

# VOSED

## A tool for Building Spectral Energy Distributions.

Comparison with theoretical models

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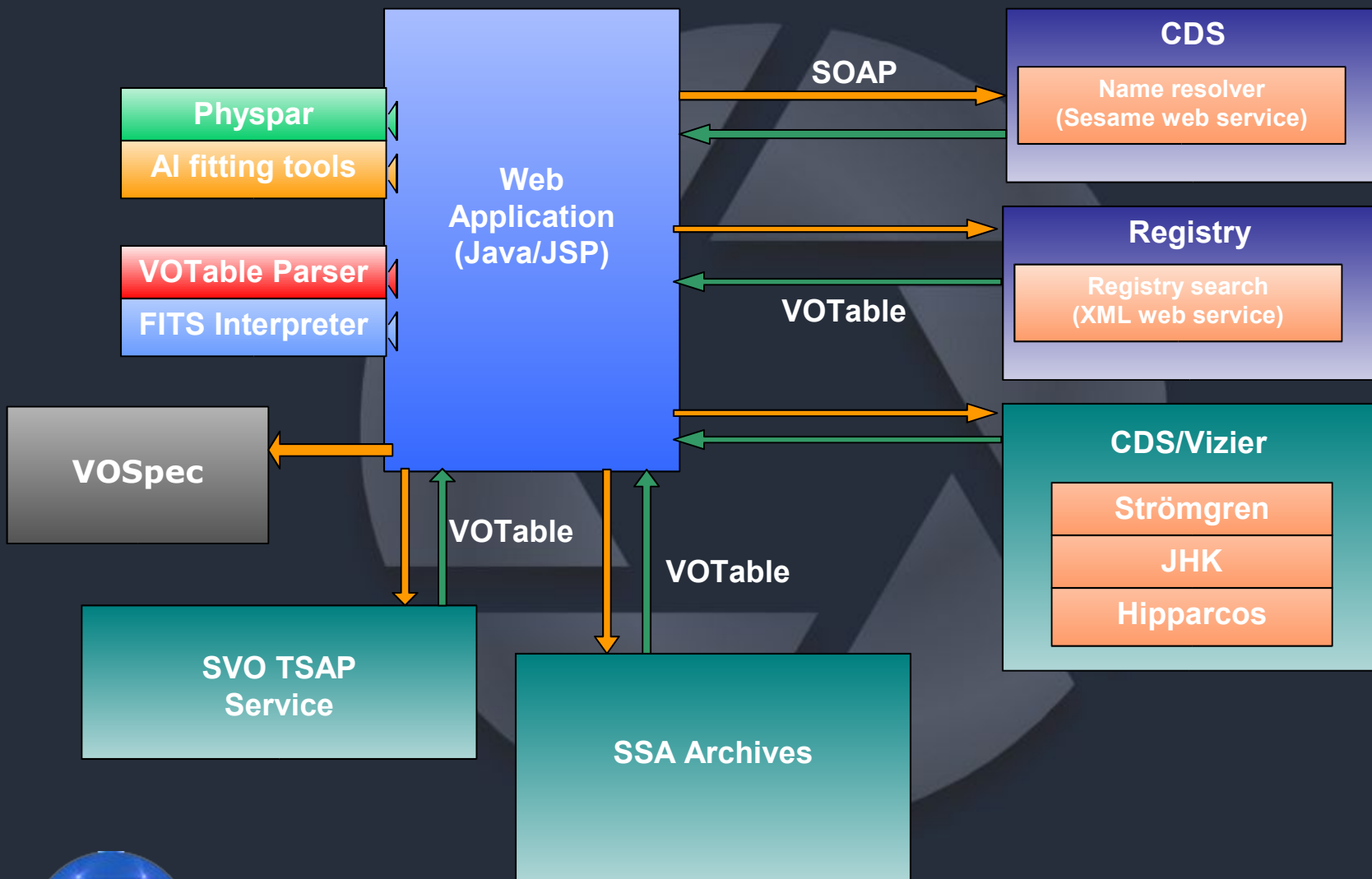
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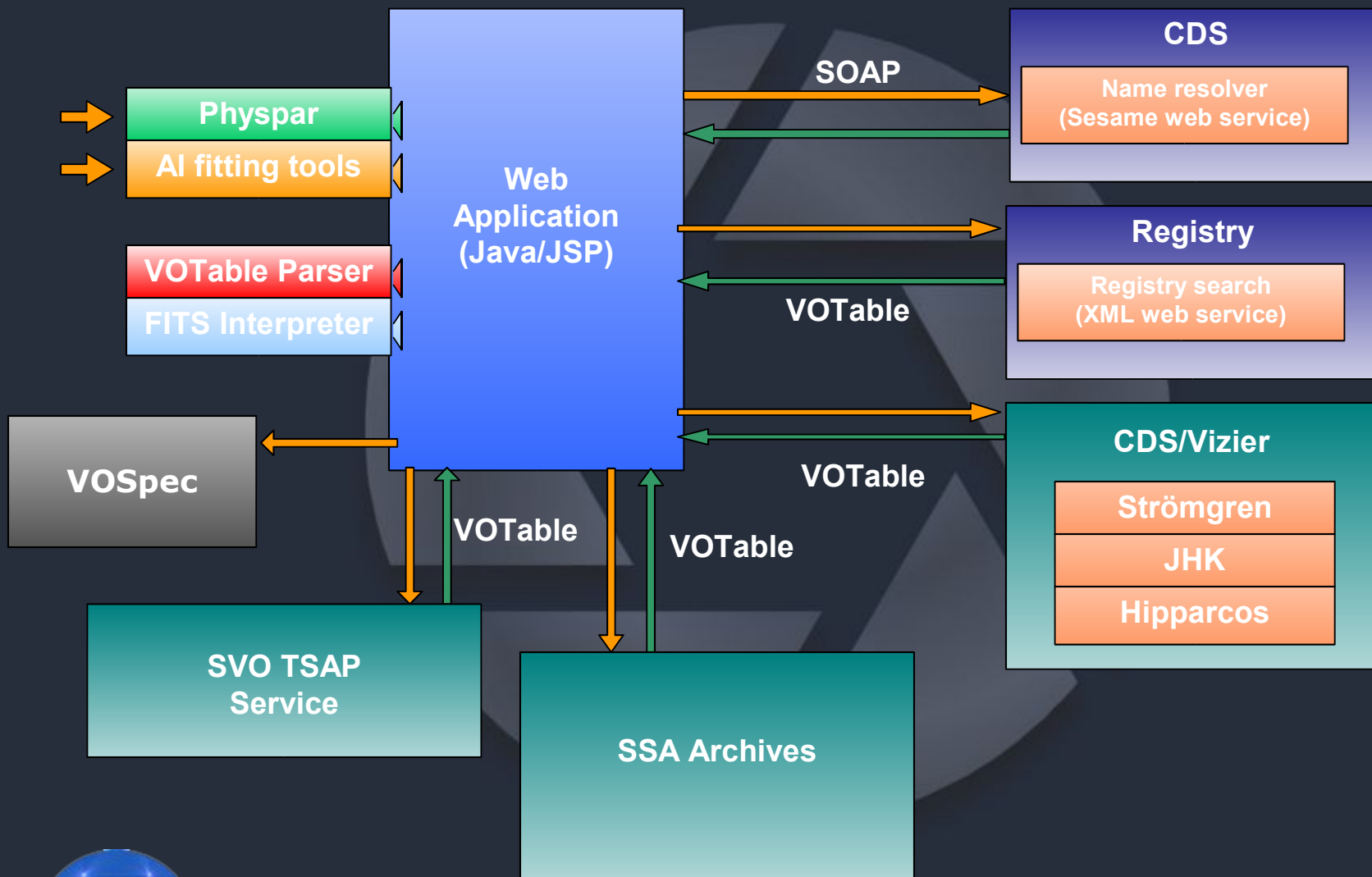
<http://laeff.esa.es/svo/>

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# System Architecture



# Workflow



# Search Form

Search by object name or coordinates

Registered SSAP services

Catalogue info (Vizier)

LAEFF VOSED - Search form - Mozilla Firefox

File Edit View Go Bookmarks Tools Help

SVO LAEFF VOSED - Search form (Untitled)

**SVO** Spanish Virtual Observatory

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SED Fitting Tool: Search Form

Object ID:   [Reset](#)

Position: R.A.:    DEC.:    Size:

Data Services:

Spectroscopic Data

- Infrared Space Observatory Simple Spectrum Data Access
- Hubble Space Telescope Faint Object Spectrograph
- HyperLeda FITS Archive Simple Spectrum Data Access
- INES: The IUE Newly Extracted Spectra
- Far Ultraviolet Spectroscopic Explorer (Simple Spectrum Data Access)
- Infrared Space Observatory Simple Spectrum Data Access
- The GIRAFFE Archive (Science Ready Data)
- Sloan Digital Sky Survey Simple Spectrum Data Access
- Spectrum Service @ JHU - TEST VERSION
- Hubble Space Telescope Spectra
- Extreme Ultraviolet Explorer Merged Spectra
- Hopkins Ultraviolet Telescope
- Wisconsin Ultraviolet Photo-Polarimeter Experiment

Photometric Data

uvby $\beta$  Strömgren photometry: Hauck & Mermilliod Explore Vizier

JHK photometry: 2MASS Explore Vizier

Hipparcos Photometry: Hipparcos Explore Vizier

Done



# Search Form (II)

User's data from  
file or form.

**JHK photometry:**  2MASS  Explore Vizier

**Hipparcos Photometry:**  Hipparcos  Explore Vizier

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**User's Data:**

Magnitudes

U  u  J   
B  v  H   
V  b  K   
R  y   
I

Stellar Physical Parameters

	Value	Error
Teff	8625	200
log g	4.20	0.20
M/H	-0.8	0.1
E(B-V)	0.05	

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Done



# Main results page

**Resolved Object**

Search Name	hd141569
SIMBAD Name	HD 141569
Type	pMS*
RA	237.49062
DEC	-3.92121

**Equivalent Names**

BD-03 3833	CCDM J15500-0355A	CSI-03 3833 1	[DML87] 382
EM* CDS 887	GC 21274	GSC 05026-00042	HD 141569A
HIC 77542	HIP 77542	IDS 15447-0337 A	IRAS 15473-0346
PDS 398	PPM 198989	SAO 140789	SKY# 28618
TD1 18598	TYC 5026- 42-1	uvby98 100141569 ABC	YZ 93 5502

**Products found matching your criteria**  
POS = 237.49062 , -3.921211 SIZE = 0.083333

Infrared Space Observatory Simple Spectrum Data Access	3
Hubble Space Telescope Faint Object Spectrograph	0
HyperLeda FITS Archive Simple Spectrum Data Access	0
INES: The IUE Newly Extracted Spectra	9
Far Ultraviolet Spectroscopic Explorer (Simple Spectrum Data Access)	1
Infrared Space Observatory Simple Spectrum Data Access	3
The GIRAFFE Archive (Science Ready Data)	0
Sloan Digital Sky Survey Simple Spectrum Data Access	0
Spectrum Service @ JHU - TEST VERSION	0
Hubble Space Telescope Spectra	0
Extreme Ultraviolet Explorer Merged Spectra	0
Hopkins Ultraviolet Telescope	0
Wisconsin Ultraviolet Photo-Polarimeter Experiment	0
uvbyβ photometry	1
JHK photometry	30
Hipparcos photometry	1

**Stellar Physical Parameters**

	Value	Error
Teff (IR)	8227	131
Teff (Strömgren)	10206	
log g	4.07	
M/H		
E(B-V)	0.0	0.0
Flags	021122	
Strömgren Dist. (pc)	168.2	
Adopted Dist. (pc)	99.0	
Chi²	0.059	

Summary of the found information.

Object info from Sesame Web Service (CDS)

Computed (red) or user entered (black) physical parameters.



# Main results page (II)

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### Infrared Space Observatory Simple Spectrum Data Access ^

Mark	ObsId	Reference	Target_Name	Start_Time	Start_Time
<input type="checkbox"/>	62701509	<a href="#">FITS File</a>	ISO LWS01 Spectrum Target: HD 141569	1997-08-04 08:01:27.624	1997-08-04 08:01:27.624
<input type="checkbox"/>	62701662	<a href="#">FITS File</a>	ISO PHT40 Spectrum Target: HD141569	1997-08-04 09:02:39.624	1997-08-04 09:02:39.624
<input type="checkbox"/>	62802937	<a href="#">FITS File</a>	ISO SWS01 Spectrum Target: HD 141569	1997-08-05 05:40:44.624	1997-08-05 05:40:44.624

### Hubble Space Telescope Faint Object Spectrograph ^

No results found.

### HyperLeda FITS Archive Simple Spectrum Data Access ^

No results found.

### INES: The IUE Newly Extracted Spectra ^

Mark	ImageTitle	Camera	Image	Dispersion	Aperture	Object	
<input type="checkbox"/>	IUE/INES Spectrum: LWP12988RL, Target: HD 141569 A	LWP	12988	HIGH	LARGE	HD 141569 A	2
<input type="checkbox"/>	IUE/INES Spectrum: LWP12988HL, Target: HD 141569 A	LWP	12988	HIGH	LARGE	HD 141569 A	2
<input type="checkbox"/>	IUE/INES Spectrum: LWP20658RL, Target: HD 141569 A	LWP	20658	HIGH	LARGE	HD 141569 A	2
<input type="checkbox"/>	IUE/INES Spectrum: LWP20658HL, Target: HD 141569 A	LWP	20658	HIGH	LARGE	HD 141569 A	2
<input type="checkbox"/>	IUE/INES Spectrum: LWP20407RL, Target: HD 141569 A	LWP	20407	HIGH	LARGE	HD 141569 A	2

Done





# Main results page (III)

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File Edit View Go Bookmarks Tools Help

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### Wisconsin Ultraviolet Photo-Polarimeter Experiment ^

No results found.

### Stromgren Photometry (from Vizier: III/215) ^

Mark	distance	_RAJ2000	_DEJ2000	LID	m_LID	Vmag	e_Vmag	b-y	e_b-y
<input checked="" type="checkbox"/>	0.03923	237.490	-3.921	0100141569	ABC	7.152	0.028	0.071	0.004

### 2MASS Photometry (from Vizier: III/246) ^

Mark	distance	RAJ2000	DEJ2000	Jmag	e_Jmag	Hmag	e_Hmag	Kmag	e_Kmag
20 nearest sources displayed but 30 are available.									
<input checked="" type="checkbox"/>	0.00281	237.490646	-03.921172	6.872	0.027	6.861	0.040	6.821	0.026
<input type="checkbox"/>	0.13458	237.488939	-03.919722	9.044	0.035	8.356	0.029	8.100	0.019
<input type="checkbox"/>	0.21897	237.493435	-03.923542	15.907	0.257	14.668		14.881	
<input type="checkbox"/>	0.28368	237.491808	-03.916634	15.255	0.273	15.197	0.149	15.259	0.199
<input type="checkbox"/>	0.29362	237.486925	-03.917993	15.536	0.673	13.886		13.862	
<input type="checkbox"/>	1.86391	237.515698	-03.902797	16.614	0.152	15.887		15.599	0.256
<input type="checkbox"/>	1.88637	237.503154	-03.950057	16.544	0.131	16.555		16.532	
<input type="checkbox"/>	1.94681	237.463995	-03.902578	16.656	0.145	15.843	0.192	15.774	
<input type="checkbox"/>	1.98763	237.459991	-03.934004	15.850	0.071	15.374	0.114	15.291	0.172

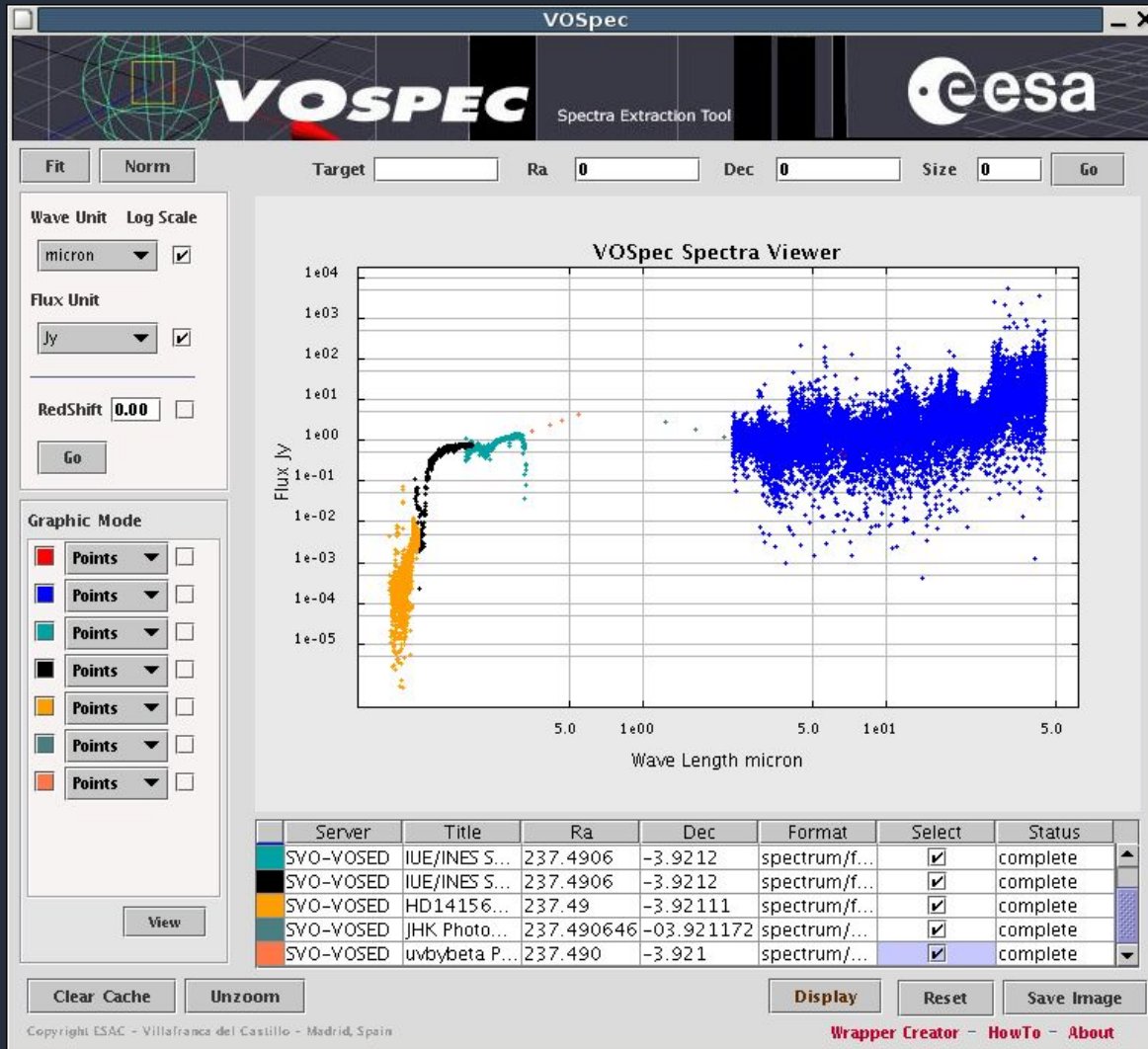
Done

Magnitudes converted to fluxes using appropriated calibrations (eg. Cohen et al. 2003)





# SED



Time	Start Time
0:27.680	1997-08-04 08:
2:39.680	1997-08-04 09:
0:44.680	1997-08-05 05:



# Model Fitting tool

http://marconi:8080 - LAEFF VOSED - Bayes - Mozilla Firefox

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**Best ten models (most probable first):**

Teff (°K)	Age (myr)	cos(i)	R <sub>d</sub> (AU)	R <sub>h</sub> (R <sub>⊙</sub> )	Mdot (M <sub>sun</sub> /yr)	α	Slope	Amax (μm)
10000	10	0.86	300	84	1e-6	0.01	2.5	1.0
10000	10	0.5	300	58	1e-7	0.01	2.5	10.0
10000	10	0.5	800	54	1e-9	0.01	2.5	1.0
10000	10	0.5	300	58	1e-7	0.01	3.5	100
10000	10	0.5	800	54	1e-9	0.01	3.5	1.0
10000	10	0.5	300	58	1e-7	0.01	3.5	1mm
10000	10	0.5	300	58	1e-7	0.01	3.5	10.0
10000	10	0.5	300	84	1e-6	0.01	3.5	10cm
10000	10	0.5	800	84	1e-6	0.01	3.5	10cm
10000	10	0.5	800	54	1e-9	0.01	3.5	10.0

Next time you ask for a display, the calculated models will be available for you to plot.

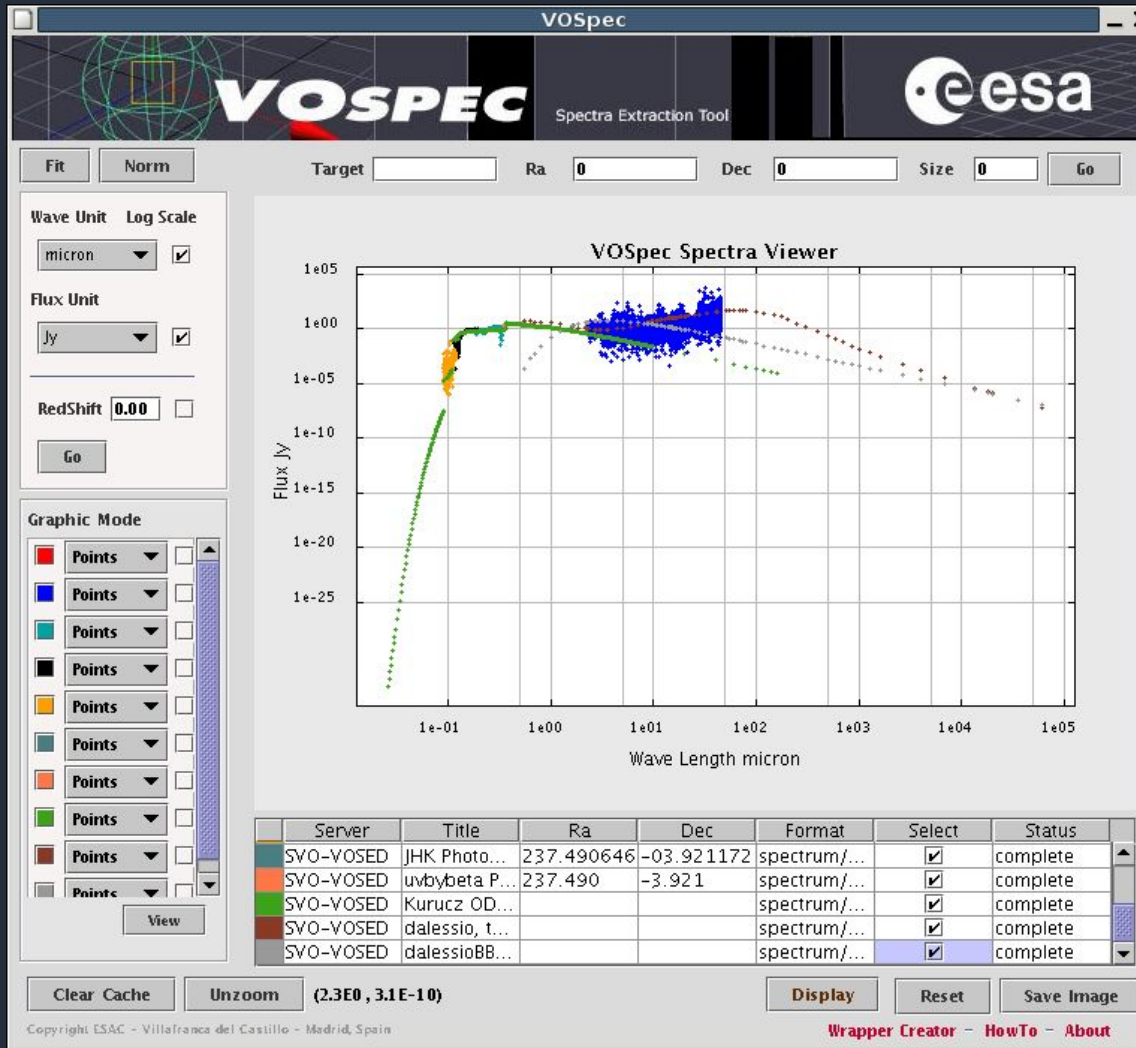
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Done Done



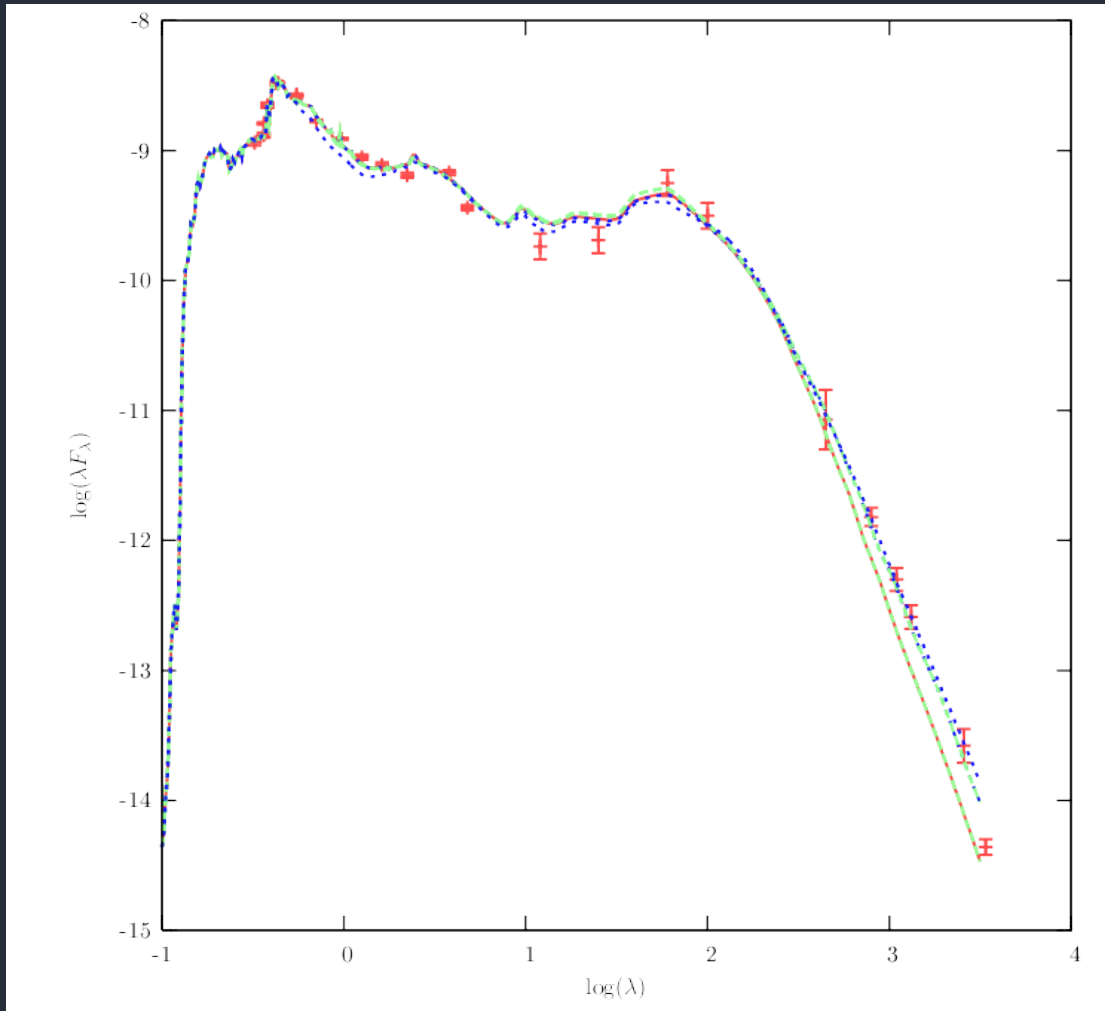
# SED & Model



me	Start_Ti
01:27.680	1997-08-04 08:
02:39.680	1997-08-04 09:
40:44.680	1997-08-05 05:



# How good is the fitting?



— Merín et al (2004)  
(traditional method)



# Thank you

URL

<http://sdc.laeff.esa.es/vosed/>

Your feedback is welcomed.

