Status of ObsCore Extension for visibility data

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Status at last interop

- Available on github :

  - https://github.com/ivoa/ObsCoreExtensionForVisibilityData

  - Currently an IVOA note

  - To be managed by DM WG

  - Final status : endorsed note or full recommendation ? → suggested as a recommendation

  - Remaining issues : frequency bounds, uv coverage description, implementation in TAP/ registration

Document

International Virtual Observatory Alliance

IVOA Obscore Extension for Visibility data

Version 1.0

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Abstract

This is a proposed extension to the Obscore specification for description of visibility data

Status of this document

This is an IVOA Note expressing suggestions from and opinions of the authors. It is intended to share best practices, possible approaches, or other perspectives on interoperability with the Virtual Observatory. It should not be referenced or otherwise interpreted as a standard specification.

A list of current IVOA Recommendations and other technical documents can be found at http://www.ivoa.net/documents/.

Frequency limits

- Redondant with em_* bounds (in m) but pretty useful and USER convenient.

- Will probably be asked for Energy limits by HEA data providers

- Should be there in the table also for the new « DatasetSAP » specification (no ADQL / no UDF)

- On the other UDF may be implemented in the database and a view with the em_* and f_* parameters created on top.
  - It's an underground implementation feature

Uv plane description

- uv_distance_max and uv_distance_min gives us potential spatial resolution and spatial maximum scale

- uv_distribution_exc and uv_distribution_fill are more about the quality of the uv plane sampling

- Major axis estimated for

  uv_distribution_exc can be

  used for uv_distance_max.

   But how can we estimate

  uv_distance_min ?

V vs U for 3C277.1.MULTTB.1   Source:3C277.1
Ants * - *   Stokes I IF# 1 Chan# 1
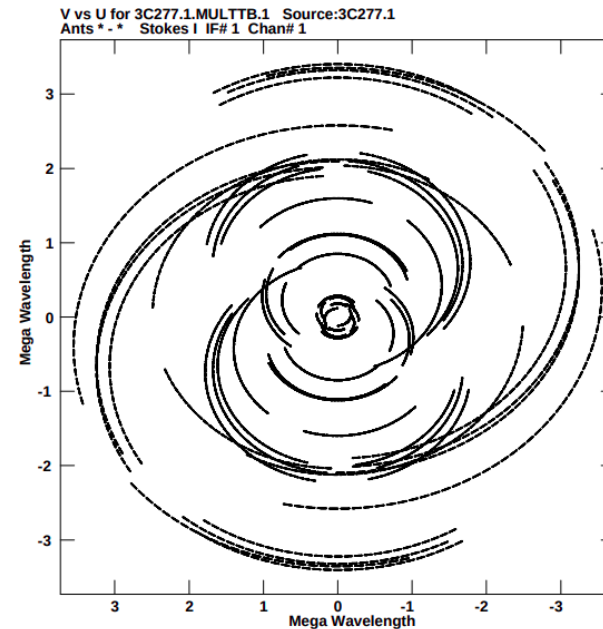
Implementation section

∨ ⊕ 9 ▪▪▪▪ ObsCoreExtensionForVisibilityData.tex ⧉   ☐ Viewed ⋯

```
@@ -223,6 +223,15 @@ \subsection{uv coverage and dirty beam map}
223        Implementers may want to avoid adding url columns to the ObsCore table.    223        Implementers may want to avoid adding url columns to the ObsCore table.
224        In that case DataLink \citep{std:DataLink} may provide a solution. The semantics    224        In that case DataLink \citep{std:DataLink} may provide a solution. The semantic
           FIELD in the \{link\} response  will contain \#auxiliary  for links to this map               FIELD in the \{link\} response  will contain \#auxiliary  for links to this map
           while  the content\_qualifier FIELD could contain the utype                while  the content\_qualifier FIELD could contain the utype
225        defined here in this ObsCore extension.    225        defined here in this ObsCore extension.
                                              226 +
                                              227 +  \section{How to implement the extension in a TAP service}
                                              228 +
                                              229 +  The ObsCore extension for visibility data described above SHOULD not be added t
                                                     the main ObsCore table. An extension table called "visibilityobscore" SHOULD be
                                                     added to the same schema instead. The two tables will be joigned in an extended
                                                     ObsTAP ADQL query. A single dataset in each observation will be associated to a
                                                     single row in ObsCore. It will be identified by a unique obs\_publisher\_did.
                                                     This obs\_publisher\_did can be used as a foreign key to join the main table an
                                                     the extension
                                              230 +
                                              231 +  In the registry, the service capability will contain the ObsCore Model element
                                                     an the visisbilityobscore Model element   and the visibilityobscore table will
                                                     be described in the tableset of the service together with obscore.
                                              232 +
                                              233 +
                                              234 +
226        .                                  235        .
227                                           236
228        \begin{landscape}                  237        \begin{landscape}
```

Implementation section

- Add an extension table to the ObsCore table schema

- Join on obs_publisher_did

- Add a second MODEL element in the service capability for the visibility extension

- Add the extension table in the Voresource tableset

Other questions ?

- Is this extension OK for optical interferometry ?
- So that the uv plane description should be separated from pure radio features ?

- → Go to GitHub and comment the issues and PR
- → involve new radio projects in the discussion
- → discuss on mailing list and slack
- → WD before fall interop ?

Something else : Follow-up of the implemention survey note

- The note is OK for now, but should be upgraded with new projects in the next six monthes

- EAS organized in June 2021 a « data intensive radio astronomy session »

    – Organizers were contacted by Springer to write a book with the same title

    – Many of us involved for our Science/data/processing/VO CV: Mark L, Yan, Simon, Giuliano, Brent, François, others ??

    – I'm in charge of coordinating the VO chapter

    – I found that the content of the story telling is excatly what we need in this book. Do you allow us to integrate this material in the book ? How strongly should we modify this ?