Semantics@Paris Observatory
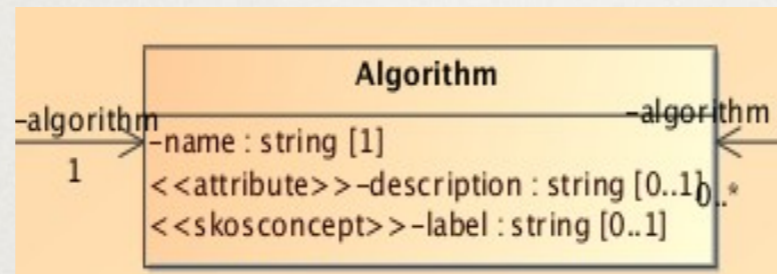
Vocabularies developped for the Simulation DM

➢ With SimDM some classes have a "skosconcept" attribute
➢ It will be used to improve the search functionnalities

➢ Several vocabularies have been created :
  – Algorithms
  – AstronomicalObjects
  – DataObjectTypes (data structures used by a code : datacube, adaptative mesh cell)
  – InputParameters
  – PhysicalProcesses
  – PhysicalQuantities
  – PdrInputParameters
  – ChemicalSpecies

➢ Use cases examples :
  – Finding a code according to simulated astronomical objects (halos, cloud)
  – Finding code whose input is compatible with output of another one
    • Physical Quantity : Abundance, Column Density, Temperature ...

➢ Concepts URL use purl.org

➢ Concepts are available on the website votheory.obspm.fr

➢ Until this year managed thanks to Poolparty software

➢ Licence was not renewed this year because we did not need an editor (and it is not free anymore)

➢ Other vocabularies have been created, specific to PDR code. They contains thousands of entries (for every quantity in the code)

➢ They will be used to search precise runs of the code

Paris Observatory Etymological Dictionary

➢ Contains definition of terms related to Astronomy and Science in general

➢ More than 9000 entries, regularly updated

➢ Definitions in english, terms available in english, french and persian

➢ Definitions are validated by domain specialists from Paris Observatory

➢ A working group is being constituted in commission 46 from IAU (Astronomy Education and Development)

➢ Project responsible and main contributor : Dr. Mohammad Heydari-Malayeri

➢ http://dictionary.obspm.fr

➢ PHP/MySQL

➢ The dictionary has been converted into SKOS and made available on the Votheory website

New functionnalities

➢ The dictionary was simply a list of terms (one single table in the DB)

➢ Term definition contains html links to other terms

➢ They have been extracted so that links between terms can be identified and stored in the DB
  – "Related" relation in SKOS terminology

➢ A new feature has been added to take advantage of those data

➢ Browsable javascript graph

➢ An exemple with Star

➢ The vocabulary can be exported in SKOS including the relations

Collaboration with INIST

➢ The Institut de l'Information Scientifique et Technique (INIST) is a CNRS unit located in Nancy

➢ It aims at valorisation of scientific production

➢ They have a quite extensive list of scientific terms with their definitions

➢ It covers a lots of domains including of course Physics, Astrophysics, Mathematics …

➢ Our own dictionary is more complete but lacks this categorization

➢ Through this collaboration we will :
  – Add categories to our own terms
  – Add definitions and synonyms from INIST

➢ We defined a file format in which INIST data are exported

➢ They are imported in a new database whose content can be browsed through a very simple demonstration website

➢ Only the "A" letter has been processed for now