

SSLDM v0.9

Simple Spectral Lines Data Model

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Last interop agreements

- ❑ Atomic and Molecular Line data model is very complex. Basic model was prepared in line with SLAP but many things could be extended
- ❑ Delay in the DM release was producing an unnecessary delay in SLAP protocol release
- ❑ It was agreed with DM chair, DAL chair and TCG chair to create a Simple Spectral Line Data Model (in line with SLAP and using AMLDM v0.5 as a basis) so both documents could follow the standardization process
- ❑ During these months, v0.9 of both documents has been upgraded/prepared and, finally, distributed to the working groups (DM and DAL)

Simple Spectral Lines DM

overall goals

(3/7)

- ❑ Define DM to describe atomic and molecular line databases
- ❑ Support laboratory data and databases of observed lines at any wavelength range
- ❑ Main class: **Line**, defined as the result of a transition between two **Levels** (initial/final)
 - Note that this concept covers both *bound-bound* and *free-bound* transitions
- ❑ Levels are characterized by a series of attributes, organized in classes
 - **Species**, only as String (not covered in this model)
 - **QuantumState** and **QuantumNumber** describe the levels
- ❑ Processes that generate lines or modify the observational properties are described by a simple Process object

SSLDM modifications since latest distributed version

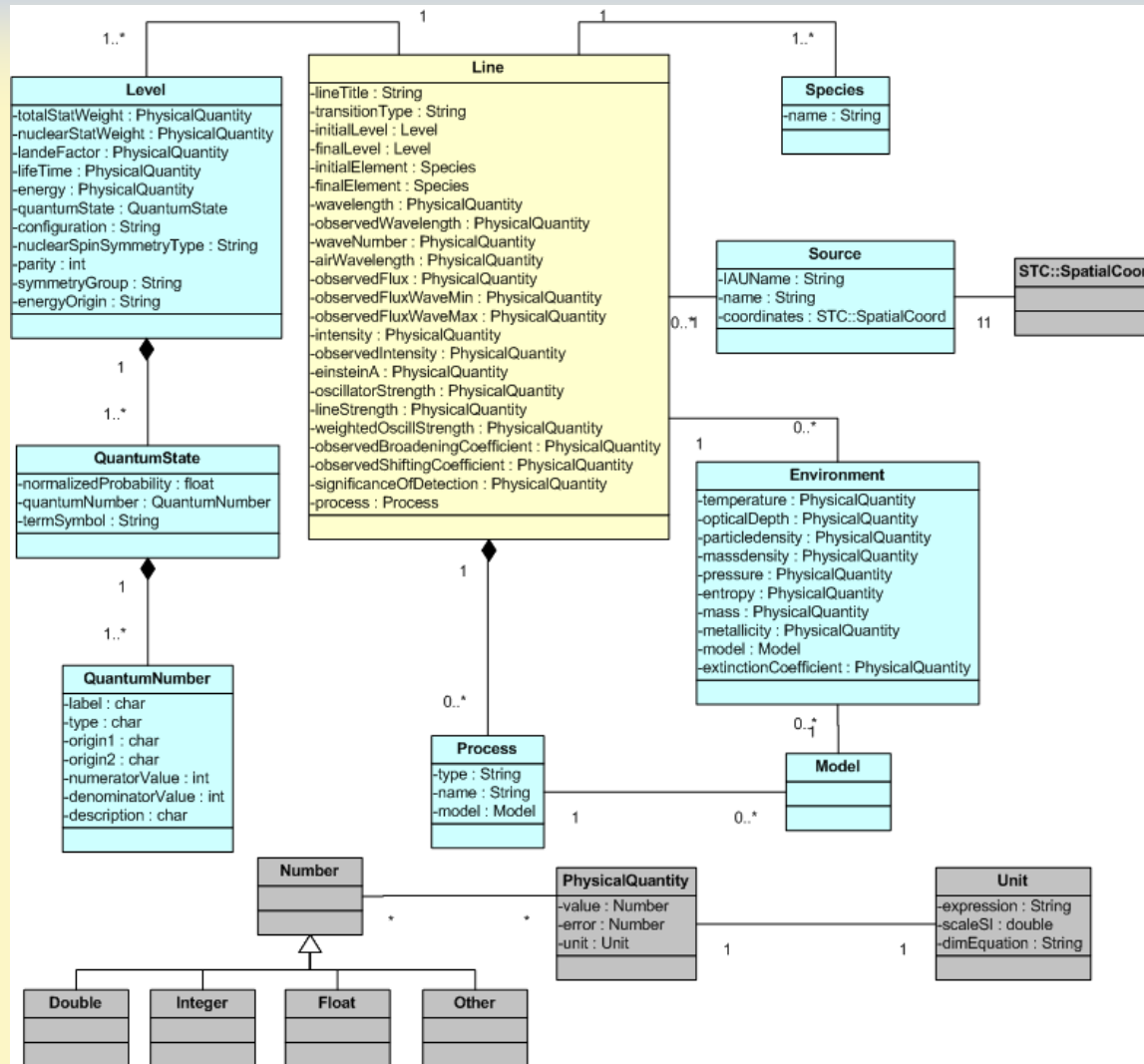
(4/7)

- Added **PhysicalQuantity** object and relationship with current DM
 - In order to allow scientific values, a new object has been added (**PhysicalQuantity**). This object is a simplified version of the Quantity data model that was sketched in the past.
 - If **PhysicalQuantity** deserves a separate IVOA DM, SSLDM will point to the updated version

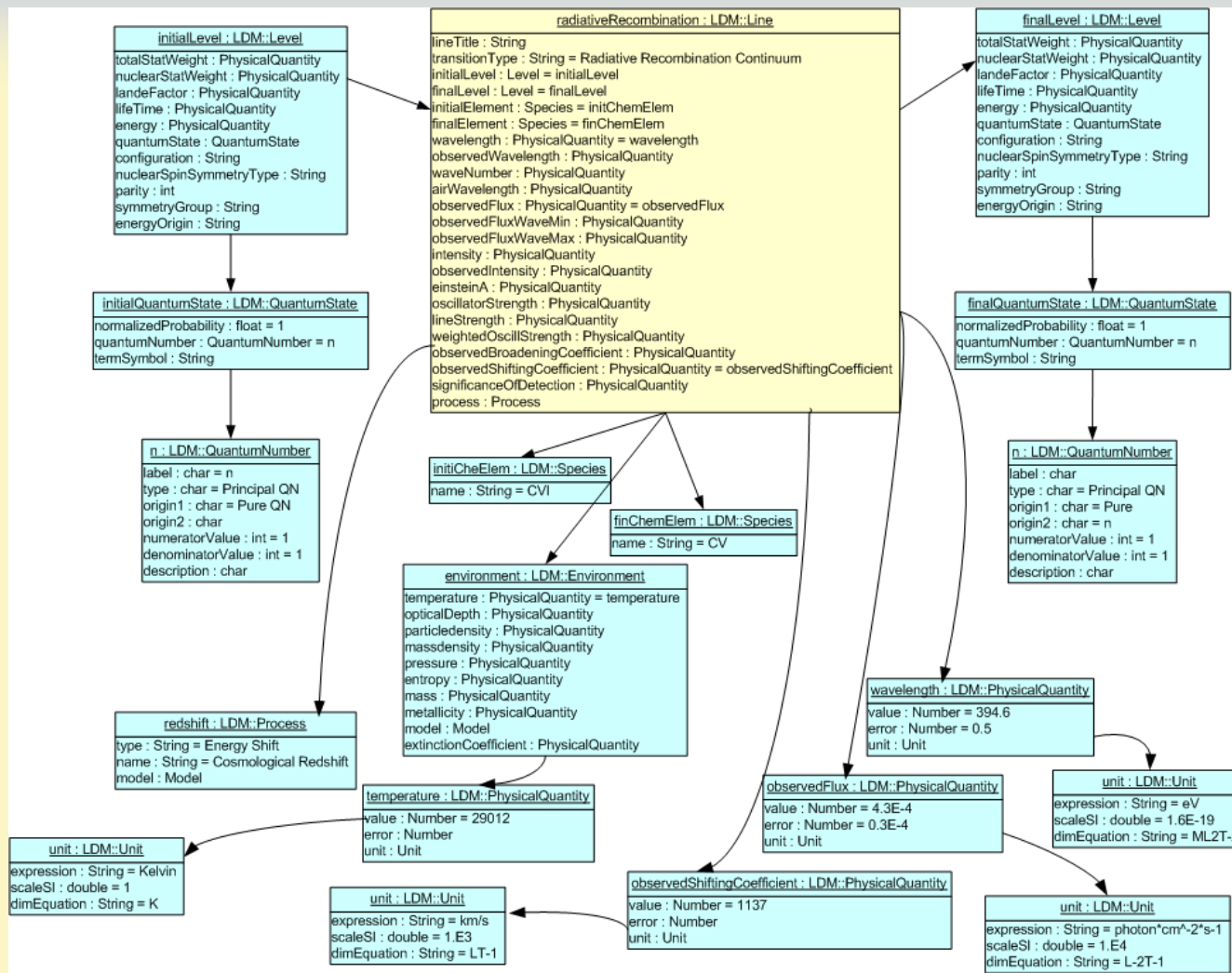
- Added **Units** object and relationship with current DM
 - Although it is still in a preliminary draft, a data model for **Units** is being developed by DM WG
 - Present Units object is in synch with current **Units** DM draft

- Added link to **STC** for sources location

SSLDM UML



Example of DM instance



Future plans

- ❑ SSLDM v0.9 sent to DM for discussion (SLAP v0.9 sent to DAL)
- ❑ Some comments (hopefully minor ones) already received
- ❑ Please experts, take a look into it and comment!

- ❑ Once the period in the working group is expired and if no major comments received, RFC period to be started