

12th EUROPEAN VLBI NETWORK SYMPOSIUM and Users Meeting

Hotel Regina Margherita, Cagliari
7 – 10 October 2014

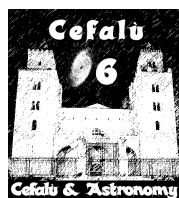
Programme



*RadioNet3 has received funding from the European Union's Seventh Framework Programme for research, technological development and demonstration under grant agreement 283393



Osservatorio
Astronomico
di Cagliari



Comune di Silius



Comune di San Basilio



REGIONE AUTÒNOMA DE SARDIGNA
REGIONE AUTONOMA DELLA SARDEGNA

Scientific Organizing Committee

- Luigina Feretti, Istituto di Radioastronomia INAF, Italy (co-chair)
- Andrea Tarchi, Osservatorio Astronomico di Cagliari INAF, Italy (co-chair)
- Michael Bietenholz, Hartebeesthoek Radio Astronomy Observatory, South Africa
- Fernando Camilo, Arecibo Observatory, USA
- Patrick Charlot, Laboratoire d'Astrophysique de Bordeaux, France
- Francisco Colomer, Observatorio Astronomico Nacional, Spain
- Simon Garrington, MERLIN/Jodrell Bank Observatory, UK
- Xiaoyou Hong, Shanghai Astronomical Observatory, China
- Alexander Ipatov, Institute of Applied Astronomy, Russia
- Magdalena Kunert-Bajraszewska, Torun Center for Astronomy, Poland
- Huib van Langevelde, Joint Institute for VLBI in Europe, Netherlands
- Michael Lindqvist, Onsala Space Observatory, Sweden
- Andrei Lobanov, Max-Planck Institut fuer Radioastronomie, Germany
- Tom Muxlow, Jodrell Bank Center for Astrophysics, UK (EVN PC Chair)
- Torben Schueler, Geodetic Observatory Wettzell, Germany
- Merja Tornikoski, Metsahovi Radio Observatory, Finland
- Rene Vermeulen, Westerbork Observatory, The Netherlands
- Na Wang, Xinjiang Astronomical Observatory, China

Local Organizing Committee

- Andrea Tarchi, Osservatorio Astronomico di Cagliari INAF, Italy (chair)
- Marco Bondi, Istituto di Radioastronomia INAF, Italy
- Marta Burgay, Osservatorio Astronomico di Cagliari INAF, Italy
- Tiziana Coiana, Osservatorio Astronomico di Cagliari INAF, Italy
- Gabriele Giovannini, Istituto di Radioastronomia INAF, Italy
- Marcello Giroletti, Istituto di Radioastronomia INAF, Italy
- Carlo Migoni, Osservatorio Astronomico di Cagliari INAF, Italy
- Matteo Murgia, Osservatorio Astronomico di Cagliari INAF, Italy

Monday, October 6

18:00-20:00 Registration and Welcome Cocktail

held in Hotel Regina Margherita, Viale Regina Margherita 44, Cagliari

Tuesday, October 7

08:00-08:45 **Registration**

08:45-08:55 **Luigina Feretti / Andrea Tarchi** (INAF-IRA/OAC)

Welcome and opening addresses

08:55-09:15 **Anton Zensus** (MPIfR)

EVN: Present and Future

SESSION 1: Low luminosity AGN and starburst galaxies

Chair: A. Lobanov

09:15-09:35 **Mar Mezcua** (IAC)

Revealing jet radio emission from intermediate-mass black holes (Invited)

09:35-09:50 **Sandor Frey** (FOMI Satellite Geodetic Observatory)

Four hot DOGs eaten up with the EVN

09:50-10:05 **Francesca Panessa** (INAF-IAPS)

On the origin of radio emission in Radio-Quiet AGN and their connection to X-rays

10:05-10:20 **John McKean** (ASTRON / Univ. of Groningen)

Testing galaxy formation at the highest angular resolution with gravitational lensing

10:20-10:35 **Megan Argo** (JBCA)

Things that go bump in the night: the curious case of NGC660

10:35-10:50 **Rebeca Soria-Ruiz** (IGN-OAN)

Reliable dense-gas tracers at high redshift: the case of CN in the $z\sim 4$ quasar APM 08279

10:50-11:15 Coffee Break and Poster Session

Chair: A. Szomoru

11:15-11:30 **Franco Mantovani** (MPIfR / INAF-IRA)

EVN observations of weak blazars

11:30-11:45 **Magdalena Kunert-Bajraszewska** (Torun Centre for Astronomy)

Broad absorption line (BAL) quasars as a class of low luminosity AGNs

11:45-12:00 **Naím Ramírez-Olivencia** (IAA – CSIC)

EVN imaging of the LIRGI sample

12:00-12:15 **Rob Beswick** (JBCA)

LeMMINGs e-MERLIN survey of nearby galaxies

12:15-12:30 **Tom Muxlow** (JBCA)

The e-MERGE Galaxy Evolution Survey

12:30-14:00 Break for Lunch

SESSION 2: Powerful AGN, jets and gamma-ray emission

Chair: A. Zensus

14:00-14:20 **Monica Orienti** (INAF-IRA)

Radioemission of relativistic jets and gamma-ray connection (Invited)

14:20-14:35 **Thomas P. Krichbaum** (MPIfR)

Millimeter VLBI observations: Black Hole Physics and the Origin of Jets

14:35-14:50 **Marcello Giroletti** (INAF-IRA)

An EVN survey of hard spectrum gamma ray sources

14:50-15:05 **Venkatessh Ramakrishnan** (Aalto University Metsähovi Radio Observ.)

Connection between parsec-scale radio jet and gamma-ray flares in the blazar 1156+295

15:05-15:20 **Biagina Boccardi** (MPIfR)

High resolution mm-VLBI imaging of Cygnus A

15:20-15:35 **Anne-Kathrin Baczko** (Dr. Remeis Observatory/ECAP/Univ. Würzburg)

VLBI Observations of NGC1052

15:35-15:50 **Kazuhiro Hada** (INAF-IRA/NAOJ)

Continuing EVN monitoring of HST-1 in the jet of M87

15:50-16:20 Coffee Break and Poster Session

Chair: J.-F. Desmurs

16:20-16:35 **Tuomas Savolainen** (MPIfR)

Imaging nearby AGN at ultra high resolution with RadioAstron

16:35-16:50 **Yuri Kovalev** (ASC of Lebedev Physical Institute)

AGN cores at extreme angular resolutions

16:50-17:05 **Gabriele Giovannini** (Univ. Bologna / INAF-IRA)

The nuclear structure of 3C84 with space VLBI (RadioAstron) observations

17:05-17:20 **Jose L. Gomez** (IAA-CSIC)

Probing the innermost regions of AGN jets and their magnetic fields with RadioAstron

17:20-17:35 **Kirill Sokolovsky** (ASC Lebedev / SAI MSU)

RadioAstron dual-band Space-VLBI observations of 3C 418 and TXS 2013+370

17:35-17:50 **Cornelia Mueller** (Univ. of Würzburg/ Dr Remeis Observatory / ECAP)

TANAMI monitoring of Centaurus A: The complex dynamics in the inner parsec of an extragalactic jet

17:50-18:05 **Ivan Agudo** (JIVE)

Signs of internal rotation and helical magnetic field in the inner jet of NRAO 150

Wednesday, October 8

SESSION 2 (cont): Powerful AGN, jets and gamma-ray emission

Chair: M. Kunert-Bajraszewska

08:45-09:00 **Rocco Lico** (Univ. Bologna/ IRA-INAF)

Very Long Baseline Polarimetry and the Gamma-ray connection in Markarian 421 during the broadband campaign in 2011

09:00-09:15 **Florent Mertens** (MPIfR)

Longitudinal and transverse velocity fields in parsec-scale jets

09:15-09:30 **Talvikki Hovatta** (Aalto Univ. Metsahovi Radio Observ.)

Spectral Index Distributions of Parsec-Scale AGN jets

09:30-09:45 **Jeffrey Hodgson** (MPIfR)

5 year Global 3-mm VLBI survey of Gamma-ray active blazars

09:45-10:00 **Andy Biggs** (ESO)

Mapping HI absorption at $z=0.026$ against a resolved background CSO

10:00-10:15 **Paola Castangia** (INAF-OA Cagliari)

VLBI observations of the water megamaser in the nucleus of the Compton-thick AGN IRAS15480-0344

SESSION 3: Technological issues and new developments

Chair: R. Porcas

10:15-10:35 **Michael Lindqvist** (OSO)

Present status and technical directions of the EVN (Invited)

10:35-10:50 **Gino Tuccari** (INAF-IRA)

DBBC3 Development (to be presented by W. Alef)

10:50-11:15 Coffee Break and Poster Session

11:15-11:30 **Cristina Garcia-Miro** (Madrid Deep Space Communication Complex NASA)

The X/Ka Celestial Reference Frame

11:30-11:45 **Ivan Marti-Vidal** – (OSO)

Solving the polarization problem in ALMA-VLBI observations

11:45-12:00 **Leonid Petrov** (ADNET Systems Inc.)

Modeling of propagation in the neutral atmosphere for radio astronomy data analysis: a paradigm shift

12:00-12:15 **Uwe Bach** (MPIfR)

Out of focus holography at Effelsberg

12:30 Bus to Is Alinos (Silius)

13:15-14:45 Lunch Buffet at Is Alinos

14:45-16:00 Presentations on the SRT at Is Alinos

Chair: A. Tarchi

Andrea Possenti (INAF-OAC)

Astronomy at the Observatory of Cagliari

Nichi D'Amico (Univ. Cagliari/INAF-OAC)

SRT: Present status and prospects

Isabella Prandoni (INAF-IRA)

The SRT: Astronomical Validation & Scientific Perspectives

16:00 Bus to the SRT site

16:15 Visit at the SRT site (and, possibly, at Belvedere)

18:00 Bus to Cagliari

Thursday, October 9

SESSION 4: Star Formation

Chair: F. Colomer

08:45-09:05 **Luca Moscadelli** (INAF-OAA)

High-Mass Star Formation and Maser VLBI (Invited)

09:05-09:20 **Anita Richards** (JBCA / Univ. Manchester)

Sub-mm maser VLBI: how do stellar winds break free from the star's gravity?

09:20-09:35 **Kee-Tae Kim** (Korea Astronomy & Space Science Inst.)

KVN Observations of Class I Methanol Masers

09:35-09:50 **Anna Bartkiewicz** (Torun Centre for Astronomy)

The methanol maser ring G23.657-0.127 after 9 years

09:50-10:05 **Ciriaco Goddi** (JIVE)

3D Gas Dynamics from Methanol Masers observed with the EVN reveals Rotating Disks around O-type Young Stars

10:05-10:20 **Gabriele Surcis** (JIVE)

Magnetic field measurements at milliarcsecond resolution around massive young stellar objects

10:20-10:35 **Jeoung Sook Kim** (NAOJ)

Transition in the Outflow Evolution of the Massive Star-forming Region W75N

10:35-11:00 Coffee Break and Poster Session

SESSION 5: Current & future facilities and international collaborations

Chair: C. Reynolds

11:00–11:15 **Jonas Trüstedt** (Universität Würzburg)

Blazars at Low Radio Frequencies

11:15-11:30 **Do-Young Byun** (KASI)

Recent Activities of KVN

11:30-11:45 **Matteo Stagni** (IRA-INAF)

Towards the Italian VLBI network: first tests and perspectives

SESSION 6: Astrometry and planetary science

11:45-12:05 **Maria Rioja** (ICRAR)

Astrometry and new methods made possible by the new generation instruments (Invited)

12:05-12:20 **Nobuyuki Sakai** (NAOJ / Univ. of Tokyo)

Direct comparison between VERA, VLBA and EVN astrometry results and an analytic gas dynamics model

12:20-12:35 **Marcin Gawronski** (Torun Centre for Astronomy)

Project RISARD - the story so far

12:35-12:50 **Guifre Molera Calves** (JIVE)

Scintillation of Venus and Mars Express radio signal on interplanetary and ionosphere Plasma

12:50-14:30 Break for Lunch

SESSION 7: Supernovae and late stages of stellar evolution

Chair: Z. Paragi

14:30-14:50 **Michael Bietenholz** (HartRAO)

VLBI of Supernovae and Gamma-Ray Burst (Invited)

14:50-15:05 **Miguel Perez-Torres** (IAA-CSIC)

Constraints on the progenitor system and the environs of SN 2014J from deep EVN and MERLIN radio observations

15:05-15:20 **Jun Yang** (OSO)

VLBI detection of the internal shocks in nova V959 Mon

15:20-15:30 Break

15:30-17:00 Users Meeting

Chair: T. Muxlow

17:00-17:30 Coffee Break

For Football Match player and supporters: **17:30** **Bus to Football match pitch**
18:00-19:30 Football match

19:30-20:30 Aperitif at the Hotel Panorama

20:30 Conference Dinner at the Hotel Panorama Restaurant (8th floor)

Friday, October 10

SESSION 8: Milky Way

Chair: M. Bietenholtz

09:00-09:20 **Mareki Honma** (NAOJ)

Maser Astrometry with VLBI and Galactic Structure (Invited)

09:20-09:35 **Rebecca Azulay** (Univ. de Valencia / MPIfR)

Binary stars in moving groups

09:35-09:50 **Benito Marcote** (Univ. of Barcelona)

Discovering the colliding wind binary HD 93129A

09:50-10:05 **Danielle Fenech** (Univ. College London)

Preliminary results the COBRaS e-MERLIN legacy project

10:05-10:20 **Sandra Etoke** (Hamburg Observatory)

Phase-lag distance of OH83.4-0.9 from eMERLIN and NRT observations

10:20-10:35 **Jean-Francois Desmurs** (IGN-OAN)

SiO masers from AGB stars in the vibrationally excited $v=1, v=2$, and $v=3$ states

10:35-10:50 **Soon-Wook Kim** (KASI)

Flaring Episodes of Cyg X-3 with Korean and Japanese VLBI

10:50-11:20 Coffee Break and Poster Session

SESSION 9: Pulsars and transient objects

Chair: M. Lindqvist

11:20-11:40 **Maria Massi** (MPIfR)

Transient sources at the highest angular resolution (Invited)

11:40-11:55 **Javier Moldon** (ASTRON)

A pulsar wind nebula associated with PSR J2032+4127 as the powering source of TeV J2032+4130

11:55-12:10 **Andrey Andrianov** (ASC Lebedev Physical Inst.)

Study of scattering material with RadioAstron-VLBI observations

12:10-12:25 **Alexey Rudnitskiy** (ASC Lebedev Physical Inst.)

Preliminary results of giant pulse investigations from Crab pulsar with Radioastron

12:25-12:40 **Olaf Wucknitz** (MPIfR)

Scattering as a nuisance and as a tool

12:40-13:00 **Huib van Langevelde** (JIVE)

Concluding remarks

13:00 End of Symposium

List of Posters

1. **Megan Argo** (JBCA)
Resolving the nature of compact ultra-steep spectrum radio sources
2. **Uwe Bach** (MPIfR)
10 Years of Multi-Frequency Monitoring of Blazars with Medicina and Noto
3. **Uwe Bach** (MPIfR)
Probing high resolution spectroscopy with the Digital BBC VLBI-backend
4. **Gabriele Bruni** (MPIfR)
Space-VLBI with RadioAstron: new correlator capabilities at MPIfR
5. **Maciej Cegłowski** (Torun Centre for Astronomy/N. Copernicus Univ.)
Orientation of the cores of hybrid morphology radio sources
6. **Hikaru Chida** (NAOJ/Tokai Univ.)
Probing Very Early Stage of Radio Source Evolution in NGC 1275 with VERA
7. **Dmitry Duev** (JIVE)
Testing the Orbit Determination Accuracy of RadioAstron Using Doppler and VLBI Measurements
8. **Sandra Etoke** (Hamburg Observatory)
MERLIN and eMERLIN OH maser observations toward the star forming region complex W49 A
9. **Sandor Frey** (FOMI Satellite Geodetic Observatory)
J1026+2542: proper motion in a blazar jet at $z=5.27$
10. **Yoshitaka Fujinaga** (Yamaguchi University)
The survey for new AGN candidates within the field of Fermi unassociated gamma-ray sources
11. **Krisztina Gabanyi** (FOMI Satellite Geodetic Observatory)
e-MERLIN observation of the puzzling TeV source HESS J1943+213
12. **Krisztina Gabanyi** (FOMI Satellite Geodetic Observatory)
Investigating dual AGN candidates with VLBI
13. **Cristina Garcia-Miro** (Madrid Deep Space Communication Complex NASA)
The X/Ka-band (8.4/32 GHz) Celestial Reference Frame: Results from combined NASA-ESA baselines including Malargue, Argentina
14. **Cristina Garcia-Miro** (Madrid Deep Space Communication Complex NASA)
VLBI Digital Terminal at the Deep Space Network: first results from non-JPL correlators
15. **Myriam Gitti** (Univ. Bologna/ IRA-INAF)
Twin SMBH candidates in the BCG of RBS 797
16. **Noelia Herrera Ruiz** (Astronomisches Institut der Ruhr-Univ)
Wide-field VLBA observations of the COSMOS field
17. **Ruben Herrero-Illana** (IAA-CSIC)
Star formation in the central kpc region of NGC1614
18. **Jeffrey Hodgson** (MPIfR)
5 year Global 3-mm VLBI survey of Gamma-ray active blazars
19. **Taehyun Jung** (KASI)
Mm-VLBI Phase Correction Capability with the Korean VLBI Network (KVN)

20. **Vassilis Karamanavis** (MPIfR)
Millimeter VLBI and broadband radio study of PKS 1502+106: Constraining the gamma-ray emitting region and testing the shock-model predictions
21. **Mark Kettenis** (JIVE)
SFXC: The new EVN data processor
22. **Mikyoung Kim** (KASI)
44GHz methanol maser observations towards G10.32-0.26 with KaVA/KVN
23. **Motoki Kino** (KASI)
AGN observations with KaVA array
24. **Shoko Koyama** (MPIfR)
Detection of new jet component perpendicular to the jet axis in Mrk 501
25. **Evgeniya Kravchenko** (ASC)
Multi-wavelength observations of blazar 1030+611 in its flaring state during 2008 - 2014
26. **Alexander Kutkin** (ASC)
Short term AGN variability
27. **Elisabetta Liuzzo** (INAF-IRA)
Nearby radio loud AGN and the Unified Model
28. **Benito Marcote** (Univ. of Barcelona)
The changing morphology of the radio outflow of HESS J0632+057 along its orbit
29. **Ivan Marti-Vidal** (OSO)
The Nordic tools for advanced analysis of interferometry data
30. **Javier Moldon** (ASTRON)
The LOFAR long baseline snapshot calibrator survey
31. **Julian Andres Mora Diaz** (Helmholtz Centre)
Baseline geometry effects due to source structure in geodetic VLBI
32. **Jack Morford** (Univ. College London)
Massive stellar mass-loss in the context of COBRaS
33. **Satomi Nakahara** (NAOJ/Kagoshima University)
Multi-epoch, quasi-simultaneous 22/43GHz observations of the M84 nucleus with VERA
34. **Kotaro Niinuma** (Yamaguchi Univ.)
Multi-epoch and multi-frequency VLBI observation of X-ray to gamma-ray flare in TeV blazar Mrk 421
35. **Tomoaki Oyama** (NAOJ)
A progress report on the development and performance of OCTAVE-DAS for VERA, JVN and Japanese e-VLBI(OCTAVE)
36. **Leonid Petrov** (ADNET Systems Inc.)
Radio Fundamental Catalog
37. **Alexander Pushkarev** (Pulkovo Observatory)
Opening angles and shapes of parsec-scale AGN jets
38. **Bindu Rani** (MPIfR)
Perplexing correlations between gamma-ray emission and parsec-scale jet orientation variations in the BL Lac object S5 0716+714

39. **Cormac Reynolds** (ICRAR - Curtin University)
Monitoring the Radio Emission from Radio Quiet Broad Absorption Line Quasars
40. **Grzegorz Rycyk** (Torun Center for Astronomy/N. Copernicus Univ.)
Determination of annual parallax for cataclysmic binary system AM Herculis with the EVN interferometric network
41. **Daisuke Sakai** (NAOJ)
Absolute proper motion measurement of Sgr HII region with VERA
42. **Satoko Sawada-Satoh** (NAOJ)
VERA Frequent Monitoring of the Parsec-scale Jet in the BL Lac Object OJ 287 Simultaneous with the Gamma-ray Flares during 2011-2012
43. **Robert Schulz** (Univ. Wuerzburg/Dr. Remeis Sternwart/ECAP)
The EVN view of the highly variable TeV active galaxy IC310
44. **Bong Won Sohn** (KASI)
KVN and KaVA polarimetry
45. **Rebeca Soria-Ruiz** (IGN-OAN)
MERLIN full polarization observations of OH masers in W3OH
46. **Gino Tuccari** (INAF IRA Noto)
IRA-INAF DBBC3: AntArr Project
47. **Minttu Uunila** (Metsähovi Radio Observatory)
Using software spectrometer to ensure VLBI signal chain reliability
48. **Harro Verkouter** (JIVE)
e-Shipping in the EVN
49. **Petr Voytsik** (ASC)
RadioAstron AGN survey with extreme angular resolution: statistics of detections, angular size and brightness temperature
50. **Pawel Wolak** (Torun Centre for Astronomy)
Violent maser events in the circumstellar envelope of pre-planetary nebula IRAS18276-1431
51. **Nick Wrigley** (JBCA)
Wide field observations from the e-MERGE survey
52. **Guangyao Zhao** (KASI)
KVN Source-Frequency Phase-Referencing Observation of 3C 66A & 3C 66B