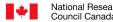


# CAOM-2.5 Working Draft

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#### **Overview**

- status of CAOM-2.5 model
  - VO-DML model
  - IVOA standard document and process
- status of CAOM-2.5 implementations
  - java libs, python libs (minor changes)
- try to indicate remaining work to be done

### WD-CAOM-2.5 standardisation plan

- meetings with IVOA Data Model WG
  - position CAOM in the IVOA landscape:
    - data discovery
    - single- or multi-mission archive implementation
  - define relationship with ObsCore + extensions (incomplete)
     https://github.com/ivoa-std/CAOM/blob/main/CAOM-ObsCore-mapping.md
- finish the document
  - build most of the document from source (VO-DML spec)

### WD-CAOM-2.5 status

- repository moved! <a href="https://github.com/ivoa-std/CAOM">https://github.com/ivoa-std/CAOM</a>
- latest WD recently published to docrepo
- significant changes since May
  - extracted DataTypes into separate VO-DML model: re-usable?
  - re-wrote all the VO-DML descriptions as prose
  - generate normative sections of ivoatex document from VO-DML

#### TODO

- formatting/markup in VO-DML? currently have some LaTex in there
- abstract, introduction (use cases) need work
- serialisation formats: they exist, add to standard

### WD-CAOM-2.5 status

#### utypes!!

- relationship between data model vodml-id values and VOTable utype values: <a href="https://github.com/ivoa/vo-dml/pull/46">https://github.com/ivoa/vo-dml/pull/46</a>
- reconciling this in prototype TAP service and it seems plausible to use:

```
{vodml-ref} == {prefix}:{vodml-id} == {utype}
```

 in the process of adapting prototype TAP service to use vodml-ref(s) as utypes in tap\_schema (tables and columns)

#### WD-CAOM-2.5 status

- diffs from CAOM-2.4 (community):
  - refactoring, mainly in identifier (URI) usage
  - add radio-inspired metadata
  - shift from enums to vocabularies (started in 2.3)
  - remove components that overlap CubeDM; focus on discovery
  - metadata checksum algorithm improvements

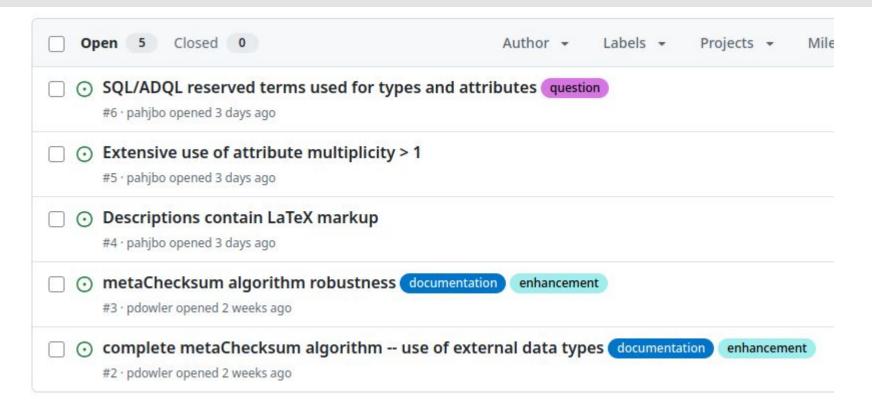
### C is for Common

- CAOM is intended to cover a wide range of use cases
  - try to use mission and wavelength agnostic terminology
  - try to balance specificity vs sparseness
- easy to measure which fields are populated by various missions
  - detailed report of usage of every field, broken down by mission and instrument (Séverin Gaudet), for ~30 missions
  - analysis to gather insights into current sparseness (in progress)
  - o potential to declare some fields *not very common after all*: **remove?** https://www.canfar.net/storage/arc/list/projects/CADC/caom2usage
- hard to measure what scientists actually use

## WD-CAOM-2.5 dependencies

- vocabulary dependencies:
  - Plane.calibrationLevel: still an enum (integer w/ labels)
  - Plane.dataProductType -> product-type (was ObsCore)
  - Artifact.productType -> DataLink core
- vocabularies that do not really exist as such:
  - Plane.observable.ucd -> UCD1+ (not a vocabulary)
  - Position.calibration, Energy.calibration, Time.calibration,
     Observable.calibration: axis calibration vocabulary
    - initial vocabulary could be extracted from ObsCore (appendix)
  - Telescope.trackingMode
  - Polarization.states: ObsCore enum w/ extras

### WD-CAOM-2.5 current issues



## **CAOM-2.5** implementation

- java repository: <a href="https://github.com/opencadc/caom2">https://github.com/opencadc/caom2</a>
  - feature branch: caom25
- python repository: <a href="https://github.com/opencadc/caom2tools">https://github.com/opencadc/caom2tools</a>
  - feature branch: CAOM25
- changes since May InterOp:
  - implemented complete JSON serialisation (java and python)
  - json and xml equally usable with CAOM-2.5 repository service
  - prototype CAOM-2.5 TAP using vodml-ref(s) as utypes: soon!

#### TODO:

 update metadata checksum code for external DataType handling once documented

### adjacent work: ObsCore

- REC-ObsCore-1.1 document ported from Word to ivoatex
- ready to begin work on WD-ObsCore-1.2
  - collect extension input from IGs
  - consolidate some things into Core
  - specify extension mechanism: technical and specification
- editors for 1.2: Mireille Louys, Patrick Dowler

https://github.com/ivoa-std/ObsCore

- WD-CAOM-2.5 now on ivoa-std github
- normative part of document ~complete, a few issues
- prototype implementations (java and python) working and interoperable

