

Radioastronomy interest group

conclusion plenary

F.Bonnarel (CDS) – M.Kettenis (JIVE)



CSP session: radio astronomy special giant projects

- DSA-2000 (Gregory Dubois-Felsmann)
 - 2000 5M dishes, peta bytes of data to store, visibilities kept
- ASKAP, CASDA et al (Min Huynh)
 - 25 TB a day of processed data. Raw data kept. VO services
- SKA, SRCnet (Jesus Salgado)
 - Peta bytes of processed data per day . TB of processed data per day ; Science platforms. SRCnet. VO inside
- Panel discussion + radio IG :
 - Interest for ObsCore + extension
 - DataLink + HIPS + SODA + TAP
 - Tackling huge datasets issue :
 - Code to the data ? Platforms ? Notebooks
 - SODA ?
 - Cube HiPS



Radio IG presentations during this interop

- Session : Tuesday Mays 21st 4:00PM-5:30PM
 - ObsCore extension for radio data
 - CDS demonstrating prototype (in the context of SRCnet work)
 - JIVE reference implementation
 - Is on line !!! (see next slides)
 - Has min/max on s_fov and s_resolution, and f_resolution but no f_min/f_max
 - has the 4 uv plane characterisation parameters
 - Instrumental parameters not there at the moment
 - CASDA (James) made a check on new parameters:
 - Resolution min/max and scale are missing as well as uv characterisation
 - Instrumental parameters : are they general enough (or only for a telescope)
 - Few are there



European VLBI network (JIVE) ObsCore + extension service !

cds-aladin-Aladin 23 mai 23:24
Aladin v12.0

File Edit Image Catalog Overlay Coverage Tool View Interop Help

Available data → 35565
in view out view

Command: 156.8114732417 +47.3729632139

Frame: ICrsd Projection: Aitoff

DSS PanSTARRS SDSS 2MASS GALEX Gaia Simbad INED +

DSS2 color

Server selector

evn-vo.jive.eu Mode: Generic

Construct your query, verify and execute.

Table: evn.main Set ra, dec Join

Select: All Constraints: Add new Max rows: 1000

accref owner embargo mime accsize

Target: 18008750+47.1899749722

Radius: 52.43' CIRCLE Add

Ra= 202.4618 Dec= 47.18997 Radius= 0.87383

Refresh query Check.. SYNC Async jobs>>

`s_ra, s_dec, CIRCLE('ICRS', 202.4618, 47.18997, 0.87383)) = 1 AND CONTAINS(POINT('ICRS', s_ra, s_dec), CIRCLE('ICRS', 202.4618, 47.18997, 0.87383)) = 1`

Reset Clear SUBMIT Close

30' 2.952" x 1.553"

| minimum angular scale... | uv distance min... | uv distance max | uv distribution ecc | uv distribution fill | s region |
|--------------------------|--------------------|-----------------|---------------------|----------------------|----------|
| 0.1107185589928627 | 66871.84375 | 9222800 | 0.7728366851806641 | 0.25325119495391846 | FoV |
| 0.11028892546892166 | 67131.1328125 | 9222800 | 0.7788342237472534 | 0.23794853687286377 | FoV |
| 0.14402374625205994 | 86895.59375 | 2138977.5 | 0.7898379215240479 | 0.018892056699203087 | FoV |
| 0.1596436649580233 | 242887 | 8418473 | 0.6985506415367126 | 0.17112010717391968 | FoV |
| 0.15964268657829285 | 242888.515625 | 8418473 | 0.6985464086069336 | 0.17106856405735016 | FoV |
| 0.15948939323425293 | 243121.9375 | 8418894 | 0.6985836625099182 | 0.13066557049751282 | FoV |
| 0.15948939323425293 | 243121.9375 | 8418894 | 0.6985836625099182 | 0.13066557049751282 | FoV |

select from -- all collections --

11 sel / 20042 src 121fps / 749Mb

European VLBI network (JIVE) ObsCore + extension service !

cds-aladin-Aladin 23 mai 23:17 Aladin v12.0

File Edit Image Catalog Overlay Coverage Tool View Interop Help

Available data → 35565
 ● in view ● out view

Command: 157.5350416667 +47.2021388889

Frame: ICrsd Projection: Aitoff

main

select
 pan
 dist
 phot
 draw
 tag
 moc
 spect
 filter
 cross
 rgb
 assoc
 crop
 cont
 pixel
 prop
 del

● Field:
 ● s_resolution_max
 ● Value:
 0.006592849269508
 ● Unit: arcsec
 ● UCID:
 pos_angResolution:st
 ● Utype:
 Char.SpatialAxis.Res
 Angular resolution,
 longest baseline
 and min frequency
 dependent

2024-01-22-1
 SRC-Disc-Ser
 SDC03_ZW
 Abell_194Sp
 EDS/P/DSS

epoch
 size
 dens.
 opac.
 zoom

30' 2.952" x 1.553"

| accr. | own. | emb. | mi... | acces. | acces | s_resolution_min... | s_resolution_max... | s_maximum_angular_scale... | uv_distance_min | uv_distance_m |
|-------|------|------|--------|--------|-------|------------------------|-----------------------|----------------------------|-----------------|---------------|
| ET026 | | | applic | 1330 | http | 0.00079070281935855... | 0.0010387363145127892 | 0.1107165589928627 | 66871.84375 | 9222800 |
| EK038 | | | applic | 1330 | http | 0.00133437162730842... | 0.002167101250961423 | 0.048185259103775024 | 260465.359375 | 9168361 |
| ER040 | | | applic | 1330 | http | 0.00426387274637818... | 0.0065928492695093155 | 0.15964366495609283 | 242887 | 8419473 |
| ER040 | | | applic | 1330 | http | 0.00426387274637818... | 0.006592889316380024 | 0.15964266657829285 | 242888.515625 | 8419473 |
| ER040 | | | applic | 1330 | http | 0.0042641656473279 | 0.006592990830540657 | 0.15948939323425293 | 243121.9375 | 8418894 |
| ER040 | | | applic | 1330 | http | 0.0042641656473279 | 0.006592990830540657 | 0.15948939323425293 | 243121.9375 | 8418894 |
| EM076 | | | applic | 1330 | http | 0.00570375751703977... | 0.007369518745690584 | 0.14402374625205994 | 66895.59375 | 2138977 |

select
 from -- all collections --

exp. sort view scan filter

11 sel / 20042 src 114fps / 657Mb

0.006592849269508
 s_resolution_max Cnt 11
 Sum 0.06411
 Sigma 0.002851
 Avg 0.006592849269508

Radio IG presentations during this interop

- Session : Tuesday Mays 21st 4:00PM-5:30PM

- Remaining issues :

- science cases, resolution and fov min/max are there as well as uv characterisation and maximum scale
 - Still open on instrumental parameters : could be useful for quality of data but need more use cases
 - Need for sensitivity

- spectral quantity : (f_min/f_max)

- Many people want to drop that due to danger of error in conversion
 - Showing and querying frequencies is a job for client (or udf?)

- How to discover that and how to manage several extensions

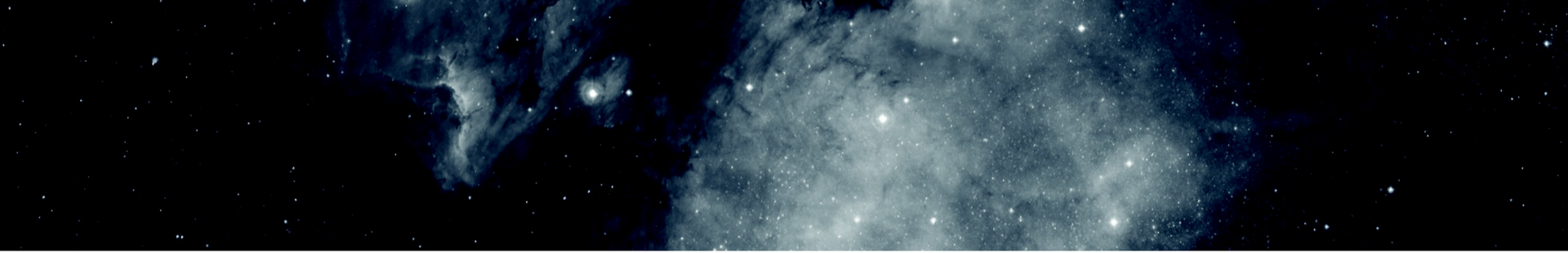
- Several Extension tables in the same schema with ObsCore-main. Foreign_key / primary_key provided
 - Set the standard on the schema
 - Join tables MAY be computed (but not mandatory)
 - Define profiles ?



Radio astronomy in the VO : other stuff

- Apps-monday 4 PM), M.Baumann : Feedbacks on the implementation of VO standards for Aladin Lite in the frame of SKA
 - HiPS selection by domain
 - Interface to ObsCore, DataLink, SODA
 - Dataset FOV overlay
 - Support for acces to « cube HiPS » (on the fly cube HiPS)
- Lobby discussion (FB+ Pat Dowler) :
 - how to map the Radio extension parameters onto CAOM
- How to hook the ObsCore extensions in the IVOA DM landscape
- Little progress made in follow up discussion for Pulsar radio data discovery.





That was my last presentation at Interop



But not the first one ..

- I gave a total of presentations in 22 years
- From 45 Interop so far I missed only two
 - 2nd one in Baltimore and 6th in Pune (2004)
- TCG member during 9 years only (in two periods)
- I was there at the Garching bei Munchen kick off meeting
- So, it was really important in my life to work with you



IVOA : a human and scientific adventure

- Science need sharing data
- If you share data and knowledge, you don't lose anything.
Everybody get richer !
- New knowledge or new data are not additive.
It's a multiplication, because you reduce ignorance :
you suddenly suppress a large amount of false paths in the
possible solutions to your problems.
- To share data you have to share ideas, collaborate, organize
collective life. I liked this.
- **That was great ! Thank you all.**

