VOSpec 5

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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.
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
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 26\textsuperscript{th} March 2009
  - Improved spectra handling

- **VOSpec 5.1**
  - Released Stable on 21\textsuperscript{st} May 2009
    - [http://esavo.esac.esa.int/vospec](http://esavo.esac.esa.int/vospec)
    - Improved Registry management

- **VOSpec 5.5**
  - Released Beta 1 on 21\textsuperscript{st} May 2009
    - [http://esavo02.esac.esa.int/vospec](http://esavo02.esac.esa.int/vospec)
    - Best fit algorithm
Future work

- New functionalities:
  - Errors
  - Multiple target

- Enhancements:
  - SAMP
To know more

- VOSpec web pages: http://esavo.esac.esa.int
- To launch VOSpec: http://esavo.esac.esa.int/vospec/

VOSpec: a VO Spectral Analysis Tool

VOSpec is the answer from ESA VO 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 button
- through webVOT
- 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 ESA VO.

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

IVOA Interop Meeting - Strasbourg

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