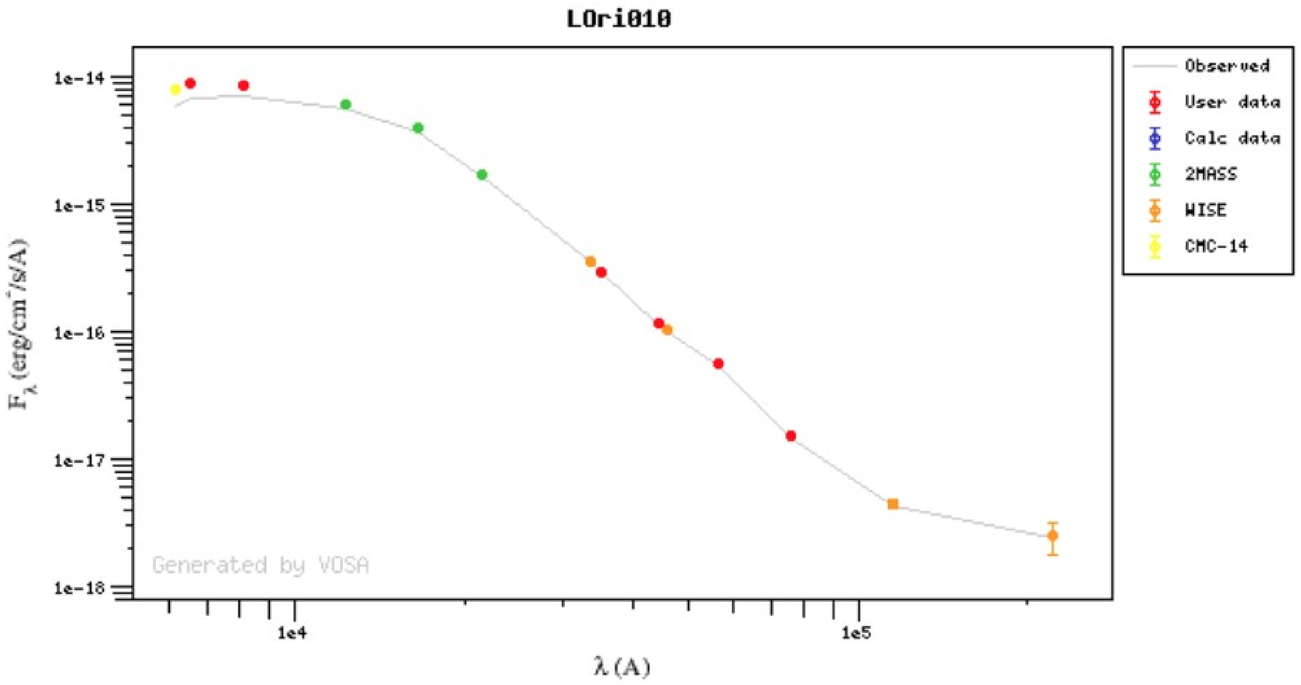
VOSA: A SHORT INTRODUCTION

SEDs IN THE VIRTUAL OBSERVATORY

ENRIQUE SOLANO
(ON BEHALF OF THE SVO TEAM)
CENTRO DE ASTROBIOLOGÍA (CSIC-INTA)



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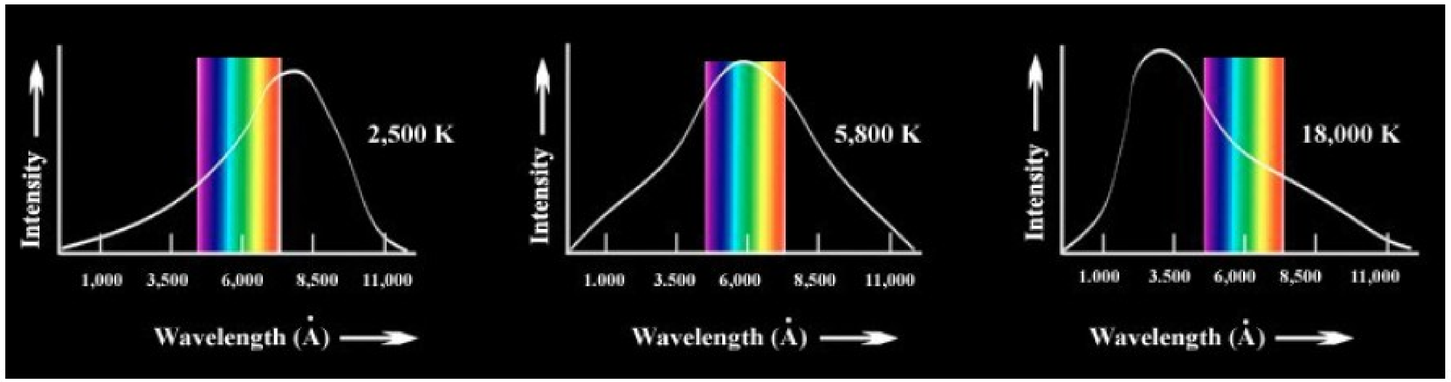
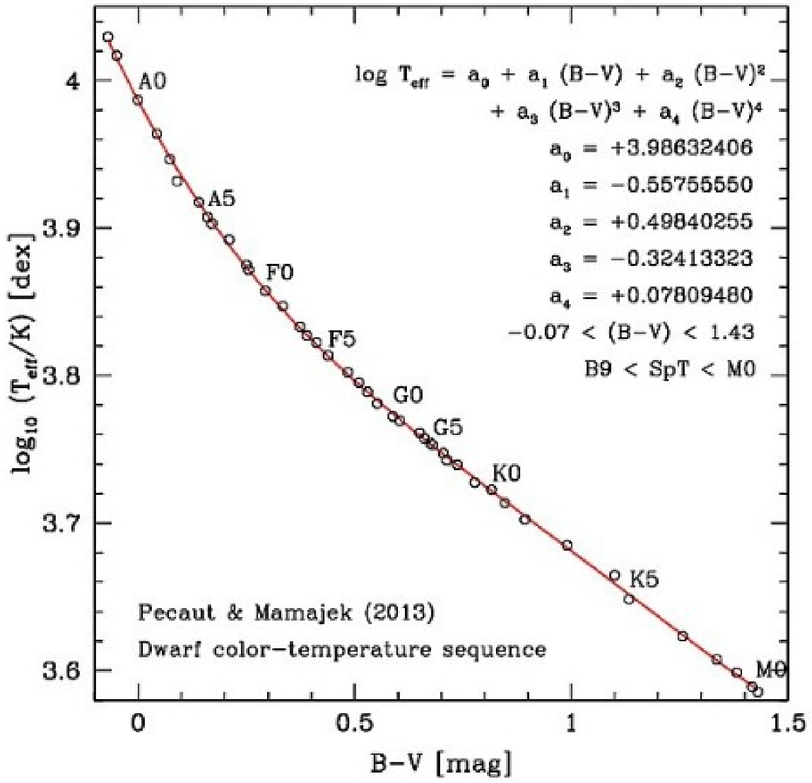
WHY USING SEDs?

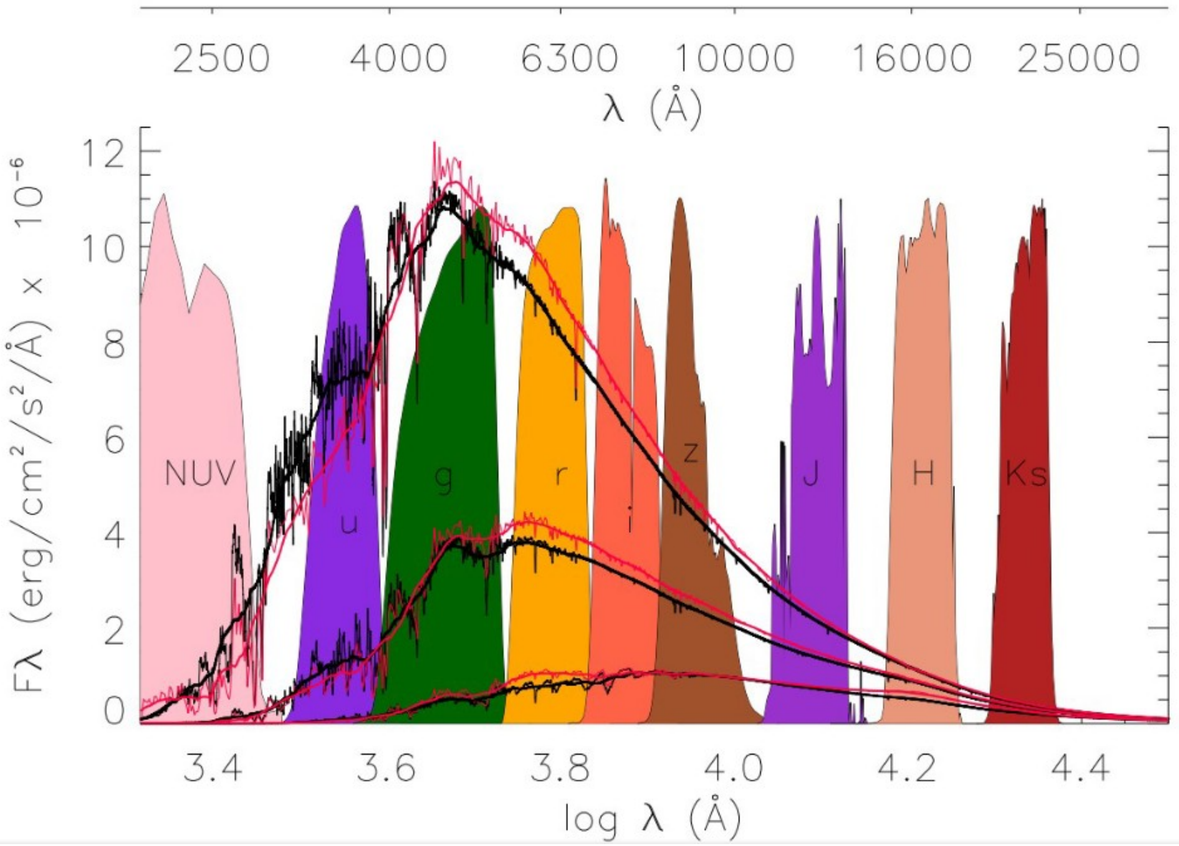




The spectral distribution of the thermal energy radiated by a blackbody depends only on its **temperature**.

Stars behave approximately **like blackbodies**

WHY USING SEDs?



VOSA: BUILDING SEDs

Observational photometry

2MASS All-Sky Point Source Catalog

2MASS has uniformly scanned the entire sky in three near-infrared bands to detect and characterize point sources brighter than about 1 mJy in each band, with signal-to-noise ratio (SNR) greater than 1

More Info.

Filters: 2MASS/2MASS.J 2MASS/2MASS.H 2MASS/2MASS.Ks

Search radius: 5 arcsec

Show magnitude limits

DENIS Catalogue

This catalogue is the latest incremental release of the DENIS project. It consists of a set of 355,220,325 point sources detected by the DENIS survey in 3662 strips (covering each 30 degrees in declination and 12 arcmin in right ascension)

More Info.

Filters: DENIS/DENIS.I DENIS/DENIS.J DENIS/DENIS.Ks

Search radius: 5 arcsec

Show magnitude limits

IRAS Catalog of Point Sources, Version 2.0

This is a catalog of some 250,000 well-confirmed infrared point sources observed by the Infrared Astronomical Satellite, i.e., sources with angular extents less than approximately 0.5, 0.5, 1.0, and 2.0 arcmin in the in-scan direction at 12, 25, 60, and 1

More Info.

Filters: IRAS/IRAS.12mu IRAS/IRAS.25mu IRAS/IRAS.60mu IRAS/IRAS.100mu

Search radius: 20 arcsec

Show flux limits

IRAS Faint Source Catalog

The Faint Source Survey (FSS) is the definitive Infrared Astronomical Satellite data set for faint point sources.

More Info.

Filters: IRAS/IRAS.12mu IRAS/IRAS.25mu IRAS/IRAS.60mu IRAS/IRAS.100mu

Search radius: 20 arcsec

Show flux limits

MSX6C Infrared Point Source Catalog

Version 2.3 of the Midcourse Space Experiment (MSX) Point Source Catalog (PSC), which supersedes the version (1.2) that was released in 1999 (Cat. V/107), contains over 100,000 more sources than the previous version.

More Info.

Filters: MSX/MSX.B1 MSX/MSX.B2 MSX/MSX.A MSX/MSX.C MSX/MSX.D MSX/MSX.E

Search radius: 5 arcsec

Show flux limits

AKARI/IRC mid-IR all-sky Survey (ISAS/JAXA, 2010)

The AKARI/IRC Point Source Catalogue Version 1.0 provides positions and fluxes for 870,973 sources observed with the InfraRed Camera (IRC)

More Info.

Filters: AKARI/IRC.S9W AKARI/IRC.L18W

Search radius: 5 arcsec

Show flux limits

AKARI/FIS All-Sky Survey Point Source Catalogues (ISAS/JAXA, 2010)

The AKARI/FIS All-Sky Survey Bright Source Catalog Version 1.0 provides positions and fluxes for 427071 point sources in the 4 far-infrared wavelengths centered at 65, 90, 140 and 160μm

More Info.

C2D Spitzer and Ancillary Data

C2D Fall '07 Full CLOUDS Catalog (CHA_II, LUP, OPH, PER, SER)

Filters: Spitzer/IRAC.I1 Spitzer/IRAC.I2 Spitzer/IRAC.I3 Spitzer/IRAC.I4 Spitzer/MIPS.24mu Spitzer/MIPS.70mu

Theoretical models

BT-Settl (AGSS2009)

The BT-Settl Model grid of theoretical spectra; With a cloud model, valid across the entire parameter range. Using AGSS2009 abundances. Wavelengths have been converted to air wavelengths.

More info

BT-Settl (CIFIST)

The BT-Settl Model grid of theoretical spectra. With a cloud model, valid across the entire parameter range and using the Caffau et al. (2011) solar abundances. Wavelengths have been converted to air wavelengths.

More info

Coelho Synthetic stellar library (SEDs)

Low resolution theoretical fluxes covering 130nm to 100micron, fully described in Coelho (2014).

More info

DRIFT-PHOENIX

Drift-Phoenix is a computer code that simulates the structure of an atmosphere including the formation of clouds. The code is part of the Phoenix-code family. Drift describes the formation of mineral clouds and allows to predict cloud details, like the size of the cloud particles and their composition

More info

GRAMS, C-rich grid

GRAMS (Grid of Red supergiant and Asymptotic giant ModelS) is a grid of radiative transfer (RT) models for dust shells around red supergiant (RSG) and asymptotic giant branch (AGB) stars. This is the model grid for Carbon-rich stars

Note that no IR excess is considered when fitting with these models.

More info

GRAMS, O-rich original grid

GRAMS (Grid of Red supergiant and Asymptotic giant ModelS) is a grid of radiative transfer (RT) models for dust shells around red supergiant (RSG) and asymptotic giant branch (AGB) stars. This is the model grid for Oxygen-rich stars

Note that no IR excess is considered when fitting with these models.

More info

Koester WD models

These models are for white dwarfs of spectral type DA with pure hydrogen atmospheres. They use LTE (local thermodynamic equilibrium), hydrostatic equilibrium and plane-parallel, one-dimensional structure. Basic methods and data are described in Koester (2010, Mem.S.A.It. Vol. 81, 921). Since then many improvements were implemented, most notably the hydrogen Stark profiles by Tremblay & Bergeron (2009, ApJ 696,1755), and Tremblay (2015, priv. comm).

*Original models have been transformed to air wavelengths and rescaled to 4n*Eddington flux in erg/cm2/s/A*

More info

Kurucz ODFNEW /NOVER, alpha: 0.0 (2003)

ATLAS9 Kurucz ODFNEW /NOVER models. Newly computed ODFs with better opacities and better abundances have been used.

More info

Kurucz ODFNEW /NOVER, alpha: 0.4 (2003)

ATLAS9 Kurucz ODFNEW /NOVER models. Newly computed ODFs with better opacities and better abundances have been used.

More info

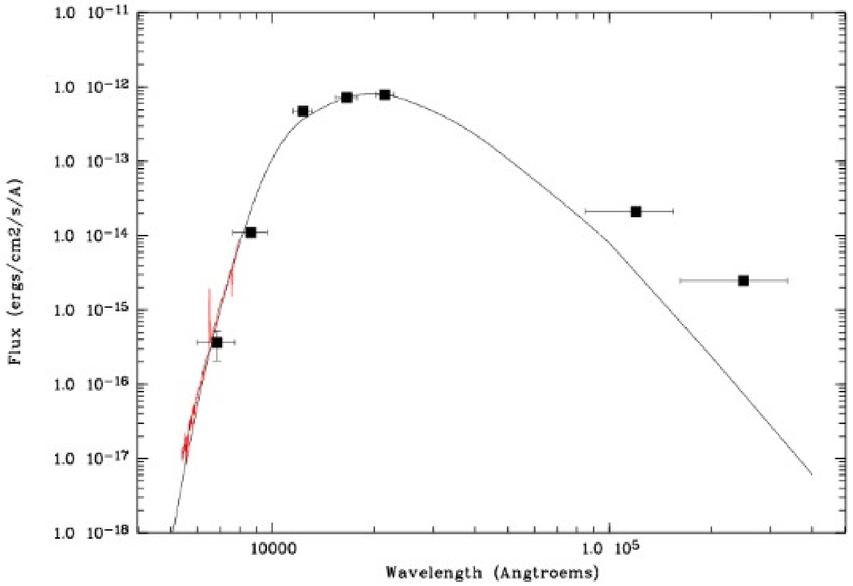
Levenhagen 2017

A grid of LTE and non-LTE synthetic spectra of hot DA white dwarfs. It covers Teff from 17,000 K to 100,000 K and log(g) from 7.0 to 9.5. The stellar models are built for pure hydrogen and the spectra cover a wavelength range from 90 nm to 2.5 micron.

More info

VOSA: BUILDING SEDs

- **Data Manipulation: From magnitudes to fluxes**



I/337/gaia Gaia DR1 (Gaia Collaboration, 2016
Post annotation GaiaSource data (**Download** Gaia Sc

start AladinLite

Full	RA_ICRS deg	DE_ICRS deg	<Gmag> mag
1	063.4107528711	-89.9888879972	17.965
2	037.5117084305	-89.9858176527	16.664
3	084.7593492719	-89.9781776713	18.553
4	081.5942616579	-89.9832765720	20.472
5	070.9024070024	-89.9715663343	19.829
6	060.8702751299	-89.9781334323	19.492
7	073.1733654732	-89.9817426647	20.019
8	027.3236159503	-89.9767950251	17.006
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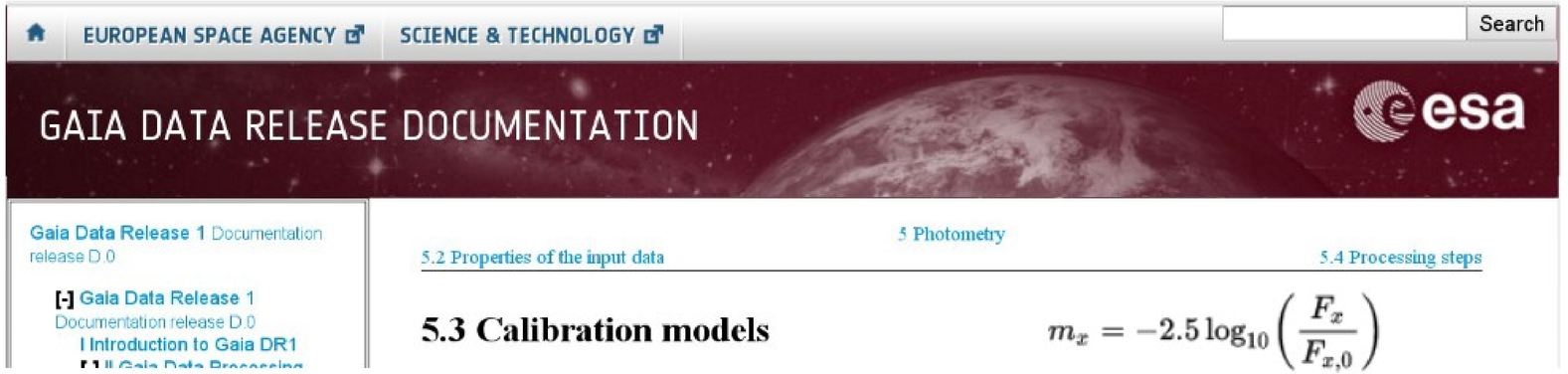
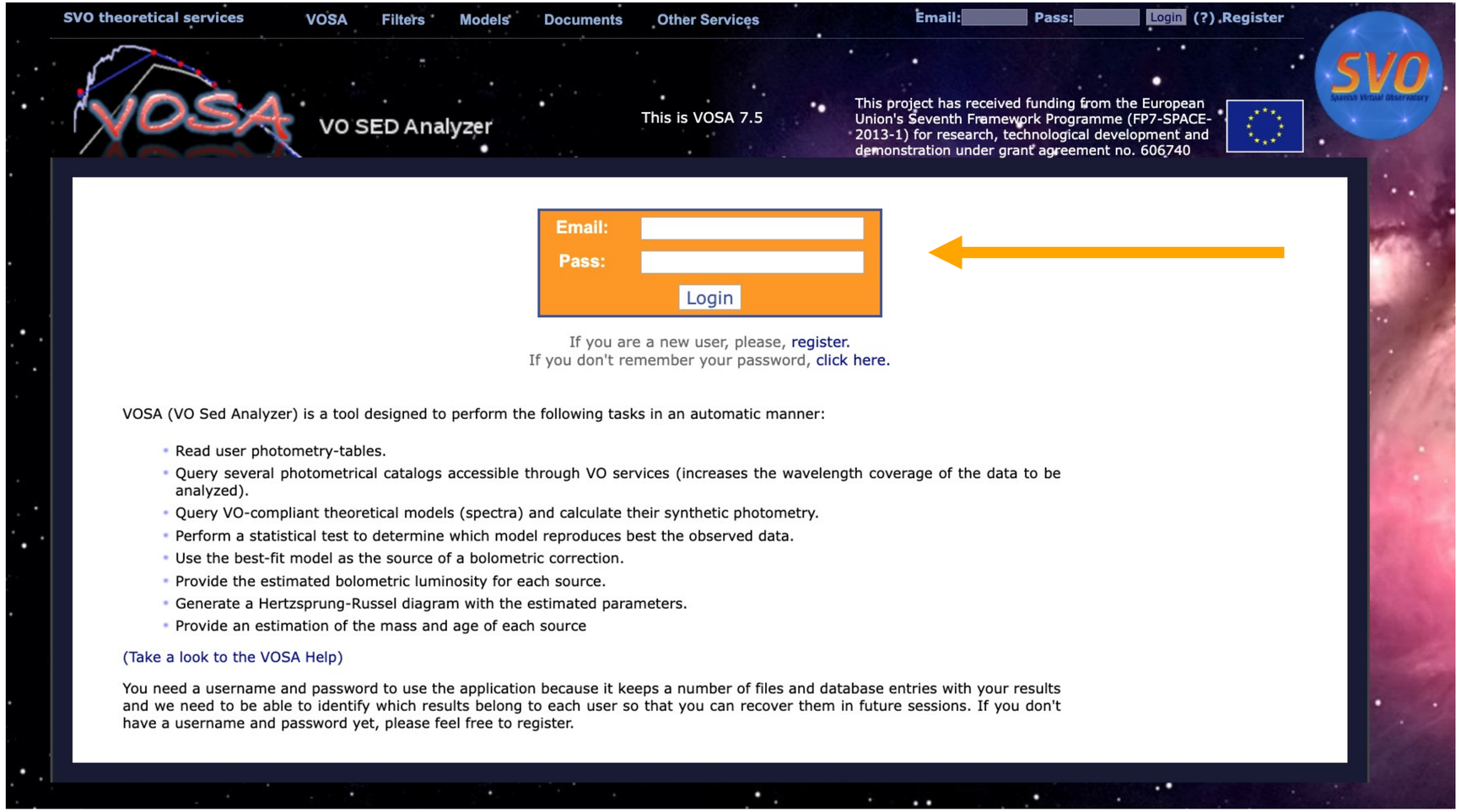


VOSA: THE VO SED ANALYZER



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