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## Data Model in TAP schema

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# □ Providing metadata

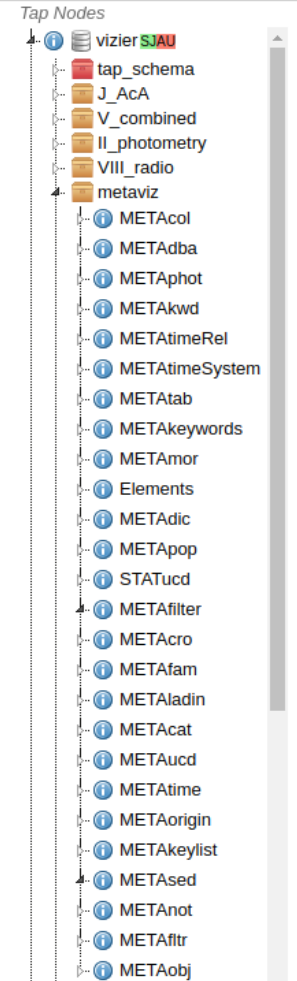


## Motivation to provide rich meta-data through the VO

- **mivot** (in recommendation status) exploits the meta-data richness resulting from Data curation
- Focus to the VizieR **Photometry** and the **Data origin**
- In the last interop, M.Louys and L.Michel presented a TAP architecture based on JSON templates (eg: one resource = 1 mapping)
- Look for a solution adapted to the VizieR workflow

## To make the mapping with Data models

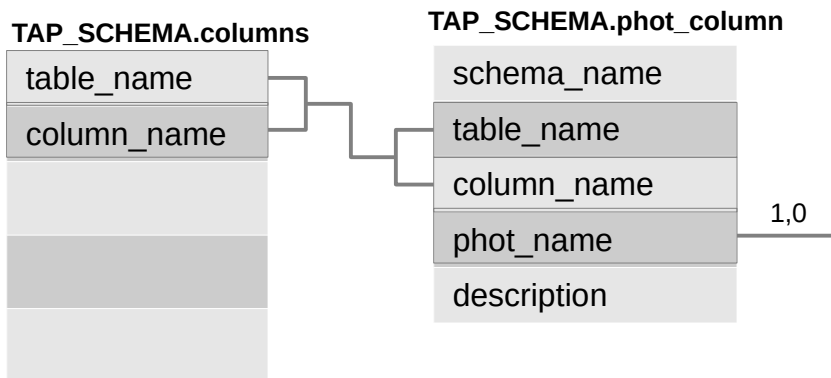
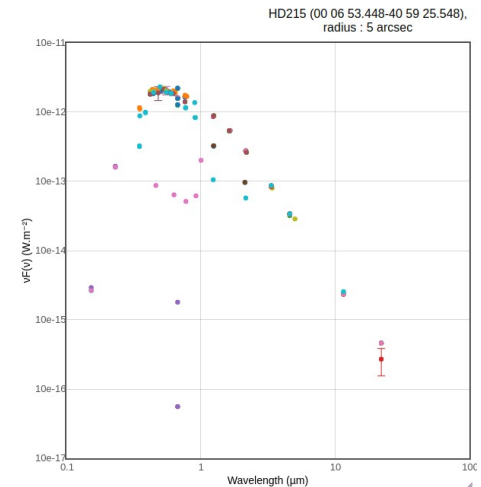
- Mapping between **VizieR schema** ↔ **Data Models**
- Serialize the mapping to be **TAP compliant**



# □ Photometry mapping

## Mapping photometry

- VizieR curation to assign filters to magnitude columns (not part of the original dataset)
- Use a local photometric list (completed by SVO filters)
- Used to provide the VizieR photometry viewer which is a compilation of sources coming from VizieR tables and columns curated by CDS



### TAP\_SCHEMA.phot

phot_name	
filter_name	photdm:PhotometryFilter.name
band_name	photdm:PhotometryFilter.bandname
ucd	PhotometryFilter.bandwidth.UCD
wavelength	PhotometryFilter.spectralLocation.value
unit	PhotometryFilter.spectralLocation.unitexpression
bandwidth	PhotometryFilter.bandwidth.extent.value
zeropointflux	PhotCal.zeroPoint.flux
magnitudesystem	PhotCal.magnitudeSystem.type
description	

Make the link with Data model using **utype**



# Photometry mapping

## Output

**SQL:**  
**SELECT** umag,  
 3641\*power(10, -0.4\*(umag)) as umag\_jsky  
**FROM** "VIII/86/Rcsample"

**UDF function** - not available yet  
 cds\_to\_jansky(varchar, double precision)  
 cds\_to\_jansky(double precision)

**SELECT** umag,  
 cds\_mag\_to\_jansky('SDSS/u', umag) as umag\_jsky  
**FROM** "VIII/86/Rcsample"

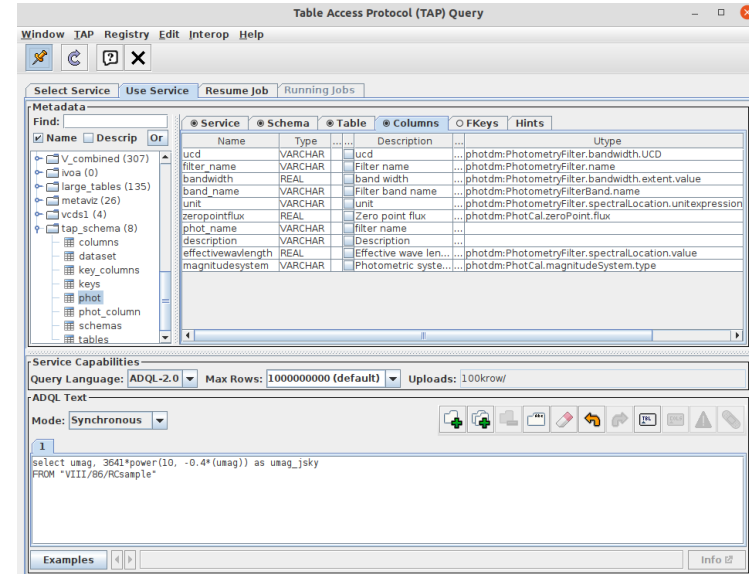


Table Browser for 1: TAP\_1\_phot\_column

	schema_name	table_name	column_name	phot_name	description
172	large_tables	I/360/syntphot	FF606W	Subaru/Su...	CDS photometric mapping assigned by CDS (not part of the original data,
173	large_tables	I/360/syntphot	F606Wmag	HST/WFPC2...	CDS photometric mapping assigned by CDS (not part of the original data,
174	large_tables	I/360/syntphot	FF814W	Subaru/Su...	CDS photometric mapping assigned by CDS (not part of the original data,
175	large_tables	I/360/syntphot	F814Wmag	HST/WFPC2...	CDS photometric mapping assigned by CDS (not part of the original data,
176	II_photometry	II/2B/catalog	Vmag	Johnson/V	CDS photometric mapping assigned by CDS (not part of the original data,
177	II_photometry	II/5A/data	Vmag	Johnson/V	CDS photometric mapping assigned by CDS (not part of the original data,



Table Browser for 2: TAP\_2\_phot

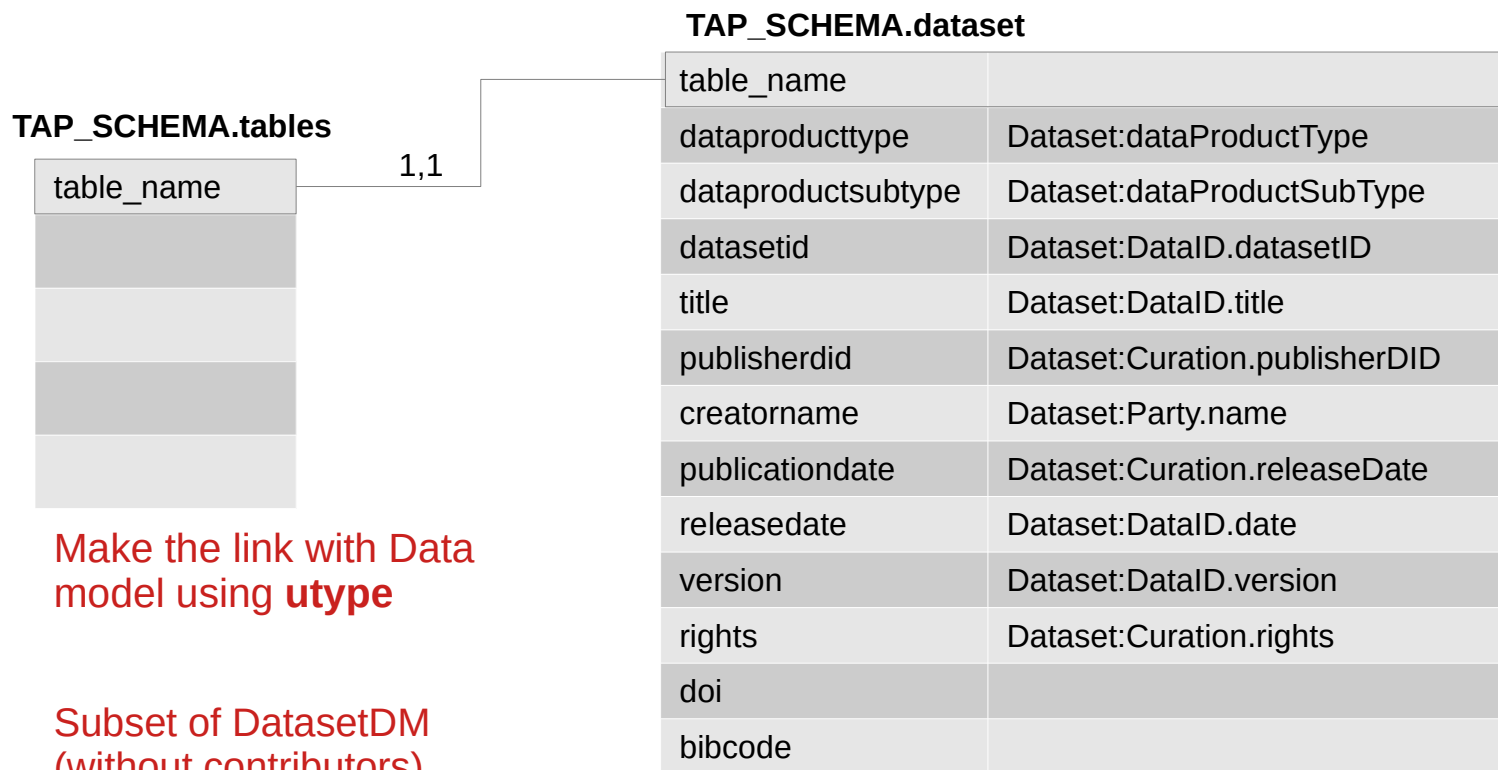
	ucd	phot_name	filter_name	band_name	effectivewa...	unit	bandwidth	zeropointflux	magnit...	
13	em.opt.I	Paranal/SPHERE/ZIMPOL_Cnt820AB	Paranal/SPHERE	ZIMPOL_Cnt820	0,8172	um	0,02011	3630,78	AB	(from SVO) https://www.esac.esa.int/manuals/HA...
14	em.opt.I	LCO/CSP/i	LCO/CSP	i	0,7565	um	0,1249	2552,22	Vega	(from SVO) http://www.esac.esa.int/manuals/HA...
15	em.IR.J	KPNO/TIFKAM/JAB	KPNO/TIFKAM	J	1,251	um	0,2803	3630,78	AB	(from SVO) https://www.esac.esa.int/manuals/HA...
16	em.opt.R	CFHT/MegaCam/iAB	CFHT/MegaCam	i	0,7467	um	0,1316	3630,78	AB	(from SVO) http://www.esac.esa.int/manuals/HA...
17	em.opt.R	Subaru/FOCAS/N642	Subaru/FOCAS	N642	0,6417	um	0,01257	3071,74	Vega	(from SVO) http://subarutelescope.org/Observ...
18	em.IR.3-4um	ISO/ISO_CVF/SW167AB	ISO/ISO_CVF	SW167	3,221	um	0,08388	3630,78	AB	(from SVO) http://iso.esac.esa.int/manuals/HA...
19	em.IR.8-15um	ISO/ISO_CVF/LW195	ISO/ISO_CVF	LW195	12,98	um	0,3263	23,2724	Vega	(from SVO) http://iso.esac.esa.int/manuals/HA...
20	em.opt.U	uvbv/u	uvbv	u	0,3451	um	0,0349	4734,	Vega	from ADPS({lambda} 0 )+2010PASP..122.14...



# □ Data Origin mapping

## Map the local schema with DatasetDM

- Enrich metadata schema with Data Origin metadata
- FAIR – TAP approach to improve discovery (F) and Reusability (R )



# □ conclusion



- Enrich **TAP\_SCHEMA** with rich metadata
- Use **flat views** that can be linked to Data Models using **utypes**
- Architecture allowing a direct/indirect used
  - Directly in ADQL or using **UDF** function
  - **Mivot** mapping possible to automatize with framework extension
- DatasetDM improvement ? DOI? Bibcode?
- Fosters interoperability if implemented by other Data-center.