IVOA NEWSLETTER

May 2010

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The International Virtual Observatory Alliance (IVOA) was formed in June 2002 with a mission to "facilitate the international coordination and collaboration necessary for the development and deployment of the tools, systems, and organizational structures necessary to enable the international utilization of astronomical archives as an integrated and interoperating virtual observatory." The IVOA now comprises 17 VO projects from Armenia, Australia, Brazil, Canada, China, Europe, France, Germany, Hungary, India, Italy, Japan, Korea, Russia, Spain, the United Kingdom, and the United States. Membership is open to other national and international projects according to the IVOA Guidelines for Participation. You can read more about the IVOA and what we do at http://www.ivoa.net/pub/info/.

What is the VO?

The Virtual Observatory (VO) aims to provide a research environment that will open up new possibilities for scientific research based on data discovery, efficient data access, and interoperability. The vision is of global astronomy archives connected via the VO to form a multiwavelength digital sky that can be searched, visualized, and analyzed in new and innovative ways. VO projects worldwide working toward this vision are already providing science capabilities with new tools and services. This newsletter, aimed at astronomers, highlights VO tools and technologies for doing astronomy research, recent papers, and upcoming events

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VO APPLICATIONS HIGHLIGHTS

Skyalert.org

Skyalert is a web site that gives access to many streams of astronomical events. Recently active feeds include SWIFT and Fermi, the Catalina Realtime Transient survey, GALEX, microlensing events from MOA, newly discovered asteroids from the CSS survey, ultra-high energy events from VERITAS, and others. Skyalert attaches multi-sourced data to an astronomical event: VO data services (including SIMBAD and NED) are automatically consulted and links to Microsoft WorldWide Telescope, SDSS, and other external sites are built. Events can also trigger data mining code. Skyalert provides real-time feeds of breaking events that can be mashed up with free cloud tools, such as from Google and Yahoo, to build new feeds. We are looking for new event streams, and for new ways to utilize feeds.

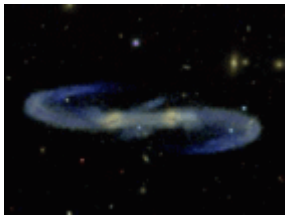
More information: http://skyalert.org

VOSED: SED Building and Fitting Tool

VOSED is a tool developed in the framework of the Spanish VO to ease the generation of Spectral Energy Distributions (SEDs) by gathering information from the spectroscopic services available in the VO. These datasets can be complemented with photometric information from a number of Vizier catalogues as well as with data provided by the user. The SEDs are provided in VOTable format and can be uploaded in other VO tools (for instance, VOSpec) for further visualisation and analysis.

More information: http://sdc.cab.inta-csic.es/vosed/

The GalMer database -- simulations of galaxies for observers.



The GalMer database provides interactive web-based access to the results of TreeSPH simulations of galaxy interactions in pairs, and isolated galaxies of all morphological types. Value-added tools allow visualisation and analysis of the results of these numerical simulations; for example, the spectrophometric modelling code provides the capability to create model images and spectra of interacting galaxies on the fly. The website implements interaction with existing VO tools (i.e. TOPCAT, Aladin, VOSpec) allowing data to be sent to them directly.
More information: http://galmer.obspm.fr/

China-VO Skymouse Client

SkyMouse client is a tool (Windows) for accessing distributed astronomical databases. Text highlighted with the mouse in any window is 'captured' and used as input for a query sent to astronomical database systems worldwide. The results are integrated into a combined web page for the user. SkyMouse queries may also be sent via the web page.
More information: http://skymouse.china-vo.org

SIMBAD Annotations Service

Information on astronomical objects in SIMBAD can now be annotated with new information, remarks, and requests for modification. The new service allows registered users to post short messages that are publicly visible and linked from SIMBAD object information pages. Annotations are intended to improve the quality of information in SIMBAD, and to improve the level of interaction between CDS staff and SIMBAD users. Regular email support is also available via question@simbad.u-strasbg.fr.
More information: http://cdsannotations.u-strasbg.fr/annotations/doc/

SOME RECENT PAPERS ABOUT VO-ENABLED SCIENCE

Featured Paper

A Population of Compact Elliptical Galaxies Detected with the Virtual Observatory. Chilingarian et al. (2009) Science v.326 p.1379
Chilingarian et al. report their discovery of 21 compact elliptical galaxies with the Virtual Observatory. These galaxies, characterized by small sizes and high stellar densities, are thought to form through tidal stripping of massive progenitors. Only a handful of such galaxies were previously known, preventing understanding of the role played by this mechanism in galaxy evolution. The new objects were uncovered via data mining using high-resolution images and large databases, and were followed-up with spectroscopic observations and numerical simulations. This work shows that all the galaxies exhibit old metal-rich stellar populations different from those of dwarf elliptical galaxies of similar masses but similar to those of more massive early-type galaxies, supporting the tidal stripping scenario.

Refereed Publications

- Scale Lengths in Disk Galaxies, Fathi K., Allen M., Boch Th., Hatziminaoglou E., Peletier R., MNRAS, in press, arXiv:1004.1507v1
- The GalMer database: Galaxy Mergers in the Virtual Observatory Chilingarian I., Di Matteo P., Combes F., Melchior A.-L., Semelin B., A&A, in press
- SDSSJ150634.27+013331.6: the second compact elliptical galaxy in the NGC5846 group Chilingarian I & Bergond G., MNRAS Letters, in press
- VisIVO-Integrated Tools and Services for Large-Scale Astrophysical Visualization Becciani et al., 2010, PASP, 122, 119
- The SPECFIND V2.0 catalogue of radio cross-identifications and spectra. SPECFIND meets the Virtual Observatory Vollmer et al., 2009, A&A, in press
- Properties of dusty tori in active galactic nuclei - II. Type 2 AGN Hatziminaoglou et al., MNRAS. 399, 1206
- A population of compact elliptical galaxies detected with the Virtual Observatory Chilingarian et al., Science v.326 p.1379

- SDSS J125637-022452: A High Proper Motion L Subdwarf Sivarani T., Lépine S., Kembhavi A.K., Gupchup J., 2009, ApJL, 694, 140
- The LAEX and NASA portals for CoRoT public data Solano et al., 2009, A&A, in press, arXiv:0907.3405
- The chemical abundance analysis of normal early A- and late B-type stars Fossati et al., 2009, A&A, 503, 945

More Ways to Find VO-related Publications

- All ADS links mentioning the "virtual observatory" in the abstract
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VO CALENDAR

May 17 - 21, 2010 - IVOA Interoperability Meeting
Victoria, Canada
The IVOA Interop Meetings are aimed at making significant progress in defining standards and sharing best practices in the development of the world wide Virtual Observatory initiatives.

June 2 - 4, 2010 - Ecole Observatoire Virtuel
Strasbourg, France
The goal of the school is to expose French astronomers to the variety of VO tools and services available today so that they can use them efficiently for their own research

June 8 - 9, 2010 - Swedish VO Days
Stockholm, Sweden
Hosted by the Stockholm University department of astronomy, this tutorial school for PhD students and researchers will provide an extensive training on the utility of VO tools for researchers in all fields of astronomy and cosmology.

June 16 - 19, 2010 - AstroInformatics 2010
Pasadena, California, USA
The general philosophy behind the conference is to be future-oriented, and essentially define the emerging discipline of AstroInformatics.

June 2010 - Third SVO School
Madrid, Spain
After the successful experience with the first and second schools in Granada (November 2009) and Tenerife (March 2010), the Spanish Virtual Observatory is organising two more schools in Madrid and Barcelona (see below). A large fraction of the school will be dedicated to hands-on exercises, which will allow participants to become fully familiar with the VO tools.

June 29 - July 1, 2010 - 3rd International School in Astronomy: Astroinformatics - Virtual Observatory
Belgrade, Serbia
The scope of our School is international (former Yugoslavia and Europe). Undergraduate and the PhD students (astronomy, physiscs, mathematics) are cordially invited to participate.

September 19 - 25, 2010 - European Planetary Science Congress 2010: VO session MT1
Rome, Italy
Session MT1 of EPSC 2010: "Missions and Techniques - Preparing for Planetary VOs: Science and Tools", aims to foster the development of VO tools and services in all planetary sciences and to offer an opportunity to planetary scientists to share their experiences and promote their projects. The session is open to all aspects of VO development and use having a potential interest for planetary sciences. Abstract deadline May 26.

November 7-11, 2010 - ADASS XX
Boston, Massachusetts, USA
The Astronomical Data Analysis Software and Systems (ADASS) conference provides a forum for scientists and programmers concerned with algorithms, software and software systems employed in the acquisition, reduction, analysis, and dissemination of astronomical data.

November 18-19 , 2010 -Fourth SVO School
Barcelona, Spain
After the successful experience with the first and second schools in Granada (November 2009) and Tenerife (March 2010), the Spanish Virtual Observatory is organising two more schools in Madrid (see above) and

Barcelona. A large fraction of the school will be dedicated to hands-on exercises, which will allow participants to become fully familiar with the VO tools.

November 25-27, 2010 - China-VO 2010
Lijiang, Yunnan, China
The 9th annual workshop for China-VO. These workshops serve as a forum for developers and astronomers to exchange ideas and share experiences.

International Virtual Observatory Alliance

www.ivoa.net

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