Data Model WG

Nara , December 2010

M.Louys, J. Salgado

Photometry Data model

2 tracks for a model
- – Filter / Zero point oriented : EuroVO initiative
- – CoordFrame oriented : VAO initiative

Commonalities in concepts
- Photometry Point, Zero Point, Magnitude System , Reference spectrum
- Re-use Characterisation DM and Spectrum DM
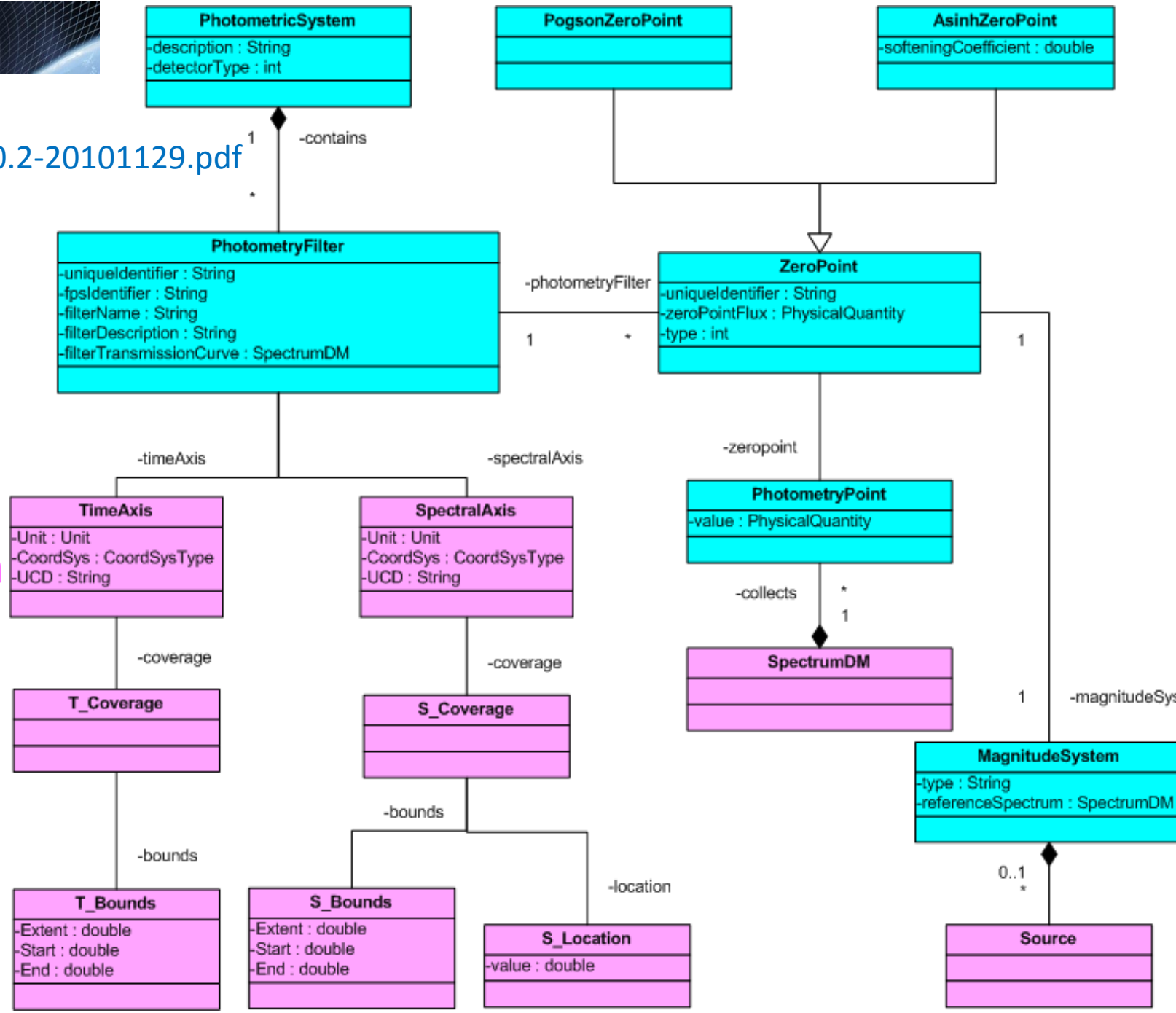
Differences
- Physical axes
  - (flux , spect Coos) as Coordframe in VAO
  - (Flux , reference-to –spectral Coos) via a precise filter description
- Photometric system description
- in Euro-VO initiative:
  - – Filter description complete
  - – Zeropoint flux in two types magnitudes and luptitudes
- in VAO initiative:
  - – Aperture Photometry considered
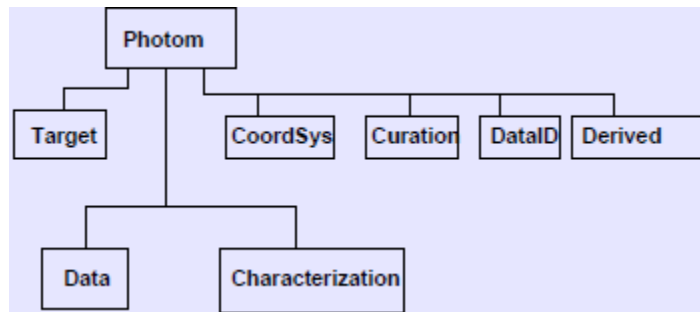 - – Enriched effective Wavelength definition

EURO VO

WD-PhotDM-0.2-20101129.pdf

Char & Spectrum

PhotometricSystem
- -description : String
- -detectorType : int

PogsonZeroPoint

AsinhZeroPoint
- -softeningCoefficient : double

1 -contains
*

PhotometryFilter
- -uniqueIdentifier : String
- -fpsIdentifier : String
- -filterName : String
- -filterDescription : String
- -filterTransmissionCurve : SpectrumDM

-photometryFilter

1   *

ZeroPoint
- -uniqueIdentifier : String
- -zeroPointFlux : PhysicalQuantity
- -type : int

1

-timeAxis

-spectralAxis

-zeropoint

TimeAxis
- -Unit : Unit
- -CoordSys : CoordSysType
- -UCD : String

SpectralAxis
- -Unit : Unit
- -CoordSys : CoordSysType
- -UCD : String

PhotometryPoint
- -value : PhysicalQuantity

-coverage

-coverage

-collects
*
1

T_Coverage

S_Coverage

SpectrumDM

1 -magnitudeSys

-bounds

1

MagnitudeSystem
- -type : String
- -referenceSpectrum : SpectrumDM

-bounds

-location

0..1
*

T_Bounds
- -Extent : double
- -Start : double
- -End : double

S_Bounds
- -Extent : double
- -Start : double
- -End : double

S_Location
- -value : double

Source

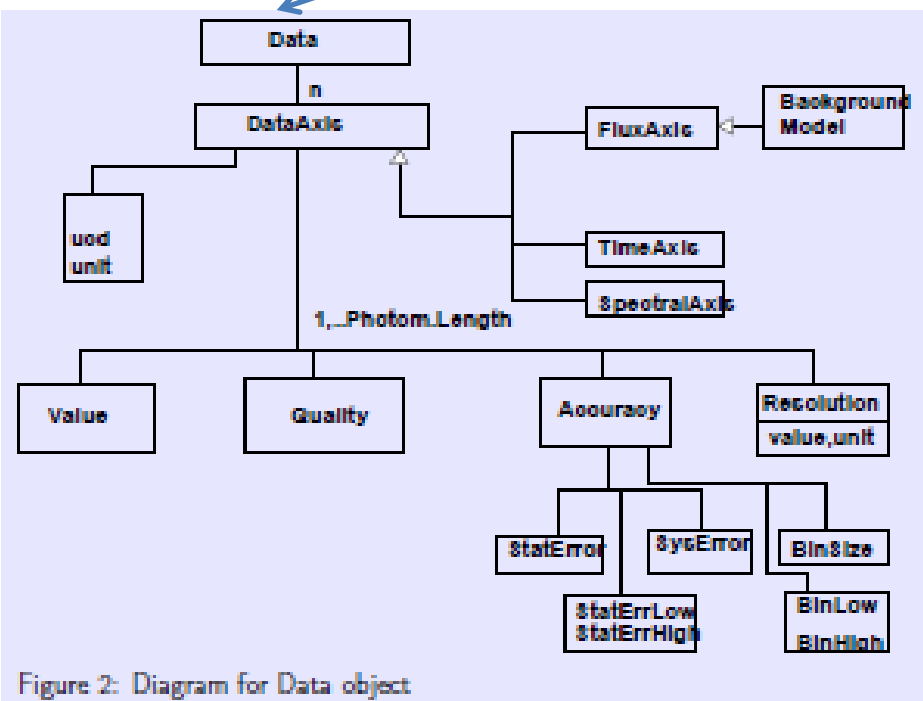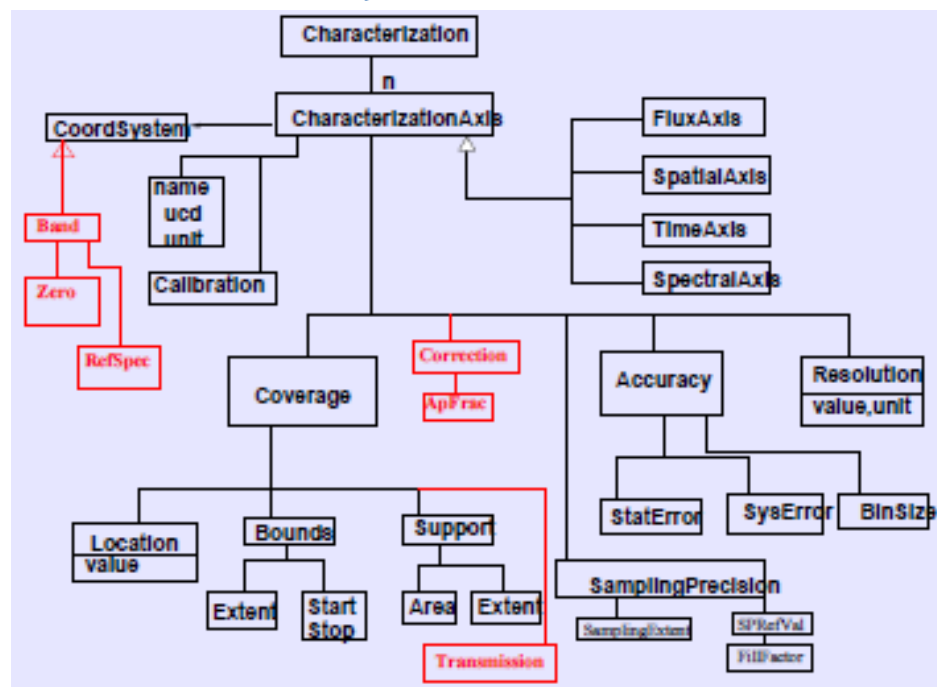PhotDM-2010112.pdf

Extends Spectrum DM and
Characterisation DM

Figure 2: Diagram for Data object

Photometry Data model

Different contexts of insertion

- Visualising /**flux** conversion tools , Filter profile services, catalogs interactions
- Compatibility to and extension of existing Characterisation and Spectrum DM
- Prospective for other isolated measurements sets for the same Target (Time series/ light curve)

Actions for convergence → DM 1 session Thursday

- Better match for photometric system definition
- Extend spectral axis domain to all regimes
- Identify Filter Class clearly with service prototypes FPS
- Enhance with link to Filter profile service and Provenance data model
- Transmission curve also in Characterisation v2.0 level4

Observation Data model Core Components

A data model (ObsCore) and a service specification (Obs/TAP) → One Document

New draft issued 3rd December to be reviewed

- Use cases described in detail in first appendix
- Exemples of data sets with various calibration levels
- List of possible observable names tagged with UCD

How to record existing implementations?

- Note or web page ?

Data model for simulations

- Elaborated within the Theory Interest group in interaction with DM and other WGs

- Offers a wide and detailed description on metadata necessary to describe theoretical simulations in astronomy

- Several documents to review →Theory wiki page
  - IVOA Note cirulated on DM list on SimDB data model to become a WD after this meeting
  - IVOA Implementation Note
  - On line documentation describing each piece of the model

Characterisation 2.0

- A new draft to be issued this week
- Develops the level 4 of Characterisation with sensitivity maps and access to external resources like filter response
  → DM2 session on Thursday