time e-VLBI fringes with **Effelsberg** in the beginning of April. After troubleshooting some initial networking problems (the MTU between Effelsberg and JIVE turned out to be just a little smaller than the canonical 4470), the data arrived without problems and we got our first On-Ef and Tr-Ef fringes at 512 Mbps shortly after the antenna became available. Wb and Jb joined later, and fringes to those stations were seen too. Cm and Mc participated with formatted data only. We also ran at ~1 Gbps (with packet dropping) for a while, which didn't pose any problems for Effelsberg (and most of the other stations) either. At that point the total e-VLBI network throughput was a record-breaking 6.71 Gbps. The data from Effelsberg was routed over the new fiber from Effelsberg to Bonn and then through DFN, GEANT and SURFNet to JIVE.

Somewhat out of the blue, **Hartebeesthoek** got online on the 1st of May. A new connection via Johannesburg and London was provided on the 1st, tested on the 2nd and used in an e-VLBI demo with on the 5th of May. This demo was held during the visit to Hh of a delegation of high-ranked EC-officials. Apart from Ef (out because of maintenance) all e-enabled telescopes participated, and for a very short time we even got fringes between Ar and Hh at 32 Mbps. Tests however showed that 64 Mbps should be easily sustained.

On the 22nd of May 2008 the e-EVN will hold a demo at the TERENA networking conference in Brugues, Belgium. This will showcase data transfers from Europe, North America, South America and Africa. After verifying Ar and Hh, **TIGO** was the last remaining unknown. Data transfers at 64 Mbps had been done in the past, but actual fringes were finally obtained on the 9th of May. A run with TIGO, Wb and Mc only produced fringes between Mc and Wb, but after finding this was caused by a scheduling problem we saw strong fringes between Ar and TIGO, at both 32 and 64 Mbps.

Arpad Szomoru, for the [EXPReS](#) team.

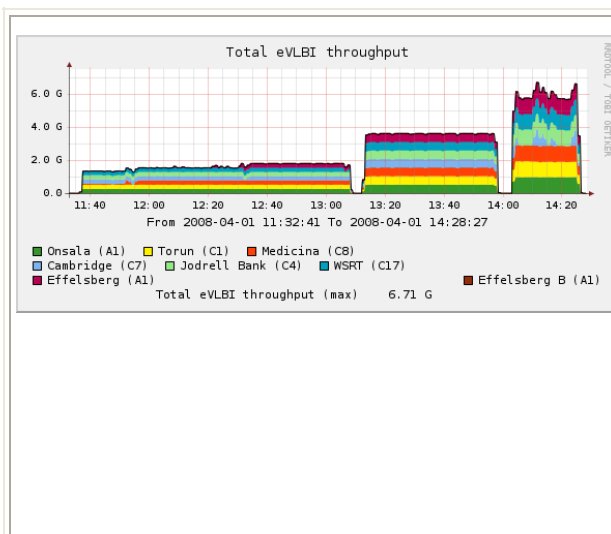


Figure 1: Total data transport into JIVE during the Effelsberg first e-light test on April 1st 2008.

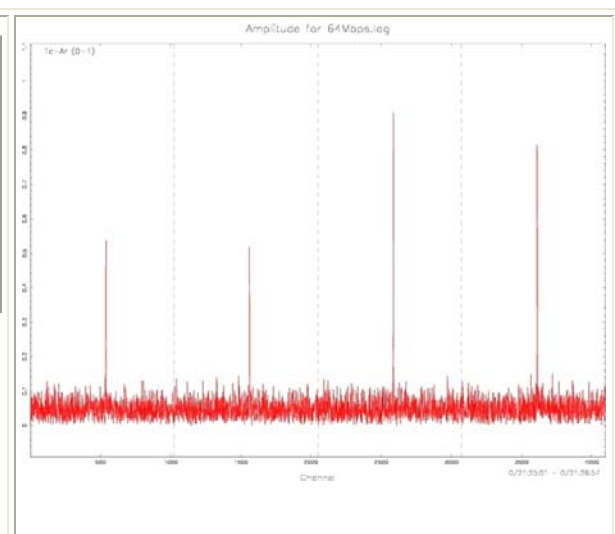


Figure 2: First e-VLBI fringes between TIGO and Arecibo at 64 Mbps, on May 9 2008

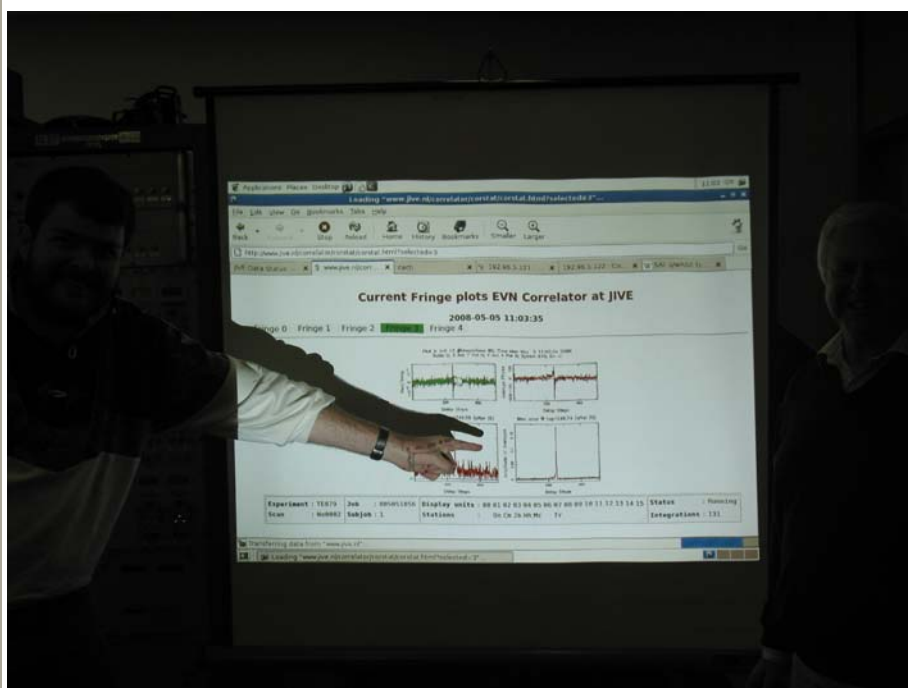


Figure 3: Jonathan Quick and Roy Booth point out the first e-VLBI fringes with Hartebeesthoek, on May 5th 2008.

- **e-EVN on EuroNews**

The e-EVN is featured on the Futuris program of the EuroNews channel 8 on 14 May 2008. This eight-minute program on the next generation of radio astronomy in Europe is also available in seven languages on the EuroNews web site at <http://www.euronews.net/index.php?page=futuris&article=485314>

Kristine Yun, for the EXPReS project

- **A new 18-26 GHz receiver mounted on the Medicina antenna**

Recently has been installed a new receiver in the secondary focus cabin of the Medicina antenna. It was originally funded by EU in the framework project FARADAY (Focal-plane Arrays for Radio Astronomy, Design, Access and Yield) referred to produce multifeed systems and related technology. Principal characteristics are as the following:

- 7 horn arranged in hexagonal form with central horn
- RF band from 18 to 26GHz
- 14 IF outputs right and left polarization
- IF bandwidths selectable up to 2GHz, tunable everywhere in the RF band
- All the 7 feed systems plus Low Noise Amplifiers (LNA) are cooled at 20K
- Measured receiver noise temperatures = 20-30K from 18 to 24 GHz, 30-50K from 24 to 26GHz
- equipped with a mechanical de-rotator to maintain the field of view

The receiver has 14 cooled LNAs and 14 not cooled post amplifiers made in MMIC InP technology. The antenna illumination design was done for the Sardinia Radio Telescope but the tapering is also suitable to use the receiver on the Medicina 32-m dish. Although devoted to continuum and spectroscopy single-dish observations, the central horn will also be used for VLBI. First tests on the antenna show a

system temperature of about 75K at El=58 with an atmosphere transparency at the zenith = 0.1.

The figure shows the multifeed mounted in the central location of the secondary cabin. On the left is also shown the 4.3-5.8 GHz receiver and on the right the 5.9-7.1 GHz one.

Alessandro Orfei, IRA-INAF, Italy



Figure: 18-26GHz Multifeed system (central location)

- **EVN Scheduler's Report from the last observing session**

2008 Session 1: 28 Feb - 19 Mar

Wavelengths: 18cm, 1.3cm, 13/3.6cm, 6cm, 5cm, 6cm

During this session both the Seshan (Shanghai) and Nanshan (Urumqi) telescopes were needed for ~2 days per week for tracking the Chinese Lunar Explorer space mission CHANG'E, providing an additional constraint on the scheduling of projects. Our Chinese colleagues have been very helpful in making sure that the EVN observations don't clash with those of the space mission. All eligible projects at 5, 1.3 and 13/3.6 cm were scheduled. Only the highest rated projects at 18 and 6cm could be scheduled.

A total of 29 user observations were scheduled, from 15 proposals. The VLBA correlator was used for 2 projects, the others being correlated at the EVN correlator at JIVE. 5 Global observations were scheduled, and one 4-h "short observation" was approved by the EVNPC Chair. The DSN 70m antenna at Robledo was scheduled for 7h for one 13/3.6 cm project. The second observation of a ToO proposal, received on 22 January, was scheduled (together with Arecibo and 2 VLBA antennas) at the end of the session. This required a receiver change back to 6cm - many thanks to the observatories for being so accommodating !

Richard Porcas (EVN Scheduler)

6. EVN participates in international projects

- **Space VLBI workshop at MPI fR, Bonn: May 13-16 2008**

The workshop was hosted by Max-Planck-Institut in co-ordination with the EVN and ISAS. The meeting embraced three major themes:

1. *Science with the VSOP-2 mission*. This discussion will focus on scientific priorities for VSOP-2 and European involvement in the Key Science Programmes of the mission.
2. The first meeting of the *VSOP-2 International Steering Committee (VISC-2)*. The VISC-2 meeting is going to be

dedicated to organizational issues and various aspects of providing sufficient ground support for VSOP-2

3. The *tracking station meeting*. This part of the discussion was focused on technical and financial issues, also related to construction and operations of a satellite tracking station in Yebees, Spain.



Andrei Lobanov (Max-Planck-Institut fuer Radioastronomie, Bonn)

7. EVN Symposium 2008: Second announcement

The Istituto di Radioastronomia (INAF) on behalf of the European VLBI Consortium, will host the 9th European VLBI Network Symposium on "The role of VLBI in the Golden Age for Radio Astronomy" and the EVN Users Meeting on September 23-26 2008. The Symposium will be held in Bologna at the Conference Centre of the Consiglio Nazionale delle Ricerche and Istituto Nazionale di Astrofisica Campus, where the Istituto di Radioastronomia is located.

The purpose of this conference is to report on the very latest VLBI results, including both recent scientific and technical developments in an era during which several new powerful radio astronomy facilities,

e.g. e-MERLIN, LOFAR, ALMA, SKA, etc..., are coming along. The meeting will have an informal character and includes reviews, contributed talks, and posters.

The provisional list of topics includes AGNs and jet physics, Starburst Galaxies, VLBI surveys, gravitational lenses, masers, supernovae and their remnants, active stars, transients, new developments in hardware and software techniques. During the conference, also the EVN Users Meeting will be held.

REGISTRATION - CALL FOR PAPERS

Registration for the conference can be made using the on-line registration form.

Participants who wish to present a contribution to the conference are requested to submit title, abstract, and type of presentation (poster or 15-20 min talk) along with the registration form. The deadline for the Abstracts and Registration is June 15, 2008. The presentations (oral/poster) accepted for the conference will be made known soon after the selection by the SOC.

PAYMENT - FINANCIAL SUPPORT

There is a registration fee which includes admission to all scientific sessions, coffee breaks and lunches during the meeting, conference dinner, and conference material. The registration fee is EUR 200. Information about payment details will be circulated at a later stage.

A limited amount of funds will be made available for financial support to participants who make a request in their registration form. Priority will be given to students and post docs. Please indicate in your registration form your present status.

ACCOMMODATION AND MISCELLANEOUS

Participants have to make their own arrangement for accommodation.

We recommend to make reservations as early as possible as hotel rooms can be strongly demanded, in particular in times of trade fairs.

Please check the Accommodation page in the Conference web site <http://www.ira.inaf.it/meetings/evn9/> for the relevant information. Special rate made available in the hotel listed in the Conference web site using the *reservation code "CNR"*.

The symposium will take place at the "Area della Ricerca del CNR" in Bologna. The EVN Users Meeting will be held at the Medicina Radio Observatory Visitor Centre. The traditional football match will also be organized (start your training!). Travel information are available on the web site.

Further details will be provided in following announcements. Please also keep an eye on our web site.

IMPORTANT DATES

June 15 - end of registration and abstract submission

June 30 - preliminary programme

July 15 - communication about financial support

Sept. 1 - Final announcement

Sept. 23-26, 9th EVN Symposium and EVN Users meeting

ORGANIZING COMMITTEES

Scientific Organizing Committee

R. Bachiller (IGN, ES), S. Garrington (Vice-Chair, MERLIN/JBO,UK), R. Vermeulen (WSRT/ASTRON, NL), A. Zensus (MPIfR, DE), F. Mantovani (Chair, IRA, IT), H. Olofsson (OSO, SE), R. Booth (HRAO, ZA), A. Kus (TCfA, PL), H. van Langevelde (JIVE, NL), M. Tornikoski (MRO/HUT, FI), Wang Na (UAO, CN), Hong Xiaoyu (SHAO, CN), R. Brown (NAIC, USA), W. Schlueter (Fundamentalstation Wettzell, DE), H. Schuh (Vienna Univ. of Technology, AT), T. Venturi (IRA, IT), P. Charlot (Bordeaux, FR)

Local Organizing Committee

Daniele Dallacasa, Marcello Giroletti, Karl-Heinz Mack, Franco Mantovani (Chair), Mauro Nanni, Barbara Neri (secretary), Carlo Stanghellini

8. EVN Staff matters

- **Job vacancies at EVN institutes**

- SUPPORT ASTRONOMER position at Onsala Space Observatory (Sweden)

Ref. nr.: 2008/115, Deadline: **31 July 2008**

Onsala Space Observatory is located 45 km south of Gothenburg on the Onsala peninsula. OSO operates two radio telescopes at Onsala, and it is involved in international collaborations in millimetre/submillimetre astronomy such as the Odin satellite, the Atacama Pathfinder Experiment (APEX) in Chile, and the Atacama Large Millimeter Array (ALMA) in Chile. In the future it is expected that OSO will participate in major radio astronomy projects for low to intermediate radio frequencies, such as LOFAR and the Square Kilometer Array. More information can be found at <http://www.chalmers.se/rss/oso-en/>.

The position as Support Astronomer will primarily involve working in a team with responsibilities for the operation of the Onsala radio telescopes, which are equipped with radio frequency instruments up to 115 GHz, and are used for single-dish as well as VLBI observations. The work requires a good knowledge of radio astronomical hardware and software. It is also expected that the Support Astronomer will conduct his/her own independent research, especially using instrumentation that is of relevance to OSO's activities. A broad range of astrophysical research is pursued at OSO, e.g., stellar formation and evolution, astrochemistry, starburst galaxies, AGNs, and cosmology. The successful candidate should have a PhD in astronomy, with a strong research record. Experience in observational radio astronomy is essential. Experience with user support is an advantage.

For further details contact prof. Hans Olofsson, Director of Onsala Space Observatory. (hans.olofsson@chalmers.se).

The application should consist of:

- a curriculum vitae,
- a resume of research,

- and the applicant should arrange for three letters of reference to be sent.

Applications and references should both be sent (in pdf format) to registrar@chalmers.se, or as regular mail to:

Registrar

Chalmers University of Technology

SE-412 96 GÅrteborg

Sweden

The applicants name and the reference number (2008/115) must be written on the first page of the application. **The deadline for applications is 31 July 2008.**

Union representatives:

SACO: Jan LindÃ©r / ST: Marie Wenander / SEKO: Ralf Berndtsson
(All at Chalmers' Exchange 🇸🇪 +46 31 772 10 00).

▪ **Staff changes at EVN institutes**

At JIVE the personnel flux levels have been high in early 2008. We have seen the departure of Hayley Bignall and Cormac Reynolds to Perth, Australia. Both Jan Buiter and Nico Schonewille have retired. We are however, happy to announce that we have promoted **Zsolt Paragi** into the level of senior support scientist at JIVE. In this position Zsolt will continue to be active as the e-VLBI scientist. The special responsibilities that Cormac had in the JIVE organization have been divided among a number of JIVE staff. Most notably **Antonis Polatidis** is looking after Sched and **Giuseppe Cimo** after the generation of calibration data. **Leonid Gurvits** has taken charge of most of the SKA issues at JIVE. Considering the responsibilities of Nico Schonewille, **Hans Tenkink** is now taking actively involved many aspects of the disk logistics, while maintenance responsibilities formerly carried out by Jan Buiter are now with **Martin Leeuwinga**. **Bert Harms** has joined us from ASTRON to get the operator team back to strength.

From May, **Richard Dodson** will leave OAN (Spain) after working for two years as a Marie-Curie fellow. He has developed the AIPS code for processing the VLBI polarization data obtained with Nasmyth mount antennas (like Pico Veleta and Yebes), and the frequency

phase transfer method for calibrating data at different frequencies, which is in particular very important for the relative registration of different spectral lines of astronomical masers. He will now move to Perth (Australia), to work on the SKA.

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