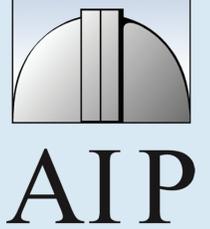


GAVO-II and the RAVE survey spectral database



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GAVO, the [German Astrophysical Virtual Observatory](http://www.g-vo.org) (<http://www.g-vo.org>) is the central German platform for virtual observatories. The second phase of the GAVO project has started recently. It is sponsored by the German ministry of research (BMBF) and a collaborative effort of the following institutes: Zentrum für Astronomie der Universität Heidelberg (ZAH), Max-Planck-Institut für Extraterrestrische Physik (MPE), Technische Universität München, Universität Tübingen, Astrophysikalisches Institut Potsdam (AIP)

The RAVE Survey Spectral Database

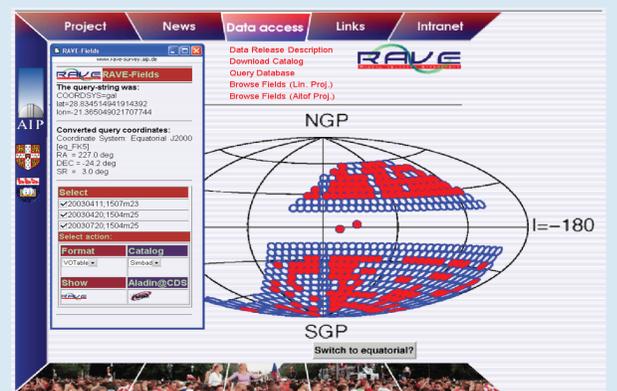
RAVE, the **radial velocity experiment**, is a survey that will provide the radial velocity data of a million stars of the southern hemisphere until 2010 (<http://www.rave-survey.aip.de>). It collects medium resolution spectra in the CA-triplet region (8410-8794 Å) for southern hemisphere stars in the magnitude range 9-12. One of the main goals of the AIP contribution to GAVO is the improvement and extension of the RAVE survey data base.

Features of the current RAVE database:

- Radial velocity and photometric measurements of 25,000 stars (for first data release, more data to be released in 2007))
- Cone search and VOTable output
- Graphical data selection
- Limited VO-compatibility

The database interface update will offer:

- Full VO compatibility
- Search and retrieval of observed spectra (using IVOA spectral data model)
- Front end improvements
- Search queries for spectral data



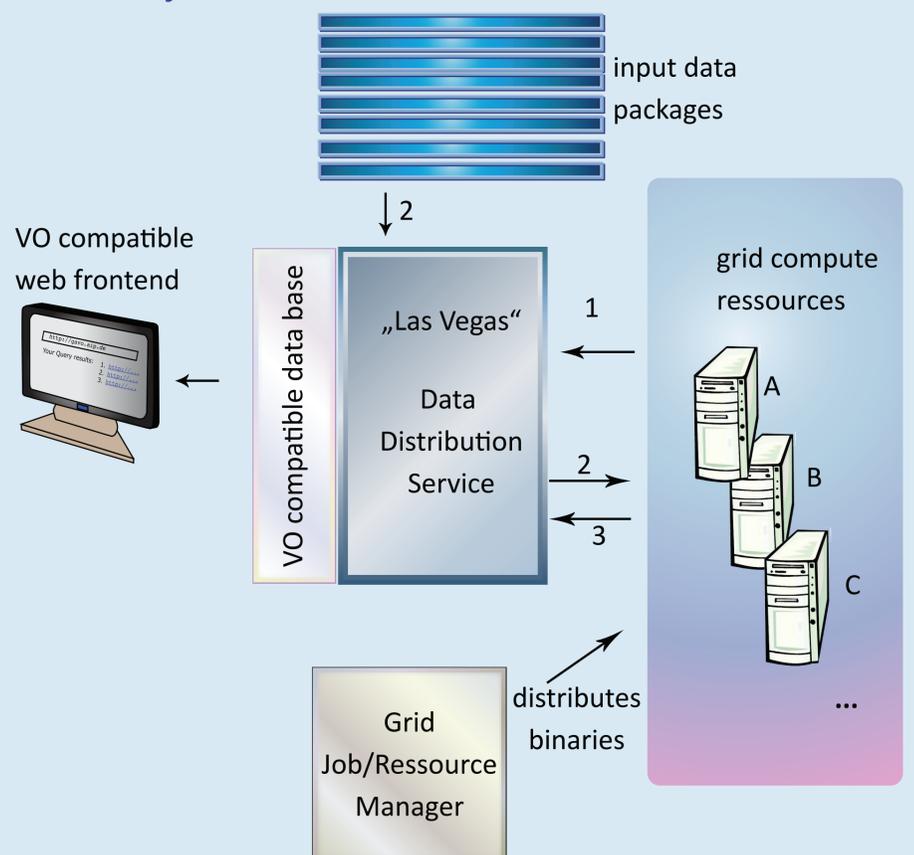
Las-Vegas: Connecting the Grid with a Virtual Observatory

„Las-Vegas“ is a data distribution service and database for a shared workflow between a computational grid and a virtual observatory frontend. It is now in a concept stage to be further developed during this year.

The simple design is mainly targeted on classical data reduction or serial simulations without interprocess communication. An suitable application is the parallel reduction of large quantities of spectral data. A key element is the inclusion of a VO-compatible database frontend that automatically publishes the results once arrived.

Concept principles:

- A universal code package that contains binaries and common parameters necessary for the desired application is distributed on the grid using a grid resource/job manager.
- The data distribution service manages a stack of individual work packages of input data and necessary individual parameter files.
- (1) The compute resources request input data individually from the service.
- (2) The database distributes the data from its stack.
- (3) The resources return data results or error messages and request new input data.
- If no result is returned after a time out period, the service redistributes the package.
- The results stored in a VO compatible database using a pre-defined mapping set for the necessary fields. If desired, they are also made public.



Other GAVO-II Projects

Other spectrum related projects that GAVO-II is involved in include

- an IVOA compliant web service for searching, downloading and creating spectra of planetary nebulae (see talk by Thomas Rauch, Universität Tübingen)
- a database related to the Millennium web site (<http://www.gvo.org/Millennium>) a web service publishing images with physical parameters and X-Ray spectra derived from XMM observations (<http://www.g-vo.org/XMM>).
- a simple-to-use, VO-compliant database for solar spectra

GAVO will furthermore continue development of a tool for extracting metadata from FITS archives and mapping these to IVOA standards. Currently this tool exists for SIAP, in the near future SSAP will be supported.