



VOSpec 5

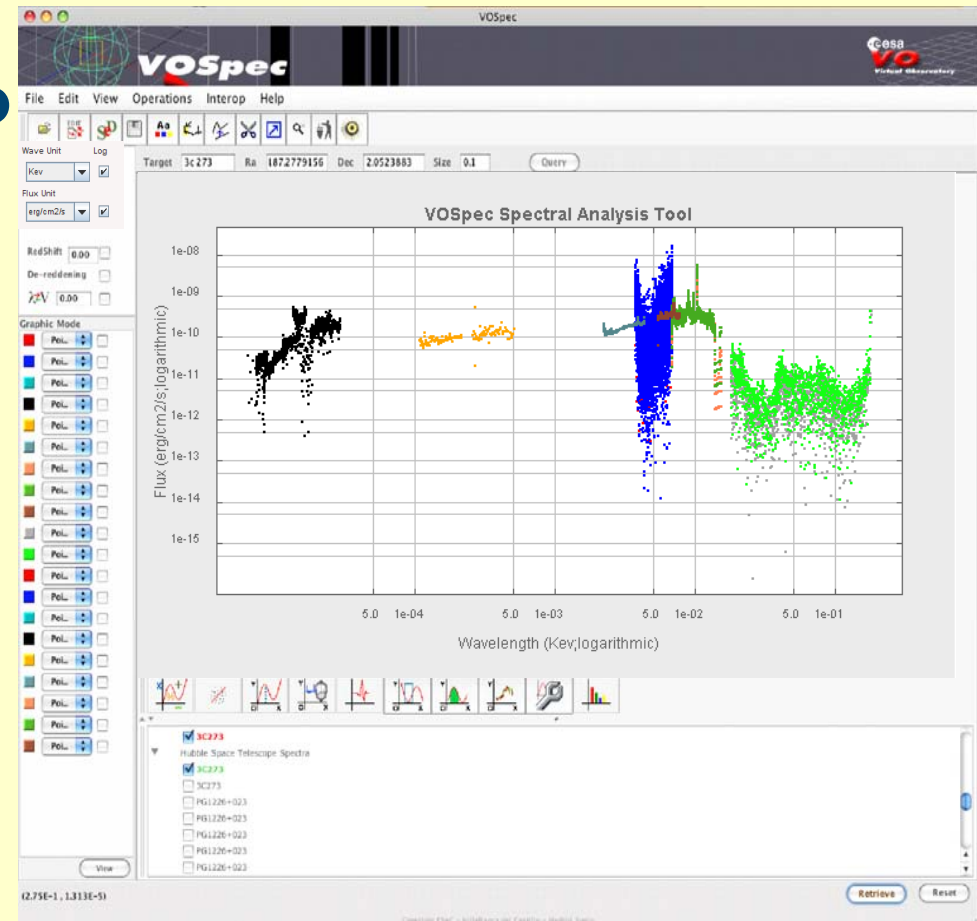
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VOSpec



- ❑ Multi-wavelength spectral analysis tool developed at ESAC by ESA-VO
- ❑ Create a SED with spectra from:
 - a wide range of different providers registered in the VO Registry
 - local data (FITS, ASCII, VOT)
 - User-friendly (*true!*) SSAP Wrapper applied on your own set of local spectra.
- ❑ Graphical options:
 - plot colour, title and axis label modifications; Zoom/unzoom; Automatic conversion of all units via dimensional analysis.
- ❑ Interoperability through Plastic Technology with other VO-aware tools such as Aladin, Astroscope, TOPCAT, etc.



VOSpec 5



❑ Released on 26th March 2009.

- 9 new functionalities
- 20 enhancements
- + 27 bugs fixed

❑ New functionalities include:

- Better registry management (IF updated to REC 1.01)
 - Everything online (Resolving + Registry query + parameters)
 - Local Registry
- Improved spectra handling capabilities
 - Dual spectra selector window
 - Distance sorting, reconfigurable tree
- Best fit algorithm

❑ Enhancements include:

- SSA interface updated to REC 1.04
- NVO SED library inclusion for spectra SDM 1.0+ compatible



Registry management

□ Better Registry management

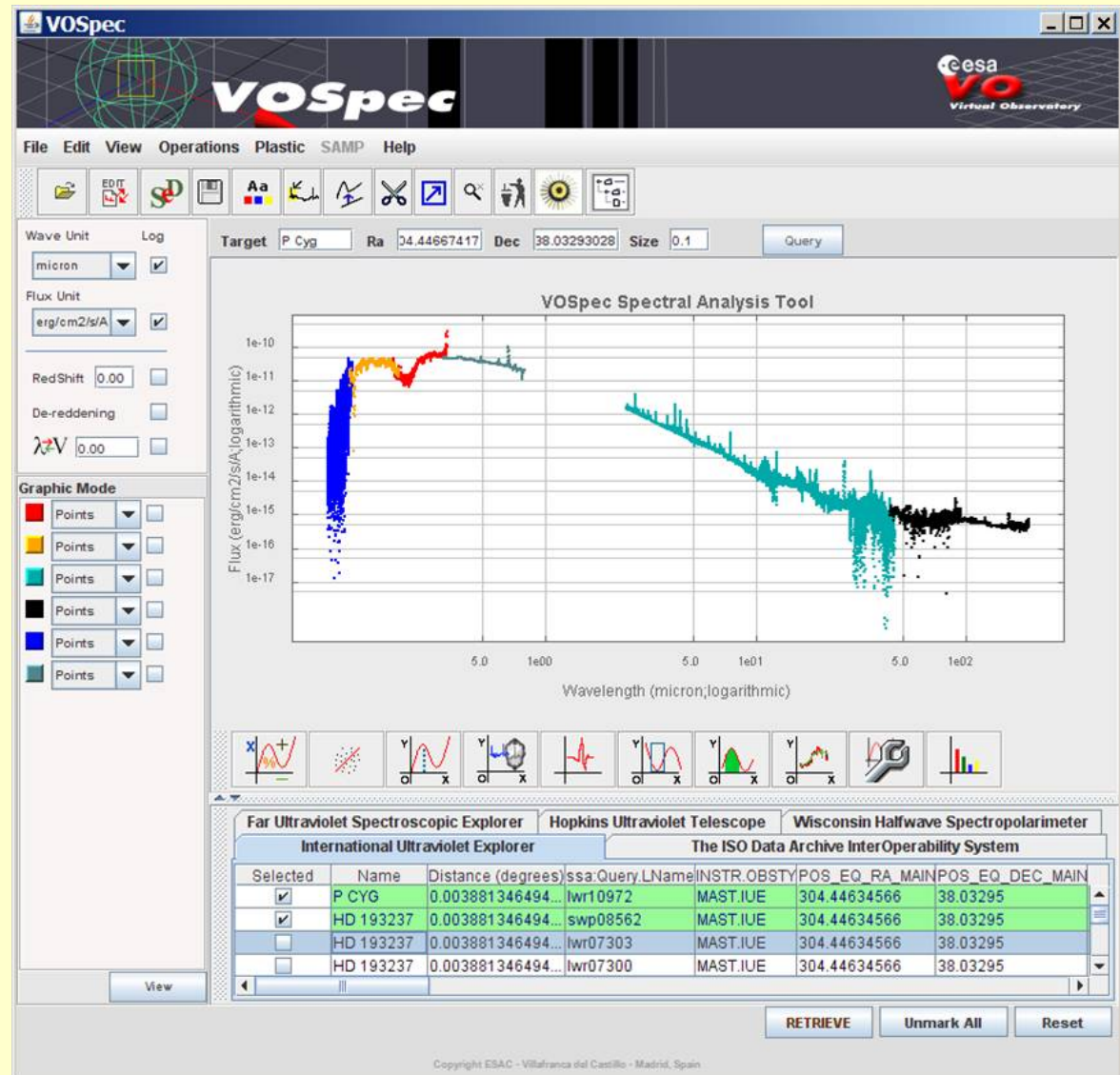
- Registry interface updated to REC 1.01
- Everything online (obj. resolving, Registry query, parameters queries)
- Local Registry

The screenshot shows the 'Server Selector' application window. It is divided into several sections:

- Query by Service:** A list of services with checkboxes. Some are green, indicating they are online. Selected services include 'Hubble Space Telescope Spectra', 'HyperLeda FITS Archive Simple Spectrum', and 'The ISO Data Archive InterOperability System'.
- Query by params:** A tree view showing a query structure. The root is 'Query', which branches into 'Simple Query', 'Advanced Query', and 'Service Specific Query'. Under 'Simple Query', parameters are set to 'TARGET.NAME ab aur', 'POS 73,94101875,30,55119222', and 'SIZE 1'. Under 'Service Specific Query', several services are listed, including 'ESO Spectrum Service', 'The ISO Data Archive InterOperability System', 'Hubble Space Telescope Spectra', and 'HyperLeda FITS Archive Simple Spectrum Data Access(HFA SSA)'.
- Query Outlook:** A section with buttons for 'Refresh', 'Add SSA/TSA', and 'Select All SSA'. Below these buttons is a list of URLs, including 'http://archive.eso.org/apps/ssaserver/EsoProxySoap...' and 'http://ida.esao.esa.int:8080/aiio/jsp/siap.jsp?imageTyp...'.
- Insert Param Value:** A section with a text input field and an 'Add' button. Below it are 'Query' and 'Reset' buttons.

Spectra handling

- Improved spectra handling capabilities:
 - Dual spectra selector window
 - Distance sorting
 - Reconfigurable tree



Spectra handling

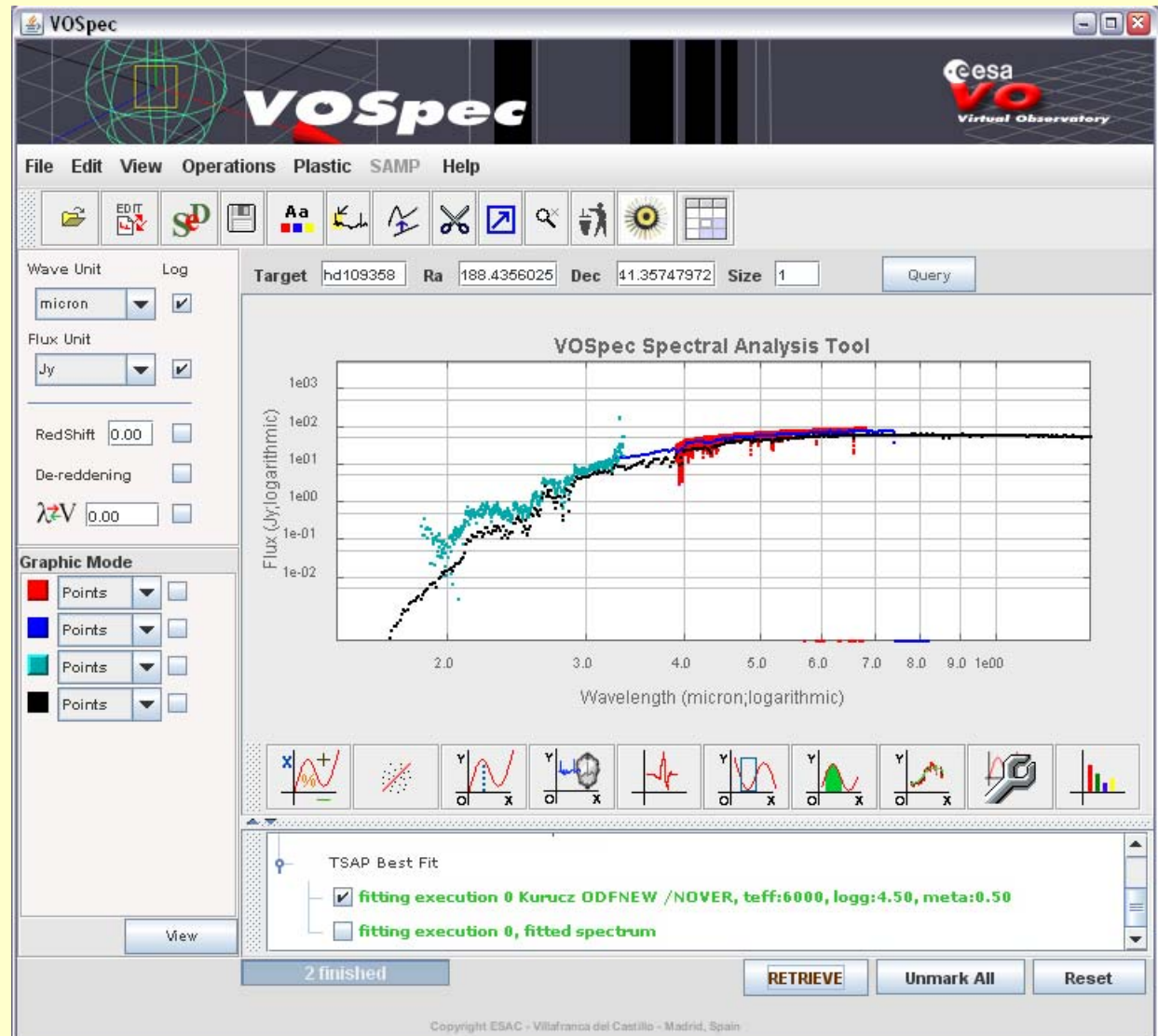




Best fit algorithm

Best Fit

- Chi-square function measures agreement between real and theoretical spectrum
- Fitting process uses a Levenberg-Marquardt algorithm that minimizes the chi-square function.



Best Fit





Other enhancements

☐ Enhancements include:

- SSA interface updated to REC 1.04
- NVO SED library inclusion for spectra SDM 1.0+ compatible
- Legacy native formats parser / SDM 1.0 library criterion:
 - Dataset.Datamodel = Spectrum-1.0 AND Access.Format = VOTable



Versioning

❑ VOSpec 5.0

- Released Stable on 26th March 2009
- Improved spectra handling

❑ VOSpec 5.1

- Released Stable on 21st May 2009
 - <http://esavo.esac.esa.int/vospec>
- Improved Registry management

❑ VOSpec 5.5

- Released **Beta 1** on 21st May 2009
 - <http://esavo02.esac.esa.int/vospec>
- Best fit algorithm



Future work

□ New functionalities:

- Errors
- Multiple target

□ Enhancements:

- SAMP

The screenshot shows the eSupport website interface. At the top left is the eSupport logo, and at the top right is the date "25 Mar 2009". Below the header is a "Support Center" section with six main links: "Register" (with a group of people icon), "Submit a Ticket" (with an envelope icon), "Knowledgebase" (with a question mark icon), "Troubleshooter" (with a puzzle piece icon), "News" (with a newspaper icon), and "Downloads" (with a folder icon). Each link has a brief description. To the right of these links is a "Login" form with fields for "Email:" and "Password:", a "Remember Me:" checkbox, and a "Login" button. Below the login form is a "Search" section with a search input field, a "Search" button, and a dropdown menu set to "-- Entire Support Site --". At the bottom of the page is a navigation bar with links for "Home", "Register", "Submit a Ticket", "Knowledgebase", "Troubleshooter", "News", and "Downloads", along with a "Language:" dropdown set to "English (U.S.)". A footer at the very bottom reads "Help Desk Software By Kayako eSupport v3.00.13".

To know more



☐ VOSpec web pages:
<http://esavo.esac.esa.int>

☐ To launch
VOSpec:
<http://esavo.esac.esa.int/vospec/>

Research & Science Home ESA Public Web Site Sci-Tech Portal

esa **Research Science Portal** European Space Agency Science Faculty

Astrophysics Missions Planetary Exploration Missions Solar Terrestrial Science Missions Fundamental Physics Missions 18-November-2008 14:06:29

ESA-VO Project

- Introduction
- News / Events
- Team Members
- Science Archives

Technical

- Introduction
- VOSpec
- Registry
- DAL Projects
- VOQL

Science

- Introduction
- Workflows
- VO Recipes
- Science Cases
- Scientific Papers

Restricted Items

- Facilities
- Document Portal
- My Portal

Restricted Access Logon

UserID: Pass:

Automated Password Reset

Restricted Search (Guest)

Advanced Search

Bookmarks

- Make this my Home Page

VOSpec: a VO Spectral Analysis Tool

VOSpec is the answer from ESAVO Team to the demand of having a solid tool able to handle Spectra in the VO context as well as providing analysis capabilities and easy integration of spectra coming from different data providers, wavelengths, and different metadata (like e.g. units).

VOSpec can be started in several ways:

- through the [VOSpec applet](#)
- through [WebStart](#)
- through [external calls](#) to your pages

A User Manual for VOSpec functionalities can be started from the tool itself, and can also be found [here](#).

A specific Mathematical Algorithms User Manual is under preparation and will be available at these pages soon.

You can find some [examples of Scientific Usage of VOSpec](#) in the recipes section of the EuroVO Web Pages and on the Science section of ESAVO.

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Some AVI and Flash videos follow where you can see different functionalities of VOSpec. Should you have any question, please proceed to the ESAVO Helpdesk system and send us your comments, questions and suggestions.

VOSpec basic This video show basic functionalities for VO Spectra handling within VOSpec: access to SSAP services, homogeneous display of