

# The European VLBI Network

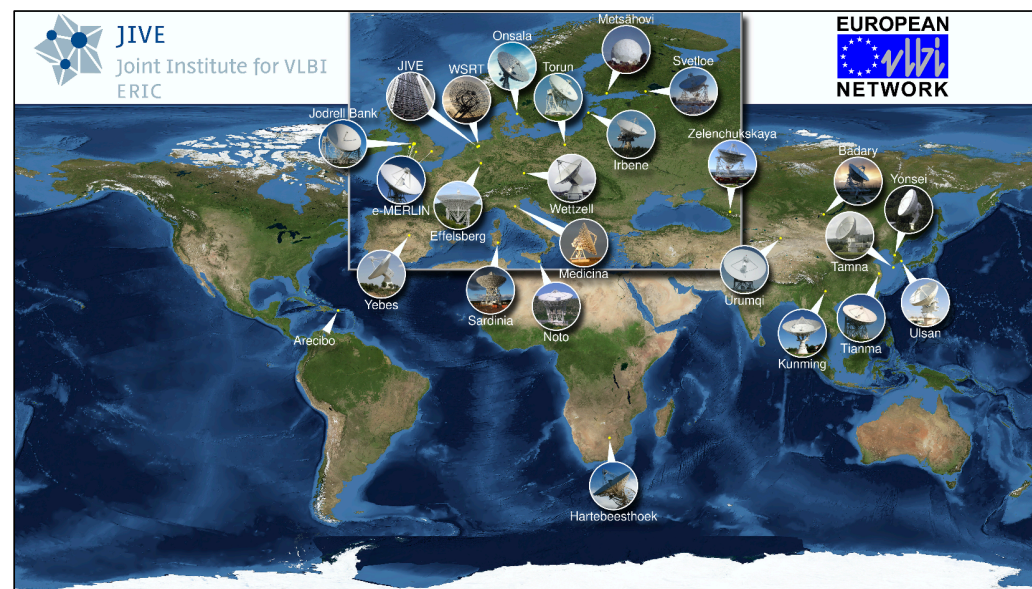
## Status and Prospects

Tiziana Venturi (IRA-INAF, chair EVN CBD)

Paco Colomer (JIVE)

- 18 European partners + China + Russia + South Africa + Korea
- Arecibo lost – but 12m in progress
- Operates at L,S,C,X,K bands
- Routinely @2Gbps
- Moving towards 4 Gbps
- 3 sessions (x 3 weeks) per year
- + 10 e-VLBI days, + ToO + OoS
- 3 calls for proposals (Feb, Jun, Oct 1)

<https://www.evlbi.org/>



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## • Organisation:

- EVN Consortium Board of Directors (EVN CBD)
- EVN time allocation Program Committee (EVN PC)
- EVN Technical and Operations Group (EVN TOG)
- EVN scheduler

Officers

## • Central institute is JIVE

- Correlation, R&D, outreach
- Expert user support
- EVN tech exploder ([evntech@jive.eu](mailto:evntech@jive.eu))



**VLBI20-30: a scientific roadmap for the next decade**  
 The future of the European VLBI Network  
 Editors: Tiziana Venturi, Zsolt Paragi & Michael Lindqvist

JIVE  
 Joint Institute for VLBI  
 ERIC

EUROPEAN  
 VLBI  
 NETWORK

image by Paul Boven (boven@jive.eu). Satellite image: Blue Marble Next Generation, courtesy of Nasa Visible Earth (visibleearth.nasa.gov).

Endorsed by the EVN Consortium Board of Directors

- Great community effort, facilitated by H2020 JUMPING JIVE.

<https://arxiv.org/abs/2007.02347>

- Main topics:

1. Cosmology
2. Galaxy formation and evolution
3. Innermost regions of AGN
4. Explosive phenomena, transients
5. Stars and stellar masers in the Milky Way
6. Earth and Space

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- Improved performances:
- Higher sensitivity
  - Broader frequency range
  - Extension to the Southern Sky
- Improved operations:
- More flexibility
- Improved tools

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- Engagement of African antenna (Ghana and MeerKAT) for a southern extension of the uv-coverage
- New broadband (C/X, BRAND) and multi-band receivers
- New backends (DBBC3 in all stations)
- Upgraded polarization
- High resolution & wide field VLBI
- EVN-light
- New tools for data analysis (CASA VLBI, EOOSC)
- Protection from Radio Frequency Interference  
CRAF is hosted by JIVE
- High data rate fibre connections (> 100 Gbps)
- Development of SKA-VLBI, near-field VLBI
- New telescopes (Thailand, Ukraine, Azores, latinamerica)

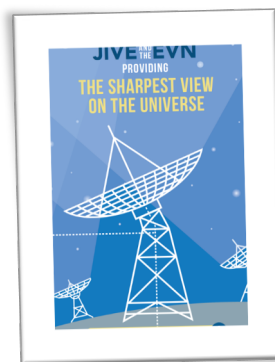
- Online seminars “The sharpest view of the radio Universe: VLBI – Connecting Astronomers Worldwide”.
  - Seven speakers will cover 7 different science topics, and the talks every 7 weeks.
  - Also for legacy: <https://www.evlbi.org/index.php/evn-seminars>
- EVN Newsletter (previous to every call for proposals)
  - <https://www.evlbi.org/newsletter>

• Other news and PR

The cosmic cow explained - radio signals point to an explosion and a newborn magnetar



Observations using 21 telescopes of the European VLBI Network (EVN) have revealed that a cosmic explosion, called GRB090328, most likely formed a neutron star with an extremely powerful magnetic field, known as a magnetar. The high-resolution radio images produced in this new study show physical properties of the stellar remnant that make alternative explanations less likely, say scientists.



**NEWSLETTER**  
Edition 55  
January 2020

**CALL FOR PROPOSALS - FEBRUARY 2020**  
DEADLINE: 01 FEBRUARY 2020, 23:59:59 UTC

**Mysterious Fast Radio Bursts**

Telescopes in the European VLBI Network (EVN) have observed a repeating Fast Radio Burst (FRB) in a spiral galaxy similar to our own. This FRB is the closest to Earth ever localised and was found in a radically different environment to previous studies. The discovery, once again, changes researchers' assumptions on the origins of these mysterious extragalactic events.

proudly present

## The sharpest view of the Radio Universe

VLBI: Connecting astronomers worldwide

- EVN e-seminar series -

7 speakers • 7 science topics • every 7 weeks

Live streaming on

For more information, please visit  
<https://www.evlbi.org/evn-seminars>

Art: Danielle Futselaar (artsource.nl) | Design: Katharina Immer

• Social networks:



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