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ALADIN, A PORTAL FOR THE VIRTUAL OBSERVATORY

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Abstract. Created 9 years ago, the ALADIN (Bonnarel et al. 2000) sky atlas tool has become a widely-used VO (Virtual Observatory) portal capable of locating data of interest, accessing and exploring distributed datasets, and visualizing multi-wavelength data. Its compliance with existing or emerging VO standards, interconnection with other visualization or analysis tools, and its ability to easily compare heterogeneous data are key features that make Aladin a powerful data exploration and integration tool as well as a science enabler.

1 Introduction

We present the latest Aladin[2] developments including simultaneous access and query to data servers discovered via the IVOA registry, overlays of user-defined instrument fields of view, access to solar system database (SkyBOT) in collaboration with IMCCE and compatibility with the PLASTIC (PLatform for AStronomical Tools InterCommunication) protocol to facilitate easy connection between VO tools.

2 Discovery and access to VO services

The 'All-VO' function allows one to discover and query available VO services.
Query results are displayed in a hierarchical tree which provides a flexible way to explore all available data for a given region of the sky. Then, the user selects data of interest in order to load them in Aladin or in VOSpec for spectral data.
IVOA standards used are : Registries, Data Access Layer protocols (SIAP (Simple Image Access Protocol), SSAP (Simple Spectrum Access Protocol) and ConeSearch for catalogues.

3 Instruments fields of view

In addition to a list of predefined fields of view, the user can load his/her own description of an instrument field of view in Aladin.
Once loaded, the FoV (Field of View) can be moved or orientated with the mouse or by script commands, as shown in fig. 1.

4 Access to SkyBOT

In collaboration with IMCCE, CDS has developed an access to SkyBOT[3] (Berthier et. al 2006), the service providing ephemerides of solar system objects.
For given region of the sky and epoch, we retrieve solar system objects identified as being located in this field of view at the proper time.
Different additional informations can be plotted: trajectory, positional errors, names of asteroids, etc (using visualization 'filters'). See fig. 2 for examples.

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[2] http://aladin.u-strasbg.fr/
[3] http://www.imcce.fr/webservices/skybot/

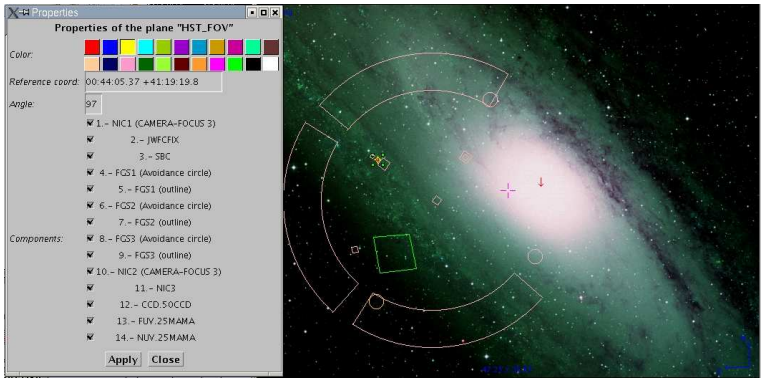

Fig. 1. Fields of View of several HST instruments overlaid on a RGB image of M31

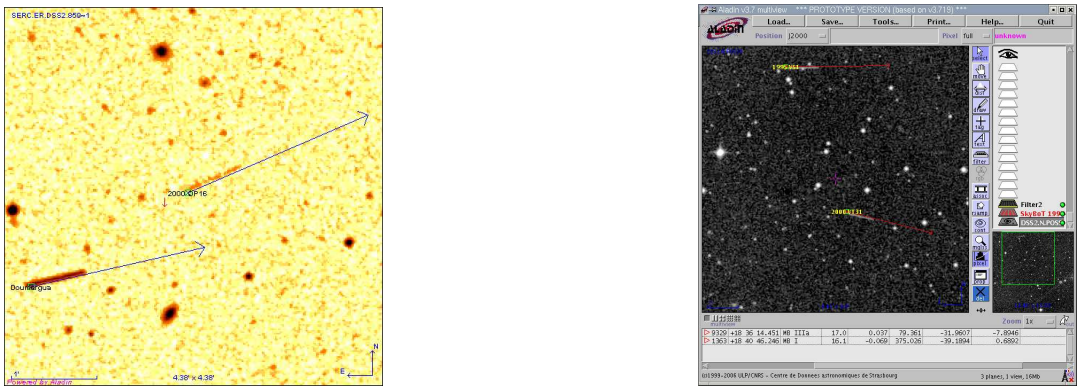

Fig. 2. Asteroids trails on DSS plates identified by SkyBOT and displayed in Aladin

5 PLASTIC

Aladin is compatible with PLASTIC[4] (PLatform for AStronomical Tools InterCommunication), a protocol developed by the european VOTech project allowing to interface applications in a language-neutral way (Taylor et. al 2006).
The PLASTIC compatibility offers easy exchange of data (VOTable, FITS) between Aladin and any other PLASTIC-compatible application (e.g: TOPCAT, VisIVO). It also allows to use 'linked views' between different applications to explore a given dataset.

6 Acknowledgments

Some of the new features (Instrument footprints description, PLASTIC) have been developed in the frame of the european VOTech project (Dolensky et. al 2006).

References

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[4]http://plastic.sf.net/
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