IVOA NEWSLETTER

November 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 18 VO programs from Armenia, Australia, Brazil, Canada, China, Europe, France, Germany, Hungary, India, Italy, Japan, Russia, Spain, the United Kingdom, and the United States and inter-governmental organizations (ESA and ESO). Membership is open to other national and international programs 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.

IVOA NEWS

IVOA Science Priorities

The IVOA recognizes the importance of placing useful VO services and tools in the hands of astronomers. The mission of the IVOA Committee on Science Priorities(CSP) is to identify the research needs of the worldwide astronomy community that can benefit from VO related tools and services, and to assist in placing such tools and services into the research community. This committee is responsible for special science sessions at IVOA meetings, for identifying essential science capabilities that will affect IVOA activities, for ensuring coordination among IVOA Working Groups and Interest Groups in quickly establishing standards for such capabilities, and for fostering cross-communication among the astronomy communities and participating VO projects of the IVOA. Further details about the CSP and its activities can be found on the IVOA website. Comments and suggestions about the CSP are most welcome; please contact the chair of the CSP (Dave De Young), with your thoughts and ideas. Image credits*

VO APPLICATIONS HIGHLIGHTS

CDS Portal

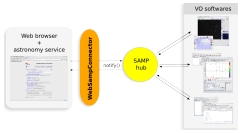
The newly released CDS Portal provides simultaneous access to the CDS services SIMBAD, Aladin, and VizieR through a unique web interface. Searching by astronomical source name or position returns integrated results of object identifiers, images, and catalogues. Results from SIMBAD or VizieR can be saved in the personal storage space provided, and lists of sky coordinates may be uploaded as VOTables (as input to queries).

More information: http://cdsportal.u-strasbg.fr/

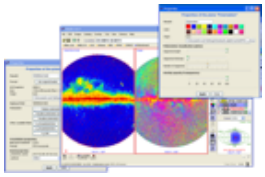
Experimental mobile version: http://cdsportal.u-strasbg.fr/mobile

SAMPy: a Python Module for SAMP Messaging
SAMPy is a Python module developed by the PANDORA group of the Italian VO. SAMPy allows Python scripts to communicate with existing VO applications (i.e. TOPCAT, Aladin, VOSpec, DS9) on one side, and with Python libraries on the other side. With SAMPy, images or tables may be viewed with VO tools via the Python console (or a Python script) and then analysed using existing Python libraries such as SciPy or NumPy, or other specific astronomical software from the AstroPython or AstroPy portals.
More information: http://cosmos.iasf-milano.inaf.it/pandora/sampy.html

VOSA: VO SED Analyzer
VOSA is a tool developed by the Spanish VO designed to determine physical parameters of astronomical objects through the comparison of observed photometry gathered from VO services with synthetic photometry obtained from different collections of theoretical models.
More information: http://svo.cab.inta-csic.es/theory/vosa



WebSampConnector - Stay tuned in to the VO!
WebSampConnector is a client toolkit that enables web-based astronomy services to interoperate and communicate with VO applications: no more save and load, or cut and paste in the VO world! WebSampConnector allows you to broadcast your favorite VOTable or spectrum into VO applications connected to a SAMP hub. It makes it possible to send sky coordinates or a set of table rows from VO software directly into a Web page. Try the demo. WebSampConnector is open source software which has been designed and developed by the VO-Paris team and the SAI OCL developers team. WebSampConnector is fully functional with Firefox and Internet Explorer on Linux and Windows platforms.
More information: http://vo.imcce.fr/webservices/wsc



Aladin 7 Goes "All Sky"
Aladin version 7 is a major new release featuring "All Sky" capabilities for zooming and panning through sky surveys, catalogues, and density maps; with support for HEALPix FITS maps such as PLANCK results. New display options are available for polarisation images and for scatter plots, along with new interface configuration options, and tutorials. In order to facilitate the various VO collaborations, Aladin 7 is distributed with its java sources under a GPL 3 licence.
More information: http://aladin.u-strasbg.fr/aladin.gml

SOME RECENT PAPERS ABOUT VO-ENABLED SCIENCE

Featured Paper

Revisiting the Scale Length-μ_0 Plane and the Freeman Law in the Local Universe, K. Fathi, ApJ, 722, 120 (2010)
This paper explores the Freeman Law for an unprecedented large sample of 30000 disk galaxies, selected and retrieved using VO technologies. Up to now, all observational statements related to the Freeman Law were based on a few tens of galaxies. The present study is the first based on a sample large enough to yield a statistically conclusive result out to z=0.3. This robust result is a leap forward in establishing the Freeman Law, and provides a test bed for numerical simulations for galaxy formation and evolution, challenging theoretical galaxy formation models to explain it. The confirmation of the Freeman Law led to a press release that was picked up by more than 20 news agencies world-wide in 10 different languages. This paper is a sequel to a first paper calculating the scale length of the same 30000 galaxies, a result of the first EuroVO-AIDA Research Initiative [Fathi et al., MNRAS, 406, 1595, (2010)].

Refereed Publications

- Virtual Observatory based identification of AX J194939+2631 as a new cataclysmic variable, Zolotukhin I., Chilingarian I., A&A, in press

- Sample of LMXBs in the Galactic bulge. I. Optical and near-infrared constraints from the Virtual Observatory, Zolotukhin I., Revnivtsev M., MNRAS, in press
- Identification of blue high proper motion objects in Tycho-2 and 2MASS catalogues using Virtual Observatory tools, Jimenez-Esteban F.M., Caballero J.A., Solano E., A&A, in press
- The international outer planets watch atmospheres node database of giant-planet images, Hueso R., Legarreta J., Perez-Hoyos S., Rojas J.F., Sanchez-Lavega A., Morgado A., 2010, P&SS, 58, 1152
- The GalMer database: Galaxy Mergers in the Virtual Observatory, Chilingarian I., Di Matteo P., Combes F., Melchior A.-L., Semelin B., 2010. A&A, 518, 61 +
- POLLUX: a database of synthetic stellar spectra, Palacios A., Gebran M., Josselin E., Martins F., Plez B., Belmas M., Lebre A., 2010, A&A, 516, 13
- Scalelength of disk galaxies, Fathi K., Allen M., Boch Th., Hatziminaoglou E., Peletier R., 2010, MNRAS, 406, 1595
- SDSSJ150634.27+013331.6: the second compact elliptical galaxy in the NGC5846 group, Chilingarian I & Bergond G., 2010, MNRAS Letters, 405, L11
- The SPECFIND V2.0 catalogue of radio cross-identifications and spectra. SPECFIND meets the Virtual Observatory, Vollmer et al., 2010, A&A, 511, 53
- Data Mining and Machine Learning in Astronomy, Ball M., Brunner R.J., 2010, IJMPD, 19, 1049

More Ways to Find VO-related Publications

- All ADS links mentioning the "virtual observatory" in the abstract
- All refereed publications mentioning the "virtual observatory" in the abstract

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VO CALENDAR

December 7-11, 2010 - IVOA Interoperability Meeting
Nara, Japan
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.

16-18th February, 2011- The International Centre for Radio Astronomy Research Astroinformatics School
Perth, Western Australia
This Astroinformatics School for postgraduate students and other interested astronomers includes a broad program of lectures and tutorials to serve as an introduction to a selection of common tools for enhancing astronomy research.

March 2011 - Euro-VO School
Exact date & location TBD, more information will appear soon on the EuroVO website.

May 16-20, 2011 - IVOA Interoperability Meeting
Naples, Italy
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.

September 19-23, 2010 - IAU Symposium 285: New Horizons in Time Domain Astronomy
Oxford, United Kingdom
This symposium will will cover all aspects of time-domain astronomy, describe the status of relevant data and analysis tools including the VO and explore ways to harness technology and collaboration so as to meet newly-identified challenges in time-domain astronomical research.

International Virtual Observatory Alliance

www.ivoa.net

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