



Contribution ID: 173

Type: Oral

TheoSSA on AstroGrid-D

Thursday, 5 March 2009 18:40 (20 minutes)

We combine a Virtual Observatory service for stellar model spectra with a grid compute service. Astronomers can request model spectra according to certain specifications. If no pre-calculated results are available, the model calculation is executed in a Grid, which provides the necessary scaling and greater reliability. This work is a collaboration of the German Astrophysical Virtual Observatory (GAVO) and AstroGrid-D, the German Astronomy Community Grid (GACG).

Impact

TheoSSA's prototype implementation is TMAP, the "Tübingen Model Atmosphere Package" for spectra of hot stars. For the community concerned, the simple access to this model allows to compare model SEDs with observations of hot, compact stars. The use of this advanced method allows detailed identification of the physical properties.

URL for further information

<http://vo.ari.uni-heidelberg.de/ssatr-0.01/TrSpectra.jsp>

<http://www.gac-grid.org>

Conclusions and Future Work

We have implemented a service useful for the theoretical and observational community. It is based on several elements of eScience technology to offer access, scalability and reliability. In the future we will improve this service by adding the option for other model packages and supplying a connection for execution on other compute grids.

Keywords

AstroGrid-D, GAVO, Globus Toolkit, TMAP, TheoSSA, SSA, Virtual Observatory, VO

Detailed analysis

TheoSSA is a service of the German Astrophysical Virtual Observatory (GAVO) that builds on the IVOA "Simple Spectra Access" protocol. It enables Astrophysicists to access model data of SEDs or calculate new data. We combined this service with a software package developed for "atomic" jobs within the GT4 based AstroGrid-D. For the submission we use the GT4 web services via a JSDL template. The model code is transferred and executed with the input parameter set as requested by the user.

By this combined service it simplifies the use of a complex model with a large choice of parameters. Also it enables the scientist to do a large number of calculations without having to be concerned about the computational details.

Author: Dr NICKELT, Iliya (Astrophysical Institute Potsdam)

Co-authors: Dr ENKE, Harry (Astrophysical Institute Potsdam); Dr RAUCH, Thomas (Institute for Astronomy und Astrophysics, Eberhard Karls University, Tübingen)

Presenters: Dr ENKE, Harry (Astrophysical Institute Potsdam); Dr NICKELT, Iliya (Astrophysical Institute Potsdam)

Session Classification: Astronomy and Astrophysics

Track Classification: Scientific results obtained using grid technology