

# POLLUX

Ph. Prugniel, CRAL, Lyon

# travailler ensemble

# périmètre

# collections

# services

# data models

# mesure de l'impact

# interoperabilité

# fonctionnalités

# pérennité

# sécurité

# # périmètre

- PTNS (2017)

# # périmètre

- PTNS (2017)
  - => Spectres stellaires (observés, synthétiques)

Spectres synthétiques

Spectres observés

Catalogues de données stellaires

# # périmètre

- PTNS (2017)

=> Spectres stellaires (observés, synthétiques)

Spectres synthétiques

Spectres observés

Catalogues de données stellaires

Modèles d'atmosphère

Line lists

# # collections



## The SOPHIE archive

An on-line database of high-resolution échelle spectra and radial velocities



[Introduction](#) | [What's Hot](#) | [Publication List](#)

### Enter a designation or coordinates

HIPO21088

Examples:  
[HIPO21088](#), [Vega](#), [HD190007](#), [HD400](#), [GJ%](#)

**a. For identifiers**

you can choose to query :

only this object

**b. For coordinate and around object queries,**  
define a radius :

[arcmin]

**c. Choose the table:**

Series truncated to the first observation ?

### Query a sample of objects in a region of the sky

**a. Define a region of the sky (B1950 or J2000):**

Right ascension from  to   
examples: [14 00 00](#) to [18 00 00](#) (B1950)  
[J14 00 00](#) to [J18 00 00](#) (J2000)

Declination from  to   
example: [-02 00 00](#) to [02 00 00](#)

**b. Choose the table:**

Series truncated to the first observation ?

### Advanced search

**a. Choose the table:**

Series truncated to the first observation ?

**b. Set multiple constraints:**

Select observations in a range of S/N, exposure time, date of observation, spectra type...

**b. List of objects:**

Upload a list of objects and find the corresponding observations.  
The file must contain one designation per line ([example](#))


No file selected.

[Cross-link: ELODIE Archive](#)

The SOPHIE archive © OHP/INSU-CNRS/ OSU Pytheas  
Contact: [Database team](#); Last revised:07/01/2022 18:54:14



# # collections



## The SOPHIE archive

An on-line database of échelle spectra

### Enter a designation or coordinates

Examples: HIP021088, Vega, HD190007, HD40309

a. For identifiers you can choose to query :  only this object

b. For coordinate and around object queries, define a radius :  [arcmin]

c. Choose the table:  Series truncated to the first observation

### Query a sample of objects in a region of the sky

a. Define a region of the sky (B1950 or J2000):

Right ascension from  to   
examples: 14 00 00 to 18 00 00 (B1950)  
J14 00 00 to J18 00 00 (J2000)

Declination from  to   
example: -02 00 00 to 02 00 00

### Advanced search

a. Choose the table:  Series truncated to the first observation


b. Set multiple constraints:  Select observations in a range of S/N.

b. List of objects: Upload a list of objects and find the corresponding observations. The file must contain one designation per line (example)

No file selected.


[Cross-link: ELODIE Archive](#)

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Contact: [Database team](#); Last revised:07/01/2022 18:54:14



## The ELODIE archive

An on-line database of high-resolution stellar spectra



[Introduction](#) | [Help](#)

### Enter a designation or coordinates

Examples: HIP117998, J04 14 57 15 32.10, simbad:procyon, HD190007, HD190073, GJ191

a. For identifiers you can choose to query :  only this object

b. For coordinate and around object queries, define a radius :  [arcmin]

### Query a sample of objects in a region of the sky

a. Define a region of the sky (B1950 or J2000):

Right ascension from  to   
examples: 14 00 00 to 18 00 00 (B1950)  
J14 00 00 to J18 00 00 (J2000)

Declination from  to   
example: -02 00 00 to 02 00 00

### Advanced search

a. Set multiple constraints:  Select observations in a range of S/N, exposure time, date of observation...

b. List of objects: Upload a list of objects and find the corresponding observations. The file must contain one designation per line (example)

No file selected.

The ELODIE archive contains 35535 spectra.

External links: [Pollux database](#) · [Spectrophotometry in Hyperleda](#) · [UVES Paranal Observatory Project](#) · [ELODIE: The Stellar Library](#) · [Cross-link: SOPHIE Archive](#)

The ELODIE archive © OHP/ INSU-CNRS/ Institut Pytheas/ AMU  
Contact: [Database team](#)  
www.obs-hp.fr 01/2022 18:59:59



# # collect



SpecModels Home  
News & Updates  
Search & Download  
Additional Data  
P. Coelho website

## FITS Search & Download

» Instructions at the bottom.

← Back to Libraries Search List

**Stars from Coelho 14 (HIGHRES)**

TEFF min  max   ±10%

LOG\_G min  max   ±5

[Fe/H] min  max   ±5

[α/Fe] min  max   ±5

Show Results

Stars from Coelho 14 (HR)

**Instructions:**  
The search interface allows for the selection of FITS files for a range of parameters and provides links to the individual FITS files, a plain text with the current list result; and two links (tgz and tar.gz) to download the entire library.

**b. List of objects:** Upload a list of objects and find the corresponding observation. The file must contain one designation per line (example: [example.txt](#))

No file selected.

Cross-link: [ELODIE Archive](#)

The SOPHIE archive © OHP/INSU-CNRS/ OSU Pytheas  
Contact: [Database team](#); Last revised:07/01/2022 18:54:14

## High resolution spectra

All high resolution spectra are available for download at:

<ftp://phoenix.astro.physik.uni-goettingen.de/HiResFITS/>

### Download of single spectra

Please select the spectrum you want to download:

**PARAMETERS**

Teff:  The parameter range of the grid is

log(g):

[Fe/H]:

[α/M]:

PARAMETER	RANGE	STEP SIZE
T <sub>eff</sub> [K]	2300 - 7000	100
log(g)	0.0 - 6.0	0.5
[Fe/H]	-4.0 - -2.0	1.0
	-2.0 - +1.0	0.5
[α/M]	-0.2 - +1.2	0.2

Alpha element abundances [α/M]≠0 are available for -3.0≤[Fe/H]≤0.0. only.

### DOWNLOAD

## Model stellar spectra for B to early-M : J/A+A/618/A25

Access to

Authors : Allende Prieto C., Koesterke L., Hubeny I. et..al

Article Origin Description See also Prov

Bibcode : 2018A&A...618A...25A (ADS)

Archives are available through FTP in standardized format described in the ReadMe. VizieR tables are built from archives with additional transformations.

UAT : Astronomical models, Spectroscopy

J/A+A/618/A25 Model stellar spectra for B to early-M (Allende Prieto+, 2018)

Model (MC)  
Inserted into VizieR : 09-Oct-2018

Go to ftp - web page - Download all tables in tar.gz

ReadMe	"09-Oct-2018 08:48"	-r--r--r--	6.5K
ns	"04-Oct-2018 16:40"	drwxr-xr-x	135
nsc	"04-Oct-2018 16:40"	drwxr-xr-x	4.0K

# # collections

<> base de données centralisée

# # collections

## <> base de données centralisée

Available Resources

Stellar Libraries at SVO

Theoretical Libraries at SVO

Explore parameters

Crossmatch libraries

Tutorial: TOPCAT

Help-Desk



### SVO Resources for Spectral Stellar Libraries

There are some resources available at the Spanish Virtual Observatory intended to be useful for the study of Spectral Stellar Libraries and, in particular, to the Virtual Observatory standardization of these libraries.

- [Stellar Libraries at SVO.](#)

These are some Spectral Libraries implemented by the SVO including a web page but also SSAP, ConeSearch and DataLink VO protocols. This link opens in a different page.

- [Theoretical Libraries at SVO.](#)

These are some Theoretical Spectral Libraries implemented by the SVO including a web page (but also the corresponding theoretical SSAP service). This link opens in a different page.

- [Explore parameter space for VO Stellar Libraries.](#)

This is a small application that allows to explore the parameter space for several stellar libraries. Data are obtained from the VO SSAP services and plotted together.

- [Crossmatch VO Stellar Libraries.](#)

This is a small application that allows to crossmatch several stellar libraries, that is, to find objects common to two or more libraries, make some very simple statistics about the parameter values given by different libraries for the same object and visualize or plot the results.

- [Crossmatch of VO Stellar Libraries with TOPCAT.](#)

This is a simple tutorial on how to use TOPCAT to crossmatch VO catalogues, accessing the VO services one by one, and make some plots.

- Other stellar libraries with VO services:

ELODIE

- Example of SSAP query (Search around RA=10,DEC=20 with Radius=10 deg):  
<http://atlas.obs-hp.fr/elodie/E.cgi?a=t&c=ssa&n=ssa&POS=10,20&SIZE=10>

# # collections

<> base de données centralisée

Available Resources

Stellar Libraries at SVO

Theoretical Libraries at SVO

Explore parameters

Crossmatch libraries

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Help-Desk



## SVO Resources

There are some Virtual Observa

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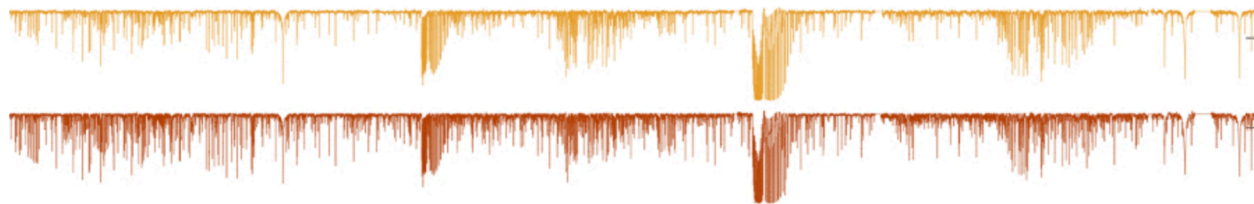
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S

### • Other

E

## Stellar Spectral Libraries

IAU Commission G5 WG



Home Members Tasks Activities Reports Links

### The dissemination of the libraries and their accurate description

SVO developments on stellar libraries (Carlos)

- Introduction
- Task 1: Implementation of the Datalink capabilities in the SVOCAT publishing tool:
- Task 2: Use of SVOCAT to build VO services for observational stellar libraries.
  - Task 2.1: MILES
  - Task 2.2: CaT
  - Task 2.3: BDSS Low-Res: The NIRSPEC Brown Dwarf Spectroscopic Survey. Low-Resolution Data.
  - Task 2.4: Gaia FGK benchmark stars
  - Task 2.5: SpeX Prism Library
  - Task 2.6: UVES/VLT M subdwarfs
  - Task 2.7: L and T dwarf archive
  - Task 2.8: STELIB
  - Task 2.9: The X-Shooter Spectral Library
- Task 3: The spectral library comparison tools.

- Example of SSAP query (Search around RA=10,DEC=20 with Radius=10 deg):  
<http://atlas.obs-hp.fr/elodie/E.cgi?a=t&c=ssa&n=ssa&POS=10,20&SIZE=10>

# # services



The LySI online service computes interpolated stellar spectra at a given point of the parameter space. Currently, the interface gives access to two recent interpolator models, based on the ELODIE and MILES libraries of observed spectra, and to older versions of these interpolators (maintained for references and comparisons). The parameter space has three dimensions:  $T_{\text{eff}}$ ,  $\log(g)$  and  $[\text{Fe}/\text{H}]$ . These models are global polynomial interpolators described in [Prugniel & Soubiran \(2001\)](#), [Wu et al. \(2011\)](#), [Prugniel et al. \(2011\)](#) and [Sharma et al. \(2016\)](#). They are continuous and derivable all throughout the parameter space.

Select an interpolator

Elodie 3.2  $T_{\text{eff}}$ : 10000  $\log(g)$ : 4  $[\text{Fe}/\text{H}]$ : 0 Plot Download FITS

### Display the spectrum

File identification and executed pipeline: lysi:[elodie3.2,10000,4,0]&z=vs

The plot shows a red line representing the stellar spectrum. The x-axis is labeled "Air wavelength" and ranges from 4000 to 8000. The y-axis is labeled "Flux [ ]". The spectrum shows a general downward trend with several absorption lines.

Replot in wavelength range to [0.1 nm]  
View Header Download the 1D spectrum as FITS file