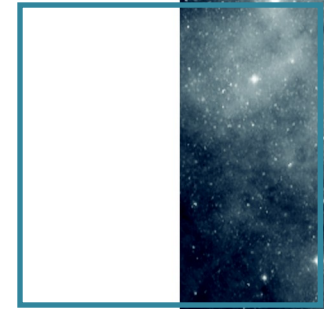


Status of ObsCoreExtension for radio data : an IVOA working draft



F.Bonnarel and co-authors





*International
Virtual
Observatory
Alliance*

IVOA Obscore Extension for Radio data Version 1.0

IVOA Working Draft 2023-05-12

Working Group

Data Model Working Group

This version

<https://www.ivoa.net/documents/ObsCoreExtensionForRadioData/20230512>

Latest version

<https://www.ivoa.net/documents/ObsCoreExtensionForRadioData>

Previous versions

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Editor(s)

François Bonnarel



ObsCore extension motivation and status

- How to discover radio astronomy data ?
- ObsCore covers most of the description/discovery but ...
- ... miss some specificities. → motivates an extension
- Mature for a DM WG (will be sent on Friday)
- Discussion going on on the github repository :

<https://github.com/ivoa-std/ObsCoreExtensionForRadioData/>

- Or the wiki page :

<https://wiki.ivoa.net/twiki/bin/view/IVOA/ObsCoreExtensionForRadioData>

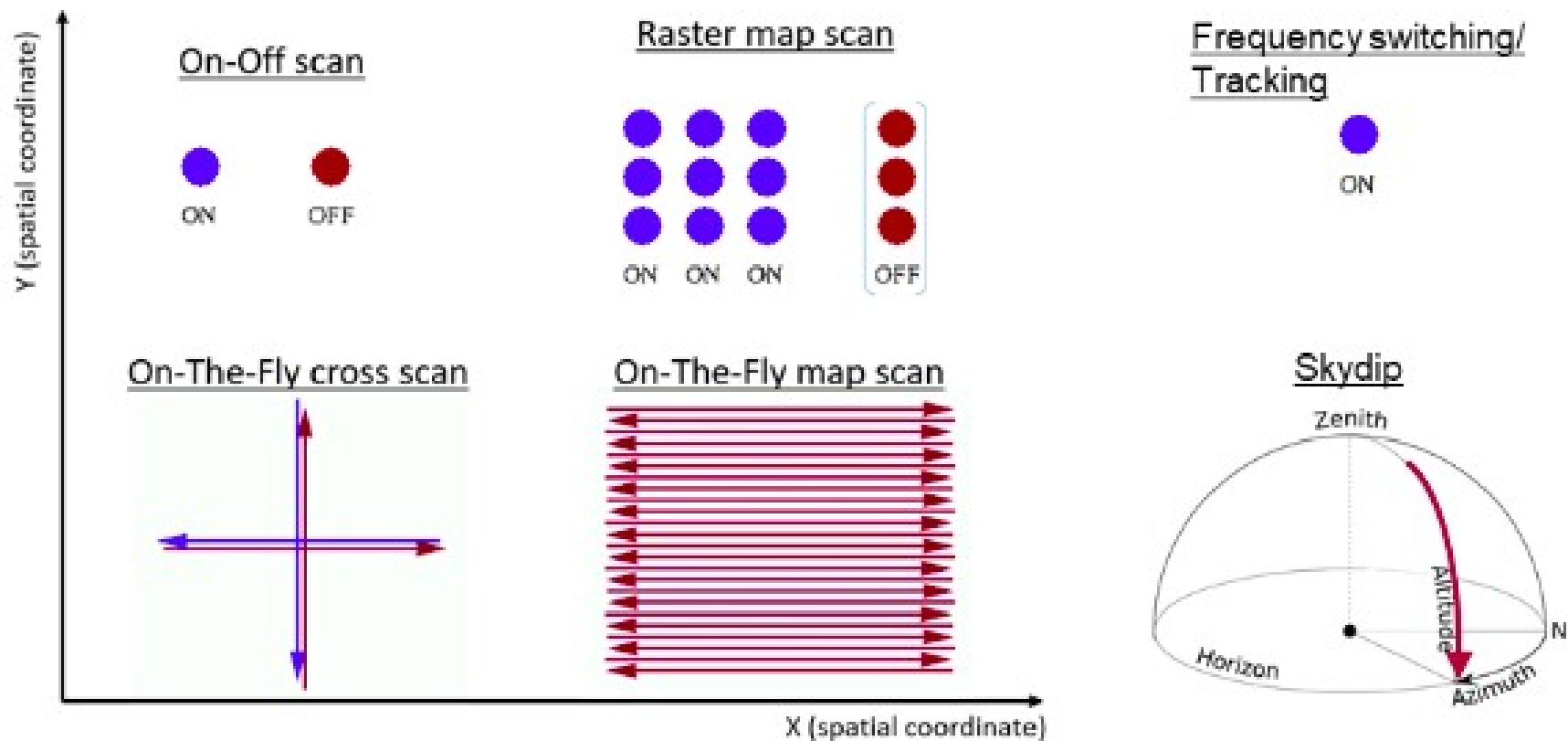
- Recent Running meeting (April 4th) :*

<https://wiki.ivoa.net/twiki/bin/view/IVOA/RadioastronomyInterestGroupFifthVirtualMeeting>



ObsCore radio extension

Hot topics – Observation modes and config



ObsCore radio extension

Hot topics – Observation modes and config

- Observation device : instrument type attribute beside instrument name
- Tracking mode (see obsloc tap) → added for radio ?
- Scan mode : adding
- Dataproduct type (or subtype) ? → should be about axis spanning



ObsCore radio extension

Hot topics – MOC in the response ?

- The ObsCore concept is coverage support. (or bounds)
- MOC is a format which could be used (xtype = moc) / alternatively to stc-s
- Having a field which can be queried by MOC could be useful
- If we want ST-MOC or Freq-MOC we may need to add a new multiaxis support field



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ObsCore radio extension

Hot topics – f_{\min} and f_{\max} ?

- Idea : have more radioastronomy friendly quantities in the response.
- Allow query on those.
- Alternative idea : define standard « user defined function »
→ Only work for ObsTAP . What about DAP (ex SIA) ?



ObsCore radio extension, hot topics – s_fov and s_resolution min and max

- The « field of view » and the « resolution » depend from the frequency.
- s_fov and s_resolution can only be « typical values »
- We need min and max for those
- But is s_fov the max value ? Or the mid_value ?
- Is s_resolution the best resolution or the mid value ?
- → Depends from data provider ?



ObsCore radio extension, hot topics – o_ucd

- What kind of ucd do we use for raw ADU ?
- For complexe voltage data ?
- Phot.count is not adapted (no photon counting) and neither is phot.flux***
- New ucds to be defined.



ObsCore radio extension, hot topics – uv plane characterisation

- Uv distance min and max : is that significant ?
Or do we use percentiles ?
- Uv filling factor : significant for a cube ? Or only for slices ?
- Eccentricity of the uv coverage distribution.
- Use cases from Astron/JIVE



ObsCore radio extension, hot topics

- coverage maps, dirty beams...

- Add the links in the main extension table ?
 - allow to standardize name/ucd/utypes
- In the DataLink table ? But is « semantics » and « content_qualifier » enough to define such maps ?



ObsCore radio extension, hot topics

- how to declare extension in registry

- MODEL element in the capability as is done for ObsCore/ObsTAP ? But should be deprecated ?
- Use the table utype as in RegTAP for epn-tap, etc
- Inconsistencies between main ObsCore table and extensions.



Map Pulsar / FRB metadata to ObsCore

What kind of extension is needed (Radio / time domain)

<https://github.com/ivoa/PulsarRadioDataAccess>

Pulsar and FRB Radio Data Discovery and Access

Version 1.0

IVOA Note 2022-09-22

Working group

DAL

This version

<https://www.ivoa.net/documents/PulsarRadioDataAccess/20220922>

Latest version

<https://www.ivoa.net/documents/PulsarRadioDataAccess>

Previous versions

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Add IRAM, GBT, SMA, ... upgrade previous descriptions

<https://github.com/ivoa/RadioVOImplementation>

International Virtual Observatory Alliance

IVOA Documents



Radio astronomy in the VO: services implementation review
Version 1.1

IVOA Note 19 November 2021

Interest/Working Group:

not applicable

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