

MCT models

Status update

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IVOA Virtual Interop

Nov. 17, 2020

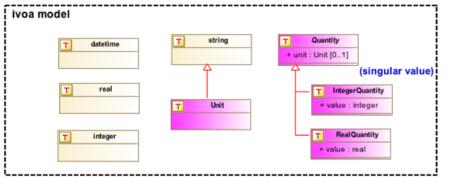
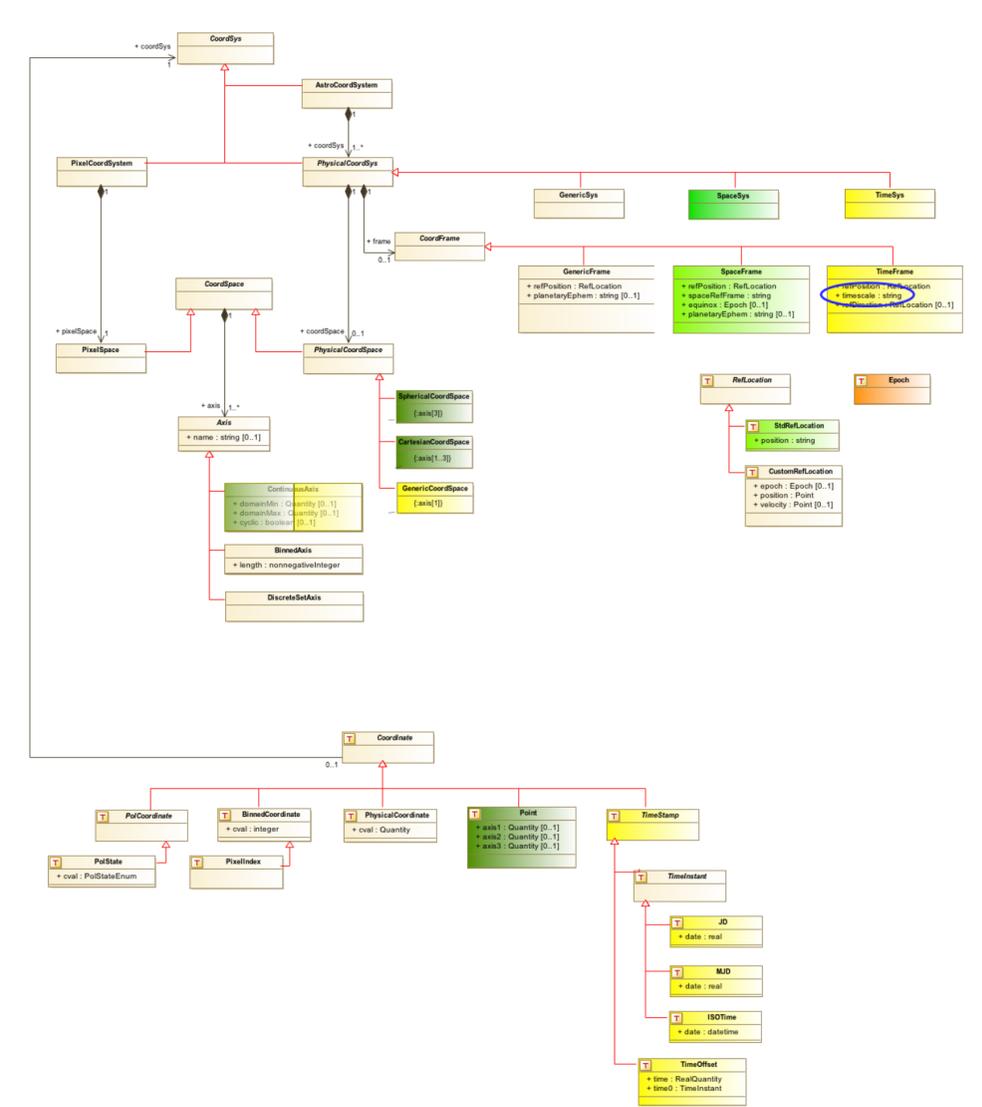


Coordinates model

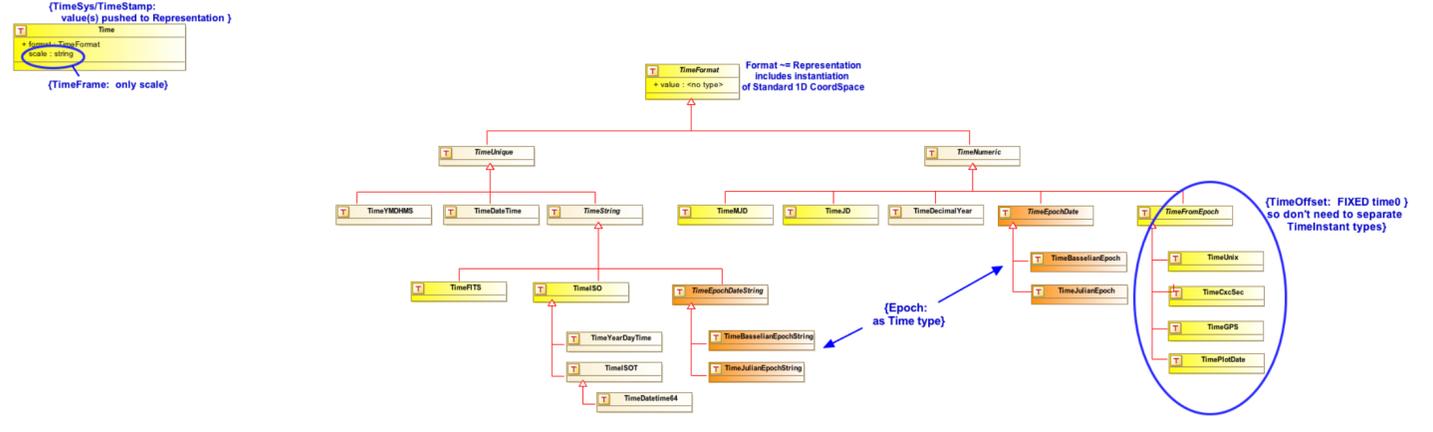
Progress this semester

- Document last updated Mar. 10, 2020
- Made formal comparison against AstroPy:
 - writeup: <https://wiki.ivoa.net/internal/IVOA/STC2/CoordsComparisonwithAstroPy-200702.pdf>
 - diagram: https://volute.g-vo.org/svn/trunk/projects/dm/STC/Coords/doc/diagrams/Coords_AstroPy.png
- Usage under MANGO (Source model) development/implementation
- Coordinate system modifications exercised in Transform implementation
- Released to working group: Sept. 2020
 - Highlighting Epoch, and Space-centric Point elements from comparison

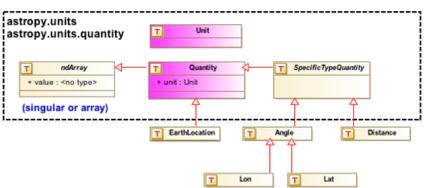
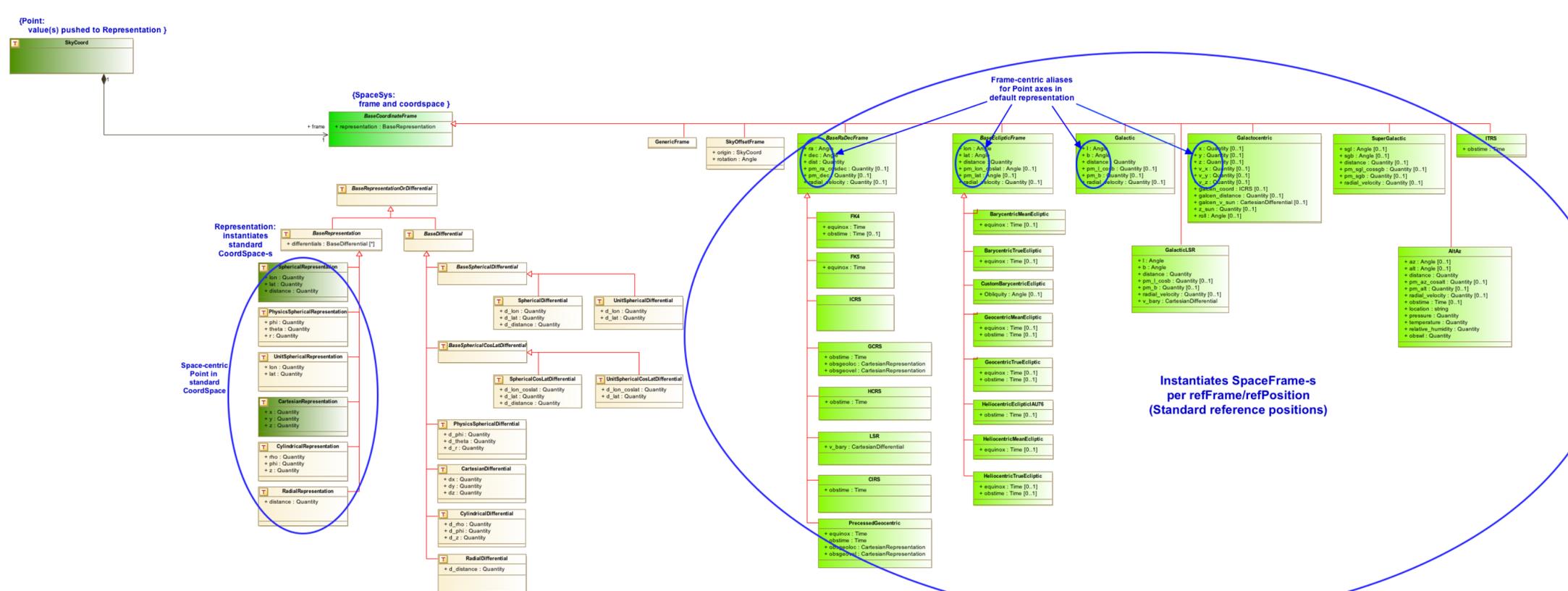
IVOA Coordinates model



astropy.time



astropy.coordinates



Measurement model

Progress this semester

- Document last updated Apr. 13, 2020
- Usage under MANGO (Source model) development/implementation
- Released to working group: Sept. 2020
 - “I don't believe there are open topics here..”
 - Followed by a rather lengthy discussion mostly regarding the overall approach the working group is taking when relating/reusing models.
 - See “Data Model Posture Review”; Wed. 6:00 UTC session.

Meas/Coords RFC 2

Second round

- Chairs petitioned the TCG to start RFC-2 period for both Meas and Coords models.
 - Review period: Oct 26 - Dec 07
 - Meas: <https://wiki.ivoa.net/twiki/bin/view/IVOA/MeasRFC2>
 - Coords: <https://wiki.ivoa.net/twiki/bin/view/IVOA/CoordsRFC2>
- Suggested that we hold a workshop to help interested parties get familiar with the models and how they may be used in application.
 - We'll be following up on this
 - Would appreciate any ideas/requests on format and/or content that people would be interested in.

Meas/Coords RFC 2

Status

- Coordinates model comments
 - Experience using Vizier on annotated VOTables: requests moving from the single Point type to again supporting Space-centric Point types (GenericPoint, CartesianPoint, SphericalPoint, CelestialPoint/LonLatPoint)
- Measurement model comments
 - None to date (other than the email thread)

Transform model

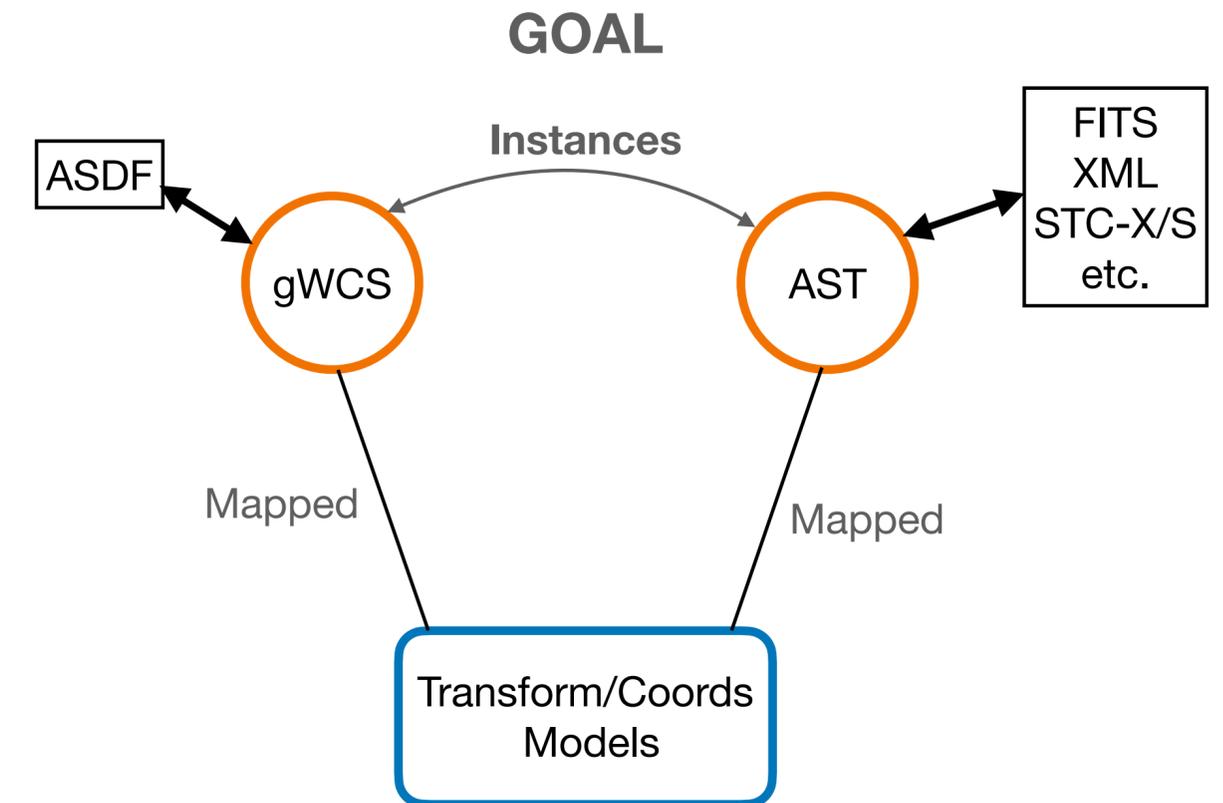
Progress this semester

- Document last updated Aug. 03, 2020
- Released to working group Sept. 2020; with small list of change requests from the author list. These were not folded into the document yet assuming there would be further comments from the working group.
 - Rename “Unit” transform as “Identity”
 - M,N in Matrix transform -> row, column
 - Specifically mention that the model does NOT cover frame/property/representation level transforms such as
 - energy - wavelength
 - equatorial - galactic
 - date - mid
 - FITS paper IV: time transforms

Transform Model

Implementation project

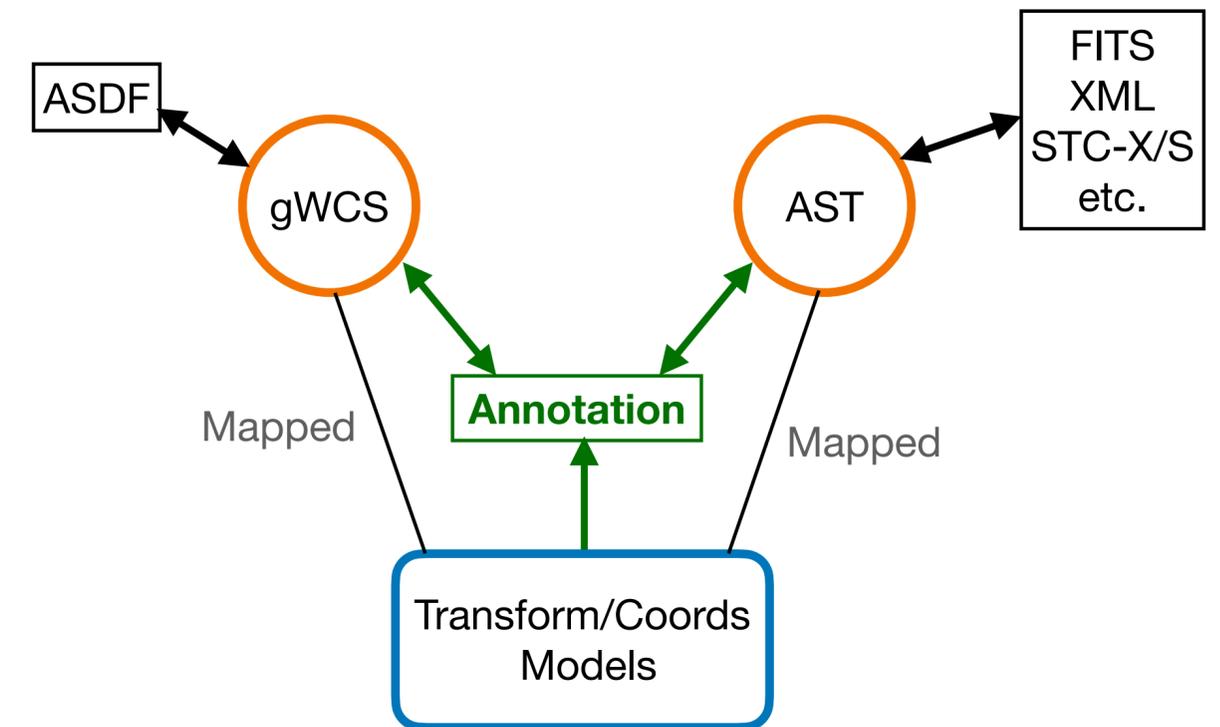
- Released a new version of AST (v9.2.3)
 - Contains a new YamlChan class that allows AST to read and write WCS information as ASDF
- Delivered sample scripts
 - Loads LSST image wcs, including Polynomial distortion, exports to ASDF. Then uses AST and gWCS to transform various pixel coords to sky coords
 - Loads FITS wcs and exports ASDF instances



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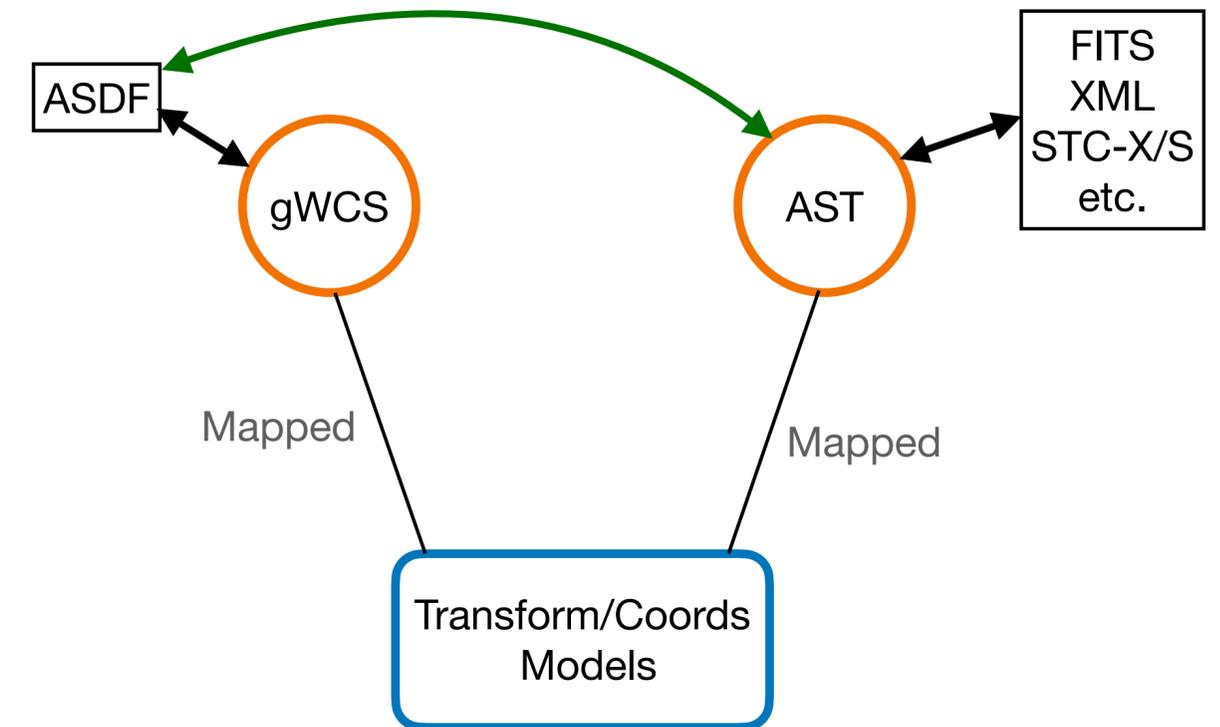


Approach being taken with VOTable instances.
Good approach for large number of **players**.

Transform Model

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However, these are the only **players**.
Resources only allow for the more direct approach.

Goals

This coming semester

- Meas/Coords
 - Complete RFC-2 period
 - address change requests and submit for REC approval, early 2021
- Transform model
 - PLEASE REVIEW!
 - Wrap up working group review of current draft
 - Incorporate comments, and submit as PR to begin RFC process