



Joining ObsCore: VLBI issues

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IVOA Interop, May 2021



JIVE

Joint Institute for VLBI
ERIC

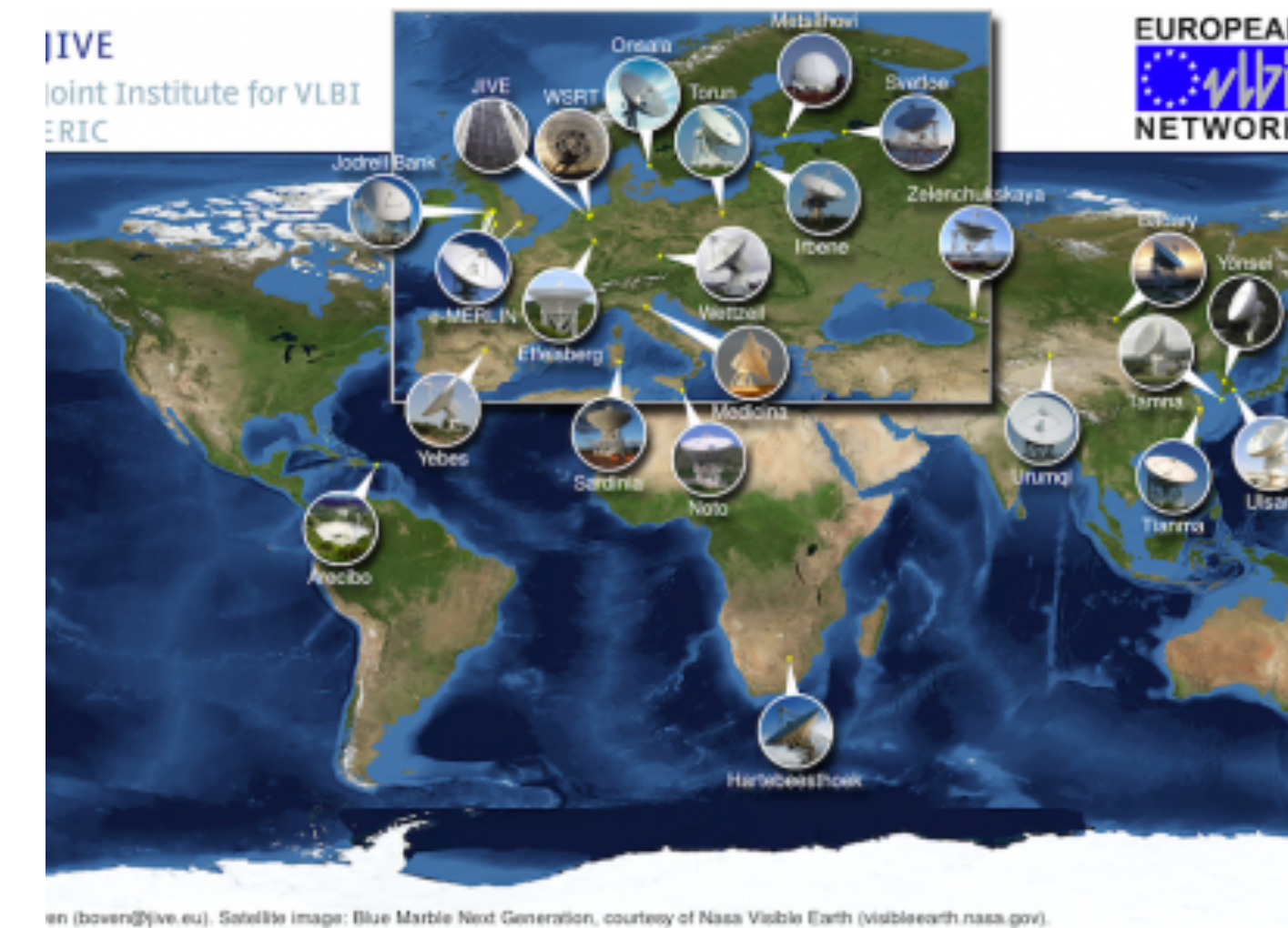


ESCAPE - The European Science Cluster of Astronomy & Particle Physics ESFRI Research Infrastructures has received funding from the European Union's Horizon 2020 research and innovation programme under the Grant Agreement n° 824064.

EVN & JIVE

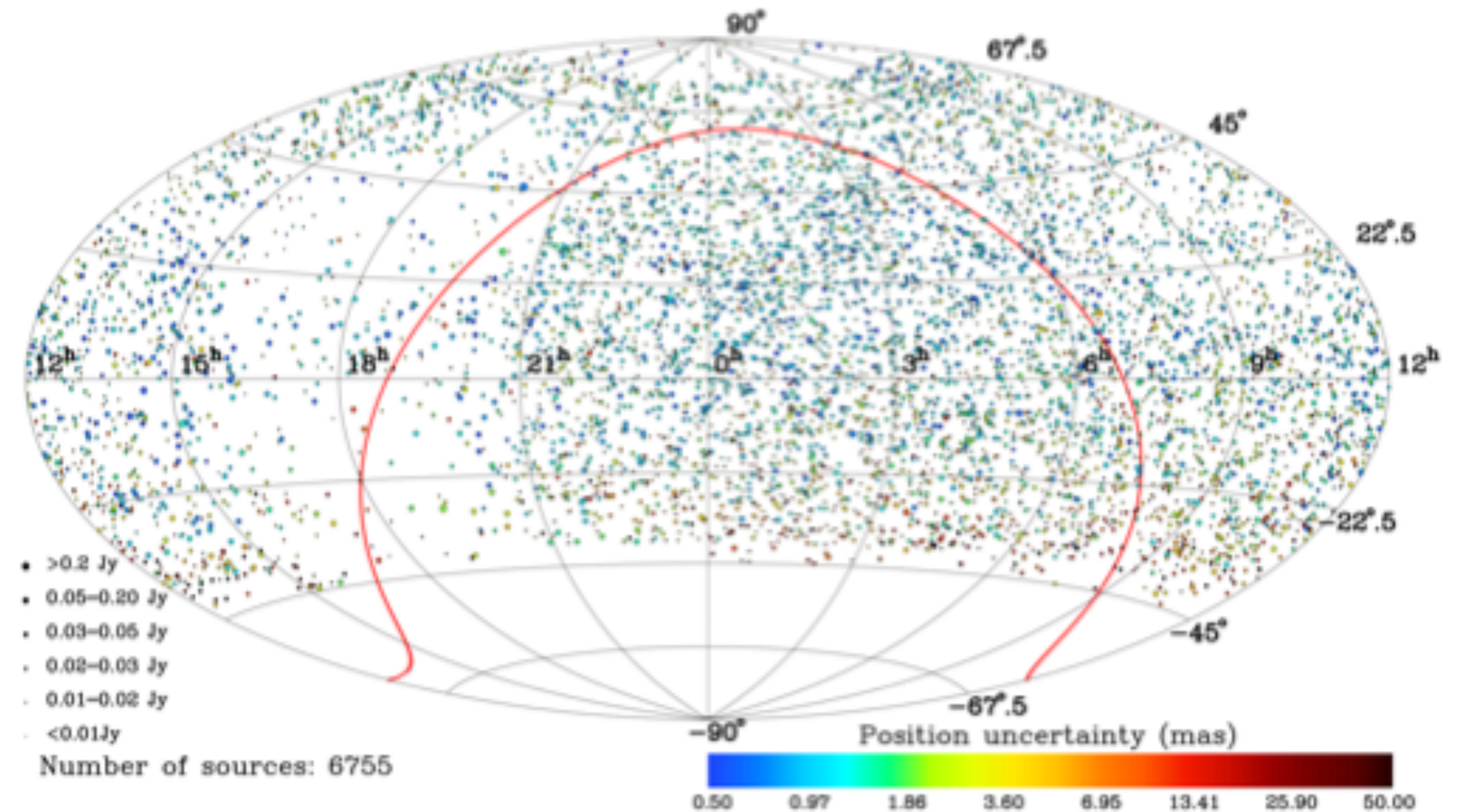


- EVN: European VLBI Network
 - Collaboration between radio observatories in Europe and beyond (South-Africa, Puerto-Rico, China, Korea)
 - Heterogeneous array
 - PI driven
- JIVE: Joint Institute for VLBI ERIC
 - Support institute for the EVN
 - Operates the EVN correlator and hosts the EVN data archive



VLBI characteristics

- Lack of in-beam calibrators:
 - Most VLBI observations have small FoV
 - Bright & compact sources are scarce
- VLBI observations include multiple targets
- Multiple targets are needed to achieve science goals:
 - e.g. Astrometry using phase referencing



Detected sources in the VLBA wide field calibrator survey, L. Petrov, 2020

ObsCore and the EVN archive

- Multiple ObsCore records for a single VLBI data product:

Obs_id	Obs_publisher_did	Target_name	Access_url
N19C1	ivo://jive.eu/~?N19C1_190301_1_1	J0237+2848	x
N19C1	ivo://jive.eu/~?N19C1_190301_1_1	J0530+1331	x
ED019A	ivo://jive.eu/~?ED019A_011115_1_1	3C345	y

- Data set pointed at by access_url is the same therefore obs_publisher_did is the same.
- Obs_publisher_did can't be used for ADQL JOIN

Possible solutions

- JOIN on some other column
 - Probably needs a new column in ObsCore
- Use separate obs_publisher_did for each ObsCore record
 - Different obs_publisher_dids pointing at identical data
 - Including preview in datalink result will “resolve” this
 - But primary data product in datalink still points at same data
-

Solution?

- Would look like:

Obs_id	Obs_publisher_did	Target_name	Access_url
N19C1	ivo://jive.eu/~?N19C1_190301_1_1_J0237+2848	J0237+2848	x
N19C1	ivo://jive.eu/~?N19C1_190301_1_1_J0530+1331	J0530+1331	x

- Or with separate preview image:

Obs_id	Obs_publisher_did	Target_name	Access_url
N19C1	ivo://jive.eu/~?N19C1_190301_1_1_J0237+2848	J0237+2848	x
N19C1	ivo://jive.eu/~?N19C1_190301_1_1_J0530+1331	J0530+1331	y

Discussion?



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