

Observation data model: status report

F.Bonnarel on behalf of
observation subgroup

Reminding of Cambridge mandate

- Characterization 1.1 was accepted as an IVOA recommendation last September
- There was a demand from the DM-group, IVOA and users to go on for a more general Observation data model.
- This will include beside the “Curation”, “Dataset”, “Data” classes basically two main classes:
 - a Provenance Data model
 - an enhanced characterisation class for complex data and fine grain estimation of characterization ...
- A group was formed to address these points and make some progress (see next slide)
- This talk is a report of the current status of the work

DM WG , Observation subgroup

- F.Bonnarel, F.Chereau, I.Chilingarian, G.Lemson, M.Louys, J.McDowell, A.Micol, A.Richards, P.Skoda, A.Wicenec
- Recently invited: M.Cervino, N.Delmotte, C.Rodrigo, A.Rots, de Santander Vila

Characterisation 1

usage and dissemination: a concern ?

- Where are we with the usage of char 1 ?
- Answer: still low EXCEPT for SPECTRUM/SSA
- Two issues were identified: (see next slide)

Characterisation 1

usage and dissemination: a concern ?

- How do I Publish ? / make use of characterization?
 - Presentations on Friday (Laurent Michel, François Bonnarel, Anita Richards)
 - A question for DAL (SIA2 will solve a very wide part of it)
 - and Applications WG (how we make use of char in applications: see VOTECH)
 - Tutorial documents (A.M) and tutorial sessions (Euro VO, national VOs)
- How do I know what I have to compute to fill the various attributes of the char model?
 - It is probably easy for Level 1 and 2. But may be really cumbersome for level3.
 - Fabien proposed a way to do it by a statistical view of the observation process (could be also useful for Level 4). No general agreement: too complex? → Fabien will publish his ideas as an IVOA note soon
 - However Igor will show how he can compute some of this stuff for IFU data

Char level 4 use cases

- We identified a couple of use cases for a level 4 (fine or local estimate) of characterisation:
 - transmission curve for 2D images
 - resolution changes in IFU
 - beam estimate for spectra
 - beam estimate for radio-data
 - 2D response of an image

All this is due for analysis in a context of gathering data from heterogeneous origins

Provenance use cases

- We identified a couple of use cases for Provenance
 - Linkage of a Dataset to its progenitors in data processing: nice Color images and their back links:
 - individual Photometric band coadded mosaics
 - original multi CCD Observation
 - set of individual CCD images
 - Linkage of calibrated data to original raw data and ancillary calibration stuff
 - Observing process/instrumental Provenance: too much Wavelength Domain oriented ?

What to do ?

- Questions for these observation use cases:
Two alternatives:
 - a) just put an IVOA utype on links to detailed sensitivity maps ...
 - Pros: easy to do, allow people to concentrate on dissemination
 - Cons: don't allow a minimal interoperability
 - b) try to have a minimal standardisation of "metadata" for these maps in order to achieve minimal interoperability (eg modification to spectrum for transmission curve)
 - Pros and cons reverse above
- What is DM-group (your) opinion ?

Personal views (FB)

- I am in favor of b) these are my personal views in two words:
 - Level 4 is actually a function (or map) for all properties (which represent distribution of detected observing events for an extended flat field)
 - Can be represented has either a dataset (with its own metadata : sampling, format, Acref, etc....)
 - Or a vector of moments (mean, standard deviation, etc)

Personal views (FB)

- Provenance of a dataset is a qualified linkage to other datasets (progenitors and derived)
 - Can be seen as a box with Ids of linked datasets, and nature of the links (member, belongs, mosaic, raw data, calib file, etc ...)
 - + description of linkage process (processing) : type of transform + parameters: eg coadding , drizzling, filtering, compressing, color combination, etc ...