

WP7 Task 6: Photometry Data Model and services

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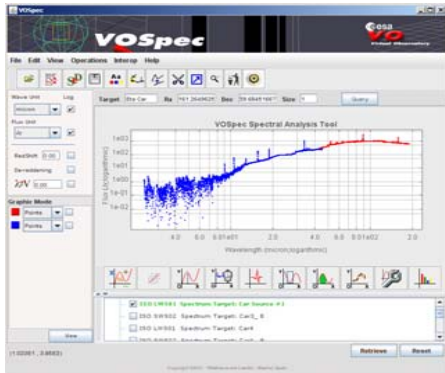
ESAVO/ESA

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WP7 Task 6 Objectives

- Include photometry data in VO context
- This is an old and recurrent request of astrophysical community. One of the main topics raised during community workshops
- Photometry data have many related problems but we can include a lot of data by very simple work
- In theory, SSAP gives support to photometry data, but no services providing photometry data are created. Something is missing
 - Filter characterization
 - Format of the different ways to serialize photometry data
- Present effort will not cover ALL the possible photometry issues but many (most?) of them

Photometry use case I: Synthetic Photometry



Give me list of registered Filters
(possible constrained by wavelength range)

Response, VOTable (VOResource?)

Show filters so user can select

Give Details for a certain filter list

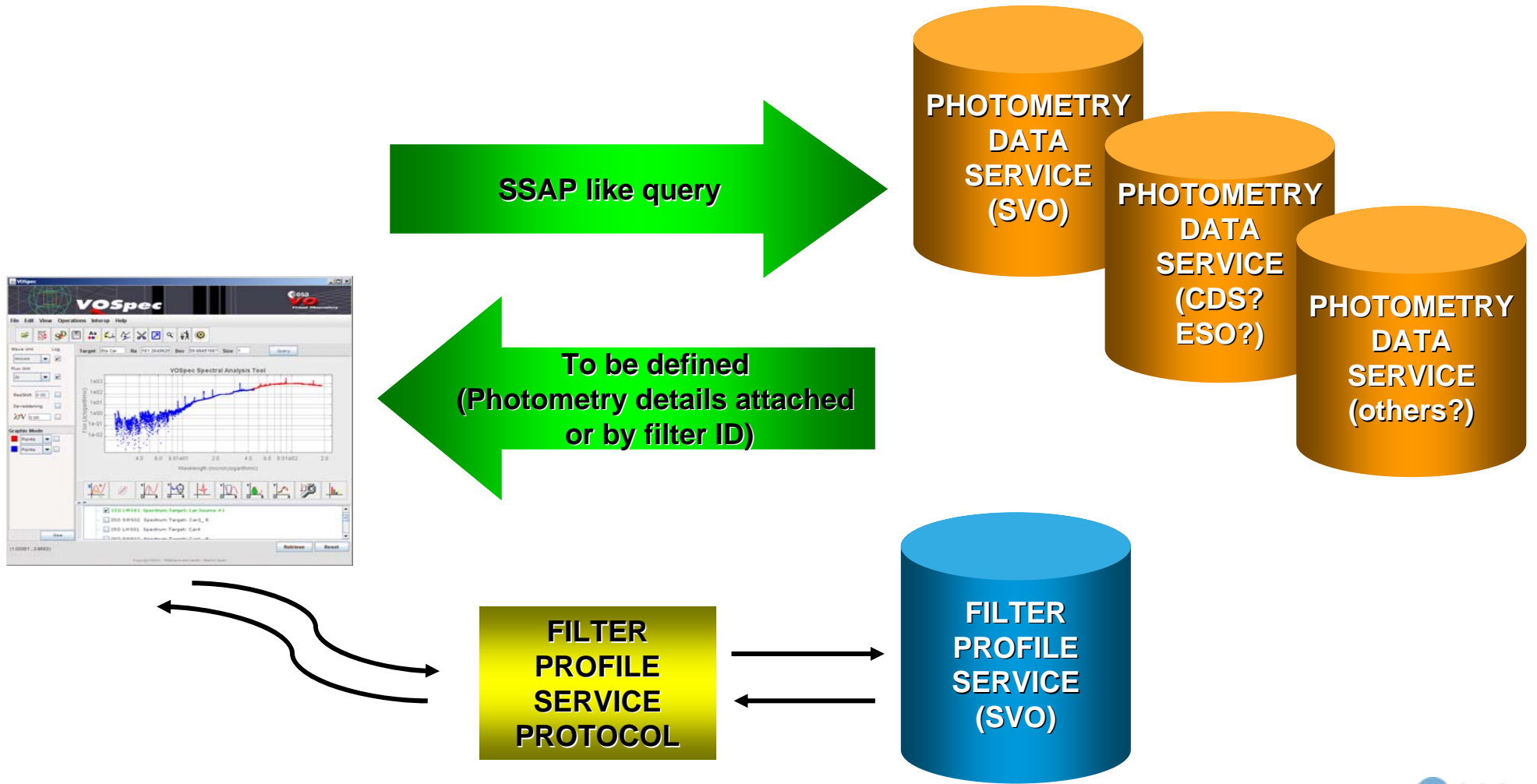
Response, VOTable (VOResource?)
Including link to Transmission curve

Use filter
Details to create synthetic photometry points using real/model
spectra as input

**FILTER
PROFILE
SERVICE
(SVO)**

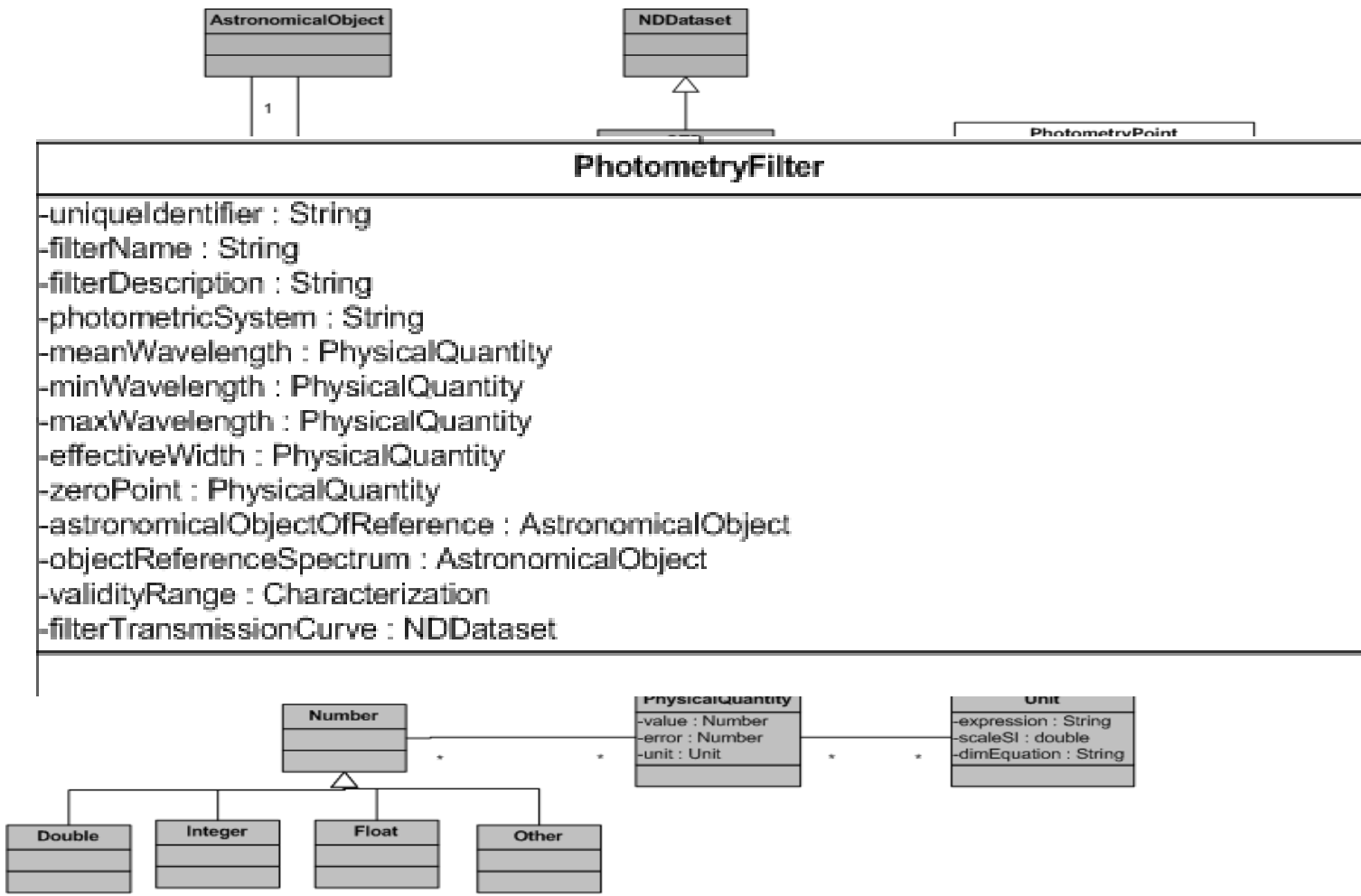
**FILTER
PROFILE
SERVICE
PROTOCOL**

Photometry use case II: Photometry Data Services



- **Definition of SSAP services for photometry data (ESAVO/SVO)**
 - Implementation of 5 SSAP new services following this definition
 - (4 SSAP including theoretical data, a.k.a. TSAPs - COND, DUSTY, KURUCZ, NEWGEN and
 - 1 SSAP including observational data - IUE photometry)
 - As far as we know, these are the first services of this type in VO context
 - Services registered in EuroVO registry (SVO)
 - Adaptation of VOSpec to consume these photometric SSAP services

- USE CASE 2 IMPLEMENTED -
 - **Definition of a Filter Profile service**
 - FPS server implemented by SVO
 - FPS client implemented by ESAVO and integrated in VOSpec
 - Module added to VOSpec to allow the creation of **synthetic photometry** at client level using Filter Profile Service information
- USE CASE 1 IMPLEMENTED -**
- **Photometry Filter DM updated** as per result of previous exercise



Current Status: SSAP servers

- AIDA members to investigate the creation of new SSAP servers that include photometric data. CDS to create these services
- Mail sent to the WP7/Task 6 mailing list from ESAVO to CDS including examples of SSAP responses and photometry files for 2MASS catalog
- Not-formal meeting held during last Hands-on Workshop:
 - Francois Oschenbein - CDS, Francois Bonnarel - CDS, Sebastien Derriere - CDS, Carlos Rodrigo - SVO, Juan Gonzalez - ESA-VO
 - CDS shows interest in public photometric filter information inside photometry data files or create their own Filter Profile Service
 - Discussion on possible one-step approach (CDS proposal)
 - ESAVO/SVO members explained why it was better to use a standard IVOA protocol (SSAP) for a short term integration more than to ask for a modification of the SSAP recommendation to cover this particular case. It was also mentioned that the two step process is a good approach in order to control resources in client side (preview available before final download)
- We would like to have some advance during current technology forum

Current Status: Photometry DM

- No changes. Changes were expected as feedback of previous action (SSAP creation) so the process is on hold
- Comments received from Mireille Louys in order to allow the preparation of a formal note to IVOA
 - minWavelength, maxWavelength proposed to be renamed as SpectralBoundsLoLim & SpectralBoundsHiLim (as SDM)
 - ValidityRange type ISOTIME (multi-range?)
 - filterTransmissionCurve: spectrum with unitless values on fluxaxis?
- NVO (Jonathan McDowell) is doing a parallel effort on photometry data model definition. Finally very close to this, but we have to organize the discussion at IVOA level taking, most probably, a IVOA note from us as input (to be decided by Mireille)

Issues to be solved...

During this meeting:

- Identify and discuss SSAP approach with AIDA partners
- Unblock the creation of servers with photometry data for the main source catalogs. This would allow users many science use cases

Just after this meeting:

- If agreement on previous point, creation of servers and integration in VOSpec
- Creation of a note on the photometry data model to be sent formally to the IVOA. This would imply also the creation of a wider group including other IVOA members to discuss it (parallel NVO effort)

THANK YOU

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