

Discovery, description and access of Radio data in the VO. Status report

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on behalf of Radioastronomy Interest
Group



RIG standard production : 3 notes

- [Radio astronomy in the VO: services implementation review, Version 1.1, IVOA Note 19 November 2021](#)
- « [ObsCore extension for visibility data](#) » becoming
« [ObsCore extension for Radio data](#) »
- New : « [ObsCore extension for Radio data](#) »
Version 1.0 , IVOA note 22 September 2022



ObsCore extension for Radio data

(François Bonnarel, Mireille Louys, Baptiste Cecconi, Vincenzo Galluzzi, Yan Grange, Mark Kettenis, Mark Lacy, Alan Loh, Mattia Mancini, Peter Teuben, Alessandra Zanichelli)

- We had a version last year adding specific attributes for interferometry
- Some of them really describing uv coverage, or instrumental arrays aspects
- Some others (`f_min`, `f_max`, `s_fov_min`, `s_fov_max`) where generic radio proposals
- We still discuss `uv_dist_min`, `uv_dist_max`
- We still discuss if `f_min/f_max` have to be part of the extension or results of a udf.



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- We had several meetings for single dish data :
 - how to discover single dish data with their specificities.
 - Tackle sky scanning modes ?
- New version proposes
 - general radio attributes,
 - interferometry/visibility specific attributes and single dish specific attributes
- Please comment on github before this becomes an ivoa note
- Should we promote this as an endorsed note or a recommendation ?



Pulsar and FRB Radio Data Discovery and Access

(Alessandra Zanichelli, Ada Nebot-Gomez, Brent Miszalski, Mireille Louys, Alan Loh, Mark Lacy, Jean-Matthias Griessmeyer, Yann Grange, Vincenzo Galluzzi, Mark Cresitello-Dittmar, Baptiste Cecconi, François Bonnarel)

- Pulsar and Fast radio bursts
 - Specific radio time dependant data
 - We had several meetings/presentations on that during 2021/2022
- How do we describe specific radio data in PSRFITS or filterbank ?
 - Mapping PSRFITS keywords to ObsCore
 - Mapping filterbank keywords to ObsCore
 - Specific additions for radio (f_resolution, f_min...)
 - Specific additions for time (folded mode, time sampling...)
 - Specific instrumental/observations provenance features (tracking mode, frontend+backend).



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- Discovery via sources in catalog and DataLink
- Discovery via ObsCore table :
 - ObsTAP
 - Dataset Acces Protocol (extension of SIA, parameter based)
- Discovery via joint source + obscore details
- Access :
 - Full retrieval
 - extraction/transformation (SODA-like): time series , phase plots, dynamic spectra



Radio astronomy in the VO: services implementation review

- One year old : already to be upgraded for 2022A. Not done yet
- Missing projects :
 - SKA
 - IRAM/NOEMA efforts
 - NRAO TAP and Jupyter Notebooks



Radio astronomy in the VO: services implementation review

- Evolution to be described :
 - ASTRON : ARTS (FRB) and LOTSS-DR2
 - JIVE : ObsTAP for visibility data new service
 - ALMA : SIA/ObsTAP now provide DataLink access
 - ? ASKAP, MWA ?
 - ? INAF ?
 - ? Nançay ?
 - ? CADC ?
- To be completed in next roadmap

