



Objectives & Conclusions of Paris TVO Workshop

IAP

2006, April 5-6



Why this workshop?

- growing interest by French numerical community
 - Historically, first VO projects were mostly driven by data centers and/or observational surveys.
- Theoretical VO developments are most often a sub-project inside wider numerical projects
 - ⇒ need to identify eligible numerical projects
 - VO-France in charge of promoting VO projects
 - ASSNA (Action Spécifique pour la Simulation Numérique en Astrophysique) responsible for promoting numerical simulations
 - Interface problem!

VO-France working groups

- Spectral data (Ph. Prugniel, CRAL, Lyons)
- Workflows (A. Schaaf, CDS, Strasbourg)
- Images (E. Slezak, OCA, Nice)
- Theory (H. Wozniak, CRAL, Lyons)
 - Needs:
 - Explain what is [not] Virtual Observatory
 - Understand/summarize numerical simulations/codes specificities
 - Explain/show how a VO-compliant theoretical service could run and help to make science
 - Meetings:
 - Presentation of VO-France at ASSNA meeting (December 2003)
 - First WG meeting just after the founding VO-France workshop (4-6 April 2005)
 - Parallel session during Obernai winter school (5-7 November 2005)
 - **Paris Workshop: first joined ASSNA+VO-France workshop dedicated to TVO**

Presentations/Projects

- General presentations
 - Theory in the VO: the IVOA approach G. Lemson
 - Metadata, UCD, semantics in the VO S. Derrière
 - Workflow A. Schaaf
- Progress in 'virtualization of theoretical data/codes'
 - ✓ The Meudon PDR code in the VO F. Le Petit
 - ✓ BASECOL / ASAP M.-L. Dubernet
 - ✓ Model of the Galaxy and VO (Besancon's model) A. Robin/B. Debray
 - ✓ Galics B. Guiderdoni
 - ✓ Theory in GAVO: Cosmological simulations in a database G. Lemson
 - ✓ HORIZON H. Wozniak
- Future possible services/data in the VO
 - Modeling exoplanets F. Roy
 - Lorene (numerical lib. for computation in general relativity) Ph. Grandclément
 - Stellar models A. Palacios
 - Solar MHD R. Grappin
 - ✓ Titan & Arty L. Chevallier/A. Gonçalves
 - MHD-shock models of protostellar dense cores P. Hennebelle

Some issues/points discussed

- **Registries:**
 - easy-to-use ? Even non-VO services could registered (right?)
 - Detailed description of all parameters
 - But still no theoretical service registered
- **Two ways (complementary) to publish in the VO:**
 - **Services:** alternative to source distribution (e.g. TITAN)
 - Not only for short CPU needs (asynchronous services)
 - Range of parameters could be constrained/checked by the interface
 - Defaults values for some parameters
 - Should (the experts/developers) mask some less important parameters ?
 - **Grid of models (sampling parameter space) \Rightarrow**
 - database/catalogues (but storage/huge SQL requests issues)
 - Solve CPU time issues (e.g. cosmo)
 - Combination of both
- **UCD/utype:**
 - redundant or complementary?
 - Issue on parameters with various definition (e.g. χ)
- **Binary data:**
 - base64 encoding encapsulated in XML/VOTable?
 - FITS files...
 - Input reading routines associated to data

First conclusions (by Gerard)

- Simulator services: register as generic service with interface definition (we'll ask Registry WG how)
 - Once registered (as non-beta) web app can not be changed, only new versions possibly plus deprecation
- Data query services: ADQL applicable ?
 - UCDs relevant
 - Registry: How to describe theory datasets ?
 - Datamodel for similar datasets may be unified in IVOA standard model
 - Is data applicable for a SxxP standardization ? Is there an existing one applicable (eg SSAP for theory spectra)
 - Standardized simpledb like webapplication for quick startup of a web based RDB interface