

ESA Science Archives & ESA-VO Project

Archives

XMM-Newton

<http://xmm.esac.esa.int/xsa/>

Planetary Missions

<http://www.rssd.esa.int/psa/>

Infrared Space Observatory

<http://iso.esac.esa.int/ida/>

Integral Archive

<http://integral.esac.esa.int/isda/>

The European Space Astronomy Centre hosts most of ESA's space-based missions scientific archives. From the Infrared Space Observatory Data Archive to the most recent Planetary Science Archive, the Science Archives Team has been in charge of developing and maintaining state-of-the-art, highly reliable and scientifically relevant archives.

3-Tier Architecture

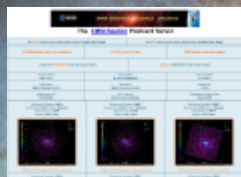
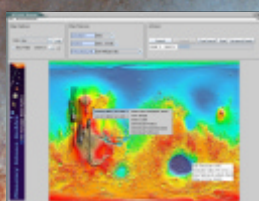


All archives are developed following a modular 3-Tier client/server architecture that improves re-usability of code and flexibility to implement new features and can be accessed online or downloaded as standalone applications.

Main Features

All archives provide a query based interface to perform the following tasks

- Queries on project specific metadata
- Search by target and multiple coordinates systems
- Handle proprietary rights
- Authentication
- Direct download and shopping basket retrieval
- Access to spectra and image visualization tools



Interoperability

The Archive InterOperability Subsystem (AIO) allows users to query for metadata and request for data both in URL and raw socket mode.

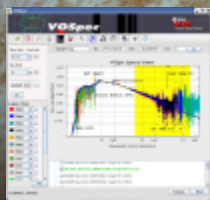


VO Compliance

Integration with standard tools (ds9) and specific VO tools like VOSpec and Aladin

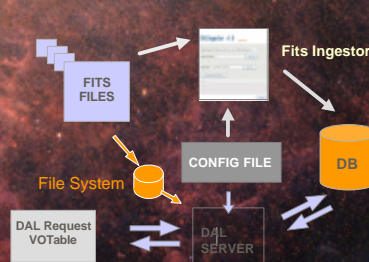
VO compliant with SIAP, SSAP, Skynode etc...

VOSpec : VO Tool to handle Spectra



- First official release: September 2004
- Available at: <http://esavo.esa.int/vospec>
- Fully VO compatible :
 - . Access to SSAP Servers from VO Registry
 - . VOTable parsing using SSAP query
- Smart handling and conversion of units using dimensional analysis
- SED builder and visualization
- Development of Theoretical Server Access Protocol in collaboration with Spanish VO
- Development of Simple Line Access Protocol to display Spectral Line information from worldwide Atomic and Molecular Line databases
- SSAP Wrapper Creator
- Plastic functionalities

DALToolKit



Other VO-related activities

- VO Layer implementation on ESA Archives (SIAP, SSAP, SLAP, SkyNodes...)
- Participation in the following IVOA standards docs:
 - UCD Document
 - SSAP Document
 - Source Catalogue DM
 - Line DM
 - Simple Line Access protocol (SLAP)
 - Theoretical Simple Access Protocol
- Part of the EUROVO project

ESAVO Full Harvestable Registry



First official release: September 2005
Upgrade to current specification v1.0 for the end of the year.

Search Resources

Allows to search among the different resource types in the Registry.

Insert Resources

Allows the insertion of a new Resource in the ESAVO Registry.

Update Resources

Allows the edition of a Resource that resides in the ESAVO Registry.

Registry Quick Search

Allows for a quick search on a string.

ESA GRID

The already installed GRID allows Scientists to issue intensive CPU processing jobs, and the GRID will be used in a near future for data Pipeline Processing of the different missions.



VOQuest/DMMapper

VOQuest is a tool to consume Source Catalog Data Model aware services

DMMapper is a server mapping your database structure to specific Data Model e.g Source Catalog Data Model

Make use of multiple VO standards and protocols like:

- ADQL
- Source Catalog Data Model (SCDM)
- VOTable
- Interoperates with VO client applications like VOSpec, Topcat and Aladin through PLASTIC

