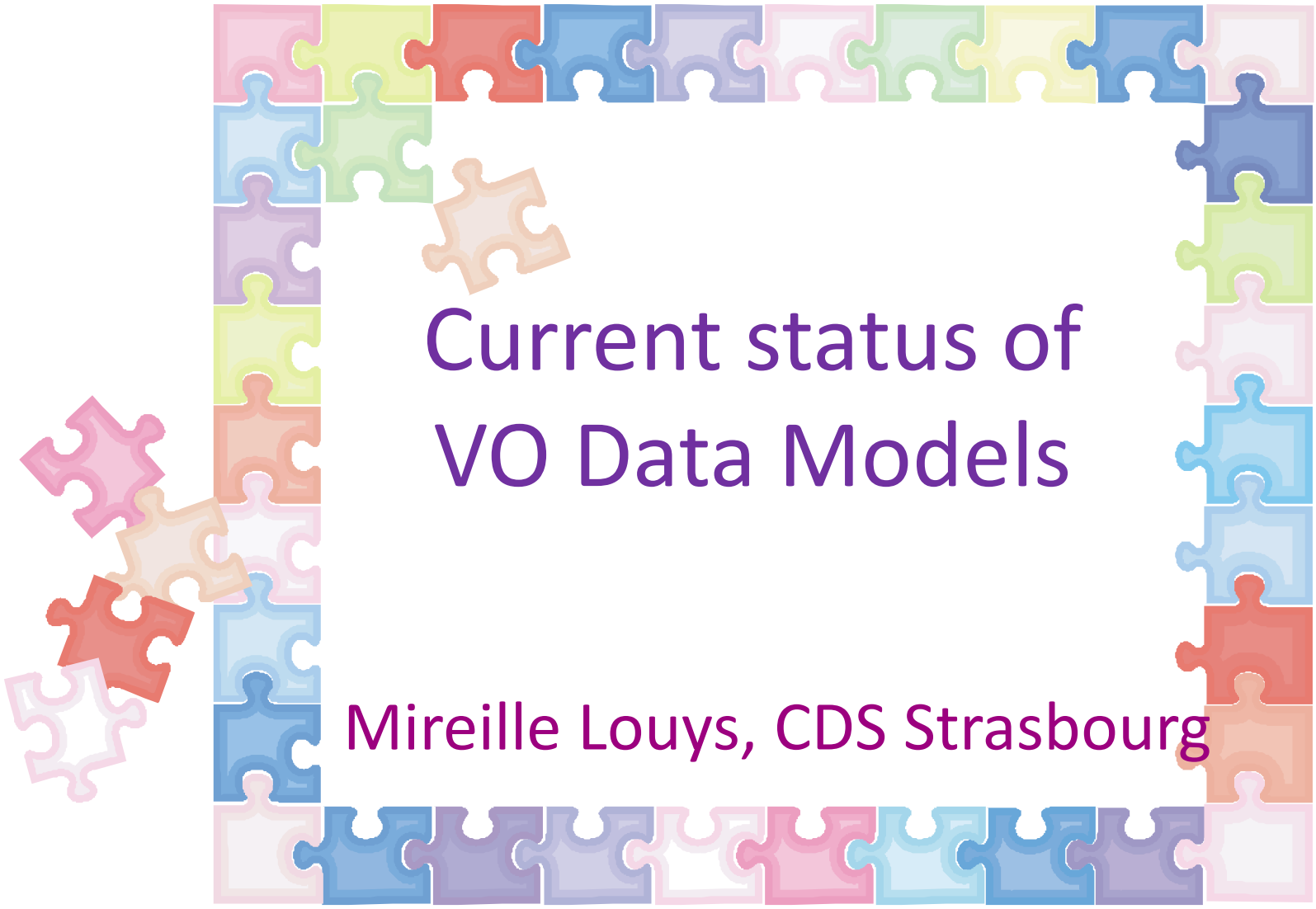


Current status of VO Data Models

Mireille Louys, CDS Strasbourg

Image Data Model

- Based on use-cases gathered in the VAO white paper

  « Access to Multidimensional (cube) data in the VO »
- Inherits from concepts defined previously as « Generic Data Set » :
- *Data Dataset DataID Target Curation*
  - Appeared in early versions of Spectrum data model
  - Formalised in DAL architecture draft

    http://wiki.ivoa.net/internal/IVOA/SiaInterface/DAL2_Architecture.pdf
  - Reused in Spectrum 1.x, SpectralDM 2.0, ObsCore

Image DM requirements (1)

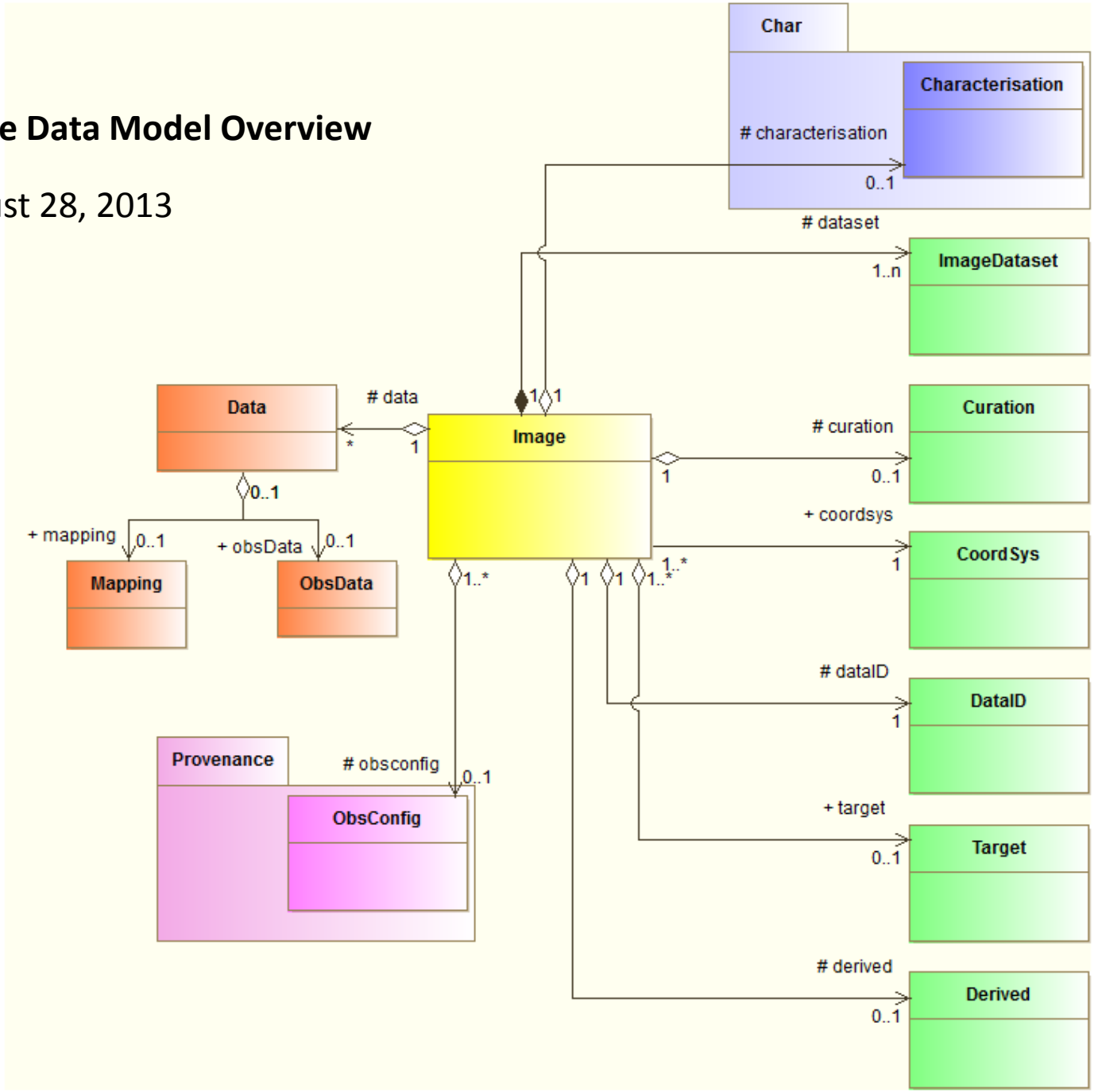
- To support multi-dimensional datasets on any physical axes
- To express the WCS calibration → Mapping
- To cover archived observed data as well as virtual data (on-the-fly re-computed data)
- Multiple sub-arrays

Image DM requirements (2)

- Multiple dataproducts linking
  - eventlist , visibility data
- Introduces the concept of sparse axes with irregular bins
- Any observation can be generalised to a n-D dataset with regular/irregular binning , and full/partial filling (sparse)
- Defines a new class: Image

Image Data Model Overview

August 28, 2013



Binding photometric calibration

From **PR-SpectralDM-2.0-20130425.pdf**

From SpectralDM to PhotDM → ImageDM

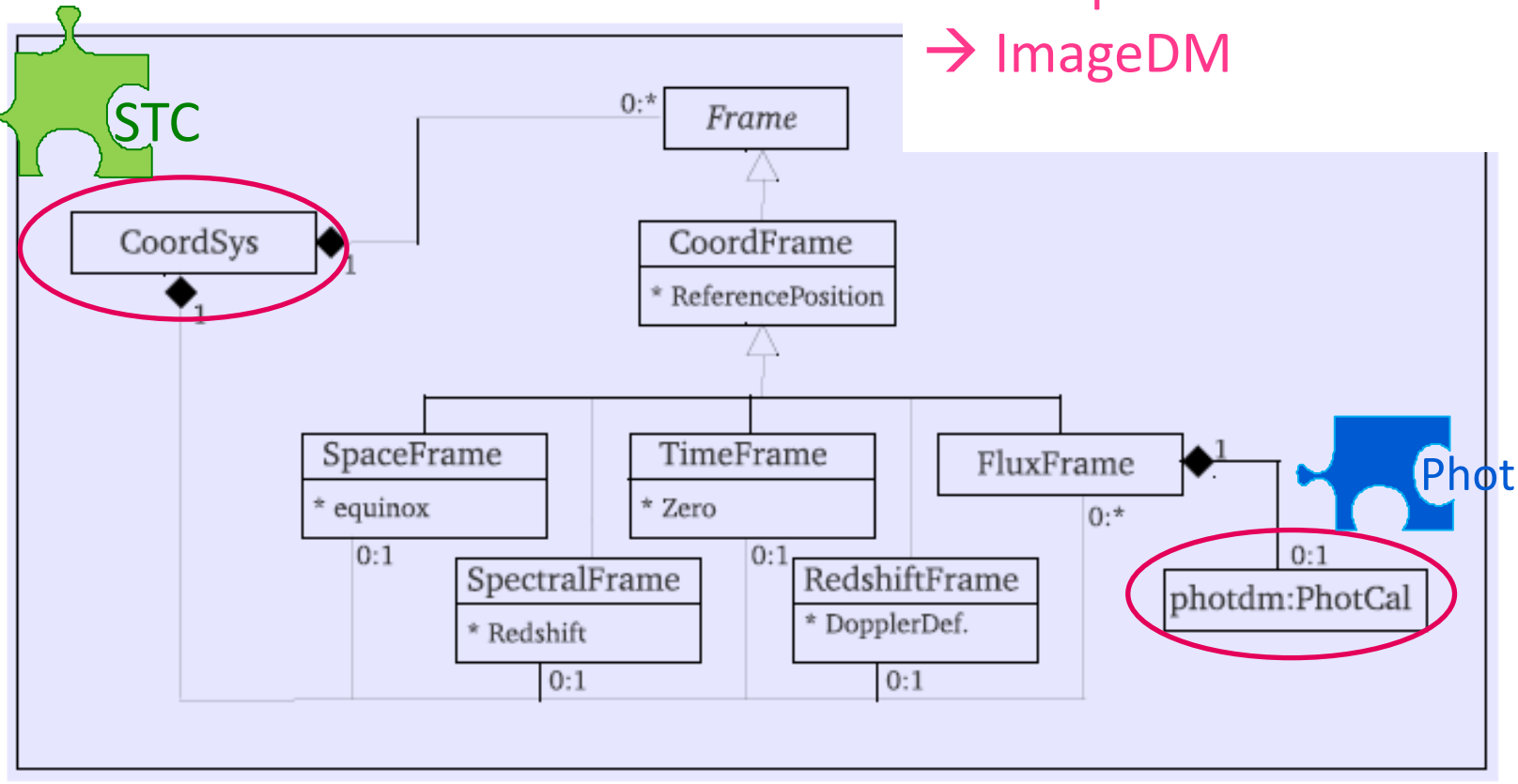
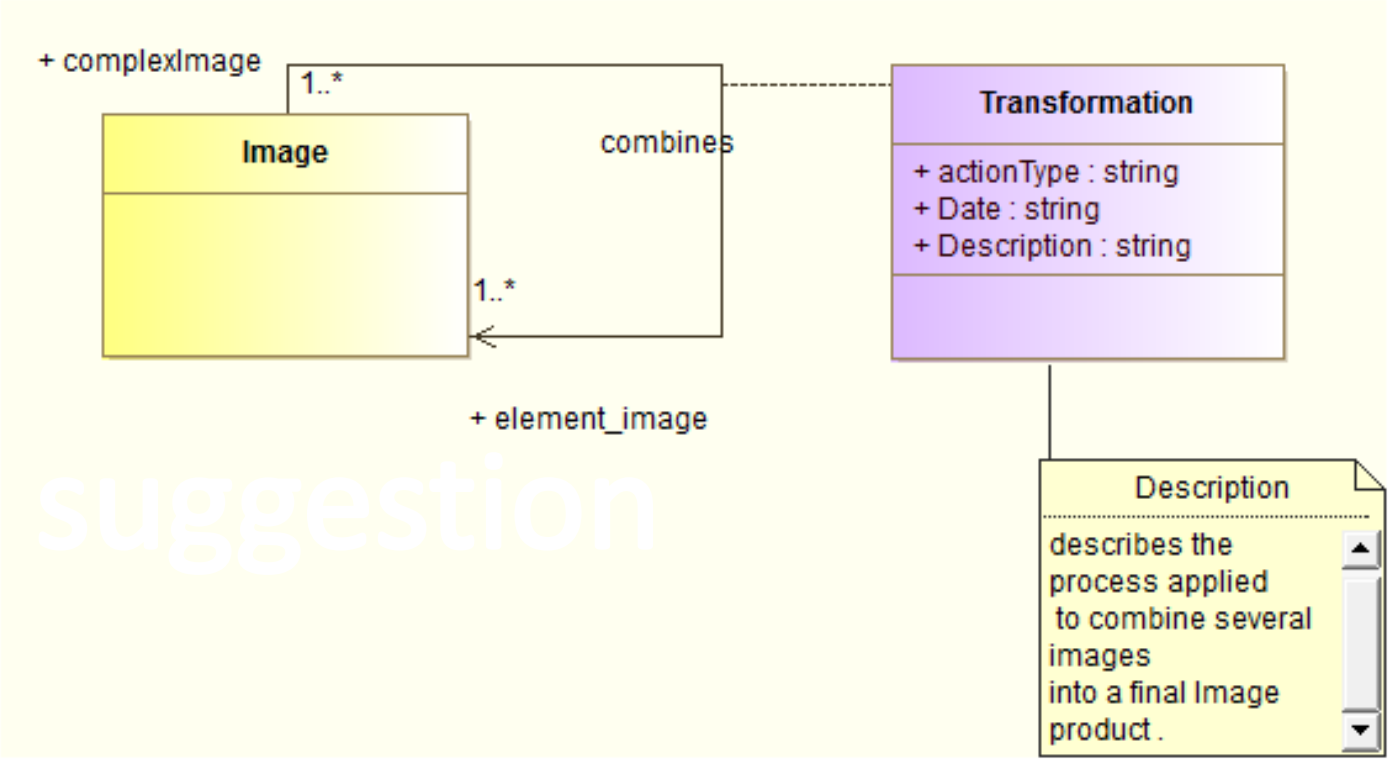
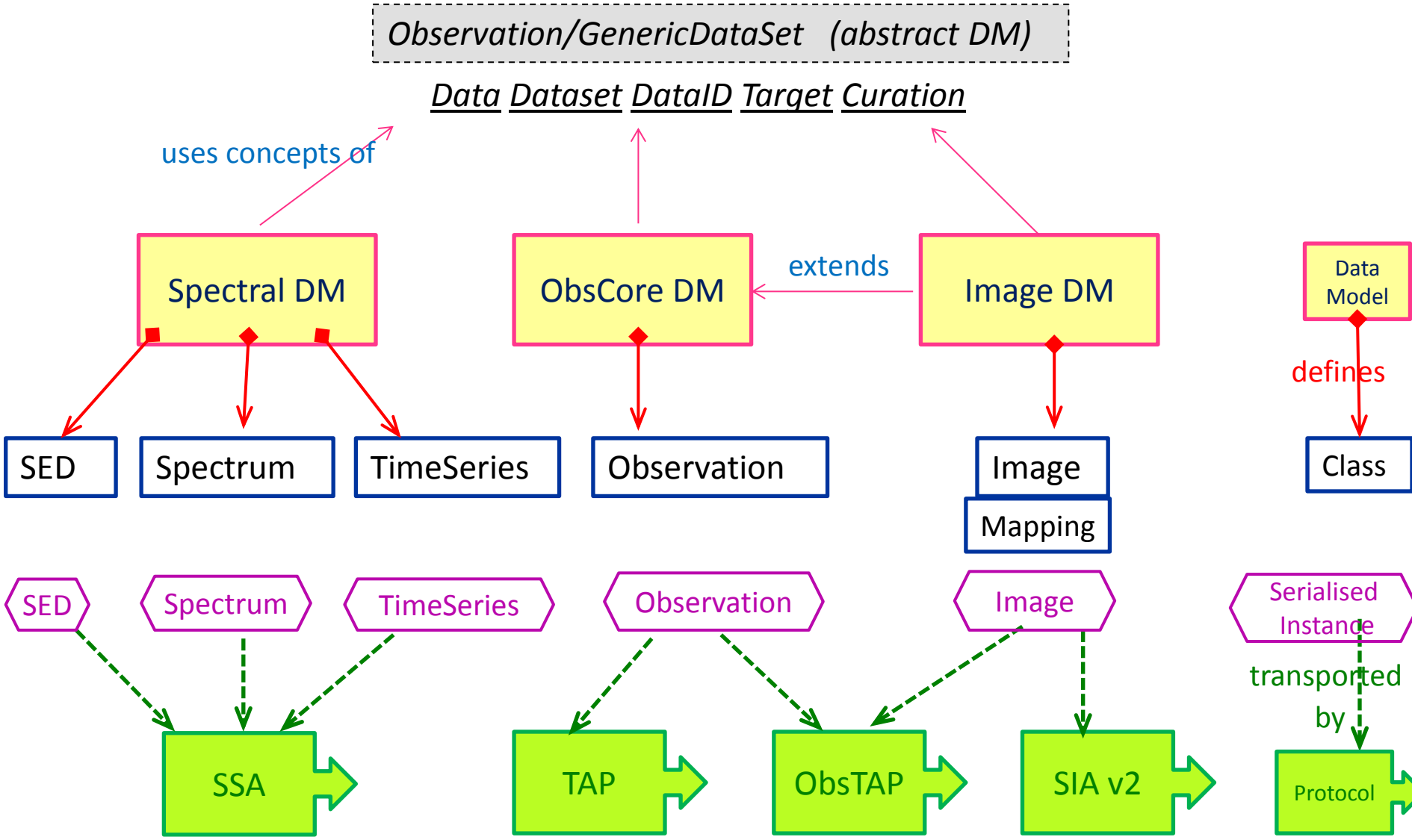


Figure 4: Diagram for CoordSys object.

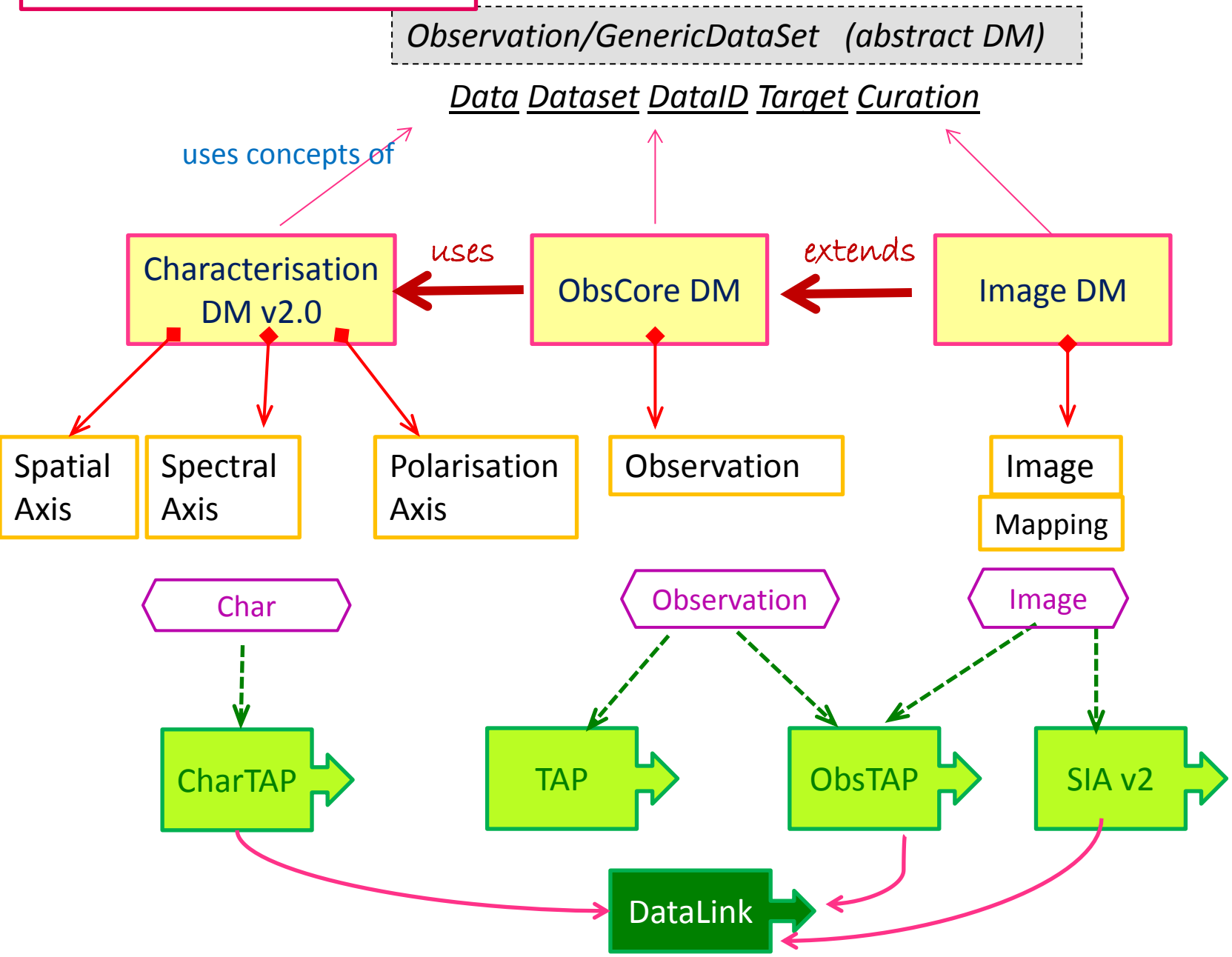
Linking various Image data products

- Mosaïc image →composition→ image chunks
- EventList →binning→ spatial maps
- IFU Cube →projection→ average map




Observation/GenericDataSet (abstract DM)
Data Dataset DataID Target Curation
uses concepts of
Spectral DM
ObsCore DM
extends
Image DM
Data Model
defines
SED
Spectrum
TimeSeries
Observation
Image
Mapping
Class
SED
Spectrum
TimeSeries
Observation
Image
Serialised Instance
transported by
SSA
TAP
ObsTAP
SIA v2
Protocol

Links with CharDM



Transport Characterisation v2.0 metadata

- Prototype for Characterisation v2.0 on TAP
- Interface and test database developed during Internship in CDS (June-July)
- A browser to drill down into the Characterisation Classes structure
- A prototype for distributing nD-array data f.i. CALIFA and BODEGA data sets

What ‘s Next ?

- Need to finalise how to model assembled datasets
  - Processing/Transformation as a ‘computational provenance’
  - Factorising common global metadata, listing element-specific metadata
- Resolve STC class reuse
  - Clearer at the serialisation level
  - A list of serialised STC structures to define
  - Agreement reachable for CoordSys and Frame as in PhotDM
- Homogeneise names of attributes in ImageDM, ObsCore, Charv2.0