

*Spanish VO: Ten years and counting.*

Enrique Solano  
(on behalf of the SVO team)



# The Spanish Virtual Observatory

- Coordination of the VO-related activities at national level.
- Contact point for international VO initiatives.

The screenshot shows the Spanish Virtual Observatory website. At the top, there is a navigation bar with the SVO logo on the left and the text "Spanish Virtual Observatory" in the center. To the right of the text are several logos, including INTA, the European Union flag, and EURO VO. Below the navigation bar, there are several content panels. The first panel, titled "The SVO", features a group photo and text stating that the SVO officially started in June 2004 and is hosted at the Centro de Astrobiología (INTA-CSIC). It lists SVO participants and FAQs. The second panel, titled "The CAB Scientific Data Centre", shows a screenshot of the GTC Archive and Calar Alto Archive, listing various data centers and projects such as COROT, DSS-63, GAUDI, GTC, INES, Protostars, ALHAMBRA, and Joan Oró. The third panel, titled "Theoretical Data Server", displays a screenshot of the server interface and lists services like Stellar Spectra theoretical models, Evolutionary Synthesis Models, Observational templates, Synthetic Photometry, and Asteroseismology. The fourth panel, titled "Services", shows a screenshot of the service interface and lists VOSA, VOSED, TESELA, and Filter Profile Service. At the bottom of the screenshot, there are four more panels: "VO Science", "Data Mining", "Education & Outreach", and "Miscellanea".

<http://svo.cab.inta-csic.es>

The image shows a Twitter profile for ObsVirtEsp. The profile name is "ObsVirtEsp" with the handle "@ObsVirtEsp". The location is "España". The bio reads "El Observatorio Virtual Español (SVO) e que coordina las actividades de VO a niv" followed by the website URL "http://svo.cab.inta-csic.es". The profile picture is the SVO logo.

# SVO: Funding

## ➤ Funded since 2005

- AyA2014-55216 (2015-2017)
- AyA2011-24052 (2012-2014)
- AyA2008-02156 (2009-2011)
- AyA2005- 04286 (2006-2008)
- AyA2004-00253 (2005)

## ➤ Other funding bodies

- INTA
- Madrid Regional Government
- Europe: FP6 – FP7 - H2020

# SVO: Where?

## ➤ Centro de Astrobiología (CAB).

- The largest astronomical data centre managed by a Spanish institution (INTA-CSIC).
- Long experience in the management of astronomical archives:

2011



THE COROT PUBLIC ARCHIVE AT CAB

2009



# The SVO target audience


- **Three types of stakeholders:**
  - **Data providers**
    - Willingness to provide a service.
    - Some kind of sustainability.
    - Concern for quality.
  - **Astronomical community**
  - **Education and Outreach**

# SVO: Support to Data Providers

Making the data available on the web, other than as a tar-file on an anonymous ftp, and especially if it has to be VO compliant may also become a burden. Plez (2007)

## ➤ First approach

- Your VO manages the service.



The CAB Scientific Data Centre

GTC Archive

Calar Alto Archive

Calar Alto Archive Search Form

Search by (RA) (DEC) Coordinates:

Example: 245.15 -05.97 - Coordinates in decimal & 14 39 34.5 -05 49 52.8 - Coordinates in sexagesimal degrees

Search by date:

Between: 14 January 2008

And: 14 January 2008

- Calar Alto
- COROT
- DUNES
- DSS-63
- GASPS
- GAUDI
- GTC
- INES

# SVO: Support to Data Centres

➤ **Second scenario: You manage the service.**

## SVOCat Documentation

Version 0.4, Apr 2014, author: Carlos Rodrigo



Home | Download | **Documentation** | Examples | Credits | Help-Desk

1. Introduction

2. Download

2.1. Extract

(You can see this documentation as a single web page if you w

### Introduction

First SVO Workshop on data publishing  
in the Virtual Observatory



to make ea  
Virtual Observat

CENTRO DE ASTROBIOLOGÍA		
Title: MySpec-MyImg		
Subtitle: Tools for publication of spectra and images in the Virtual Observatory		
Unidad de Archivo de Datos	2014-04-02	Page 1 of 20



UNIDAD DE ARCHIVO DE DATOS

Centro de Astrobiología

INTA-CSIC



**MySpec-MyImg**  
Tools for publication of spectra and images in the  
Virtual Observatory

Table with 6 columns: Proposición, Observación, Instrumento, Filtro, Fecha, and Datos. It lists various astronomical observations with their respective details.

Centro de Astrobiología  
Villafranca del Castillo  
Madrid, 2014 April 8 and 9

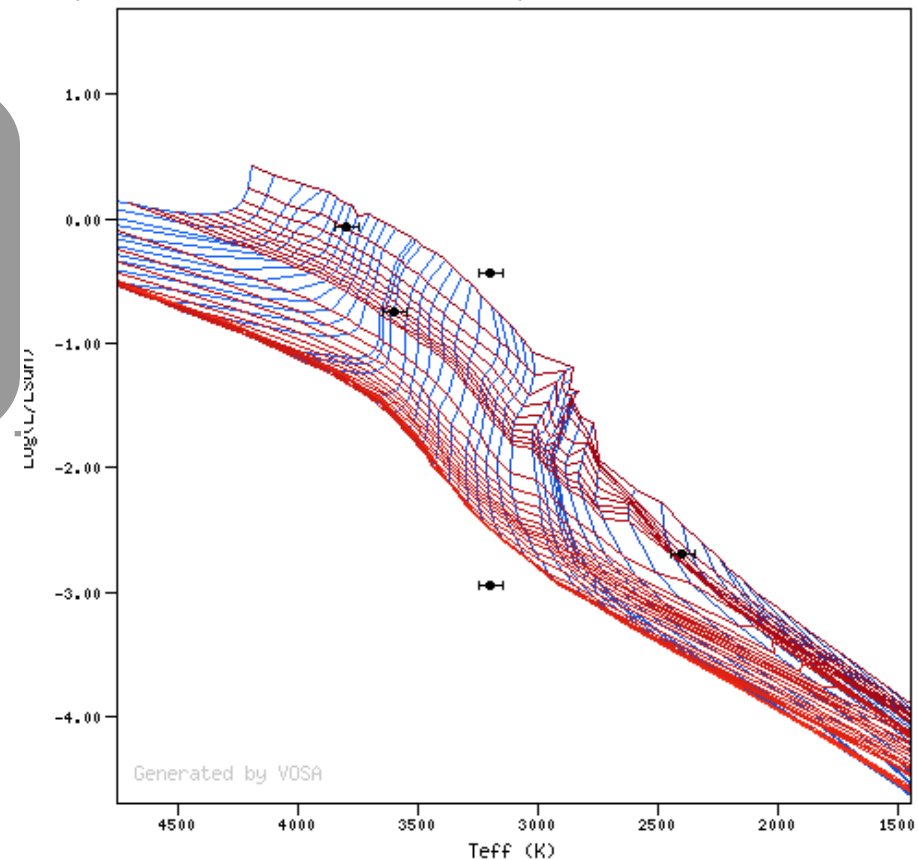
- **Activities focused on three major topics:**
  - **Development of VO tools**
  - **Organization of VO-schools**
  - **Support to VO-science**



Object	Model	$T_{\text{eff}}$	LogL	Age	Mass
☑ LOri005	BT-Settl	3800 (3750,3850)	-0.0652 (-0.0692,-0.0613)	0.0020 ..(0.0018,0.0023) [1]	0.9456 (0.8718,1.0001)
☑ LOri029	BT-Settl	3200 (3150,3250)	-0.4357 (-0.4463,-0.4253)	--- --- [4]	--- --- [4]
☑ LOri048	BT-Settl	3600 (3550,3650)	-0.7493 (-0.7540,-0.7447)	0.0076 ..(0.0060,0.0094)	0.5671 (0.5006,0.6112)
☑ LOri158	BT-Settl	3200 (3150,3250)	-2.9517 (-2.9580,-2.9455)	--- --- [4]	--- --- [4]
☑ LOri162	BT-Settl	2400 (2350,2450)	-2.6969 (-2.7049,-2.6891)	0.0030 ..(0.0020,0.0100)	0.0170 (0.0147,0.0200)

- First release: 2008
- > 300 active users
- > 50 refereed papers

<http://svo2.cab.inta-csic.es/theory/vosa/>



# SVO schools

- **Goal:** Become familiar enough with VO tools to use them in their own scientific research.
- Best mechanism to attract people.
  - Eight schools since 2009.
  - > 200 participants.



# VO Science

- *Science that clearly benefits from using VO tools and services.*

## SEARCH FOR BRIGHT NEARBY M DWARFS WITH VIRTUAL OBSERVATORY TOOLS

M. ABERASTURI, J. A. CABALLERO, B. MONTESINOS, M. C. GÁLVEZ-ORTIZ, E. SOLANO AND E. L. MARTÍN  
Centro de Astrobiología (CSIC-INTA), Departamento de Astrofísica, PO Box 78, E-28691 Villanueva de la Cañada, Madrid, Spain

A&A 530, A2 (2011)  
DOI: 10.1051/0004-6361/201016324  
© ESO 2011

**Astronomy  
&  
Astrophysics**

### A search for new hot subdwarf stars by means of Virtual Observ

R. Oreiro<sup>1</sup>, C. Rodríguez-López<sup>2,3</sup>, E. Solano<sup>4</sup>, A.

A&A 534, L7 (2011)  
DOI: 10.1051/0004-6361/201117822  
© ESO 2011

**Astronomy  
&  
Astrophysics**

LETTER TO THE EDITOR

### WISE/2MASS-SDSS brown dwarfs candidates using Virtual Observatory tools\*

Aberasturi<sup>1,2</sup>, E. Solano<sup>1,2</sup>, and E. L. Martín<sup>1</sup>

A&A 556, A144 (2013)  
DOI: 10.1051/0004-6361/201321217  
© ESO 2013

**Astronomy  
&  
Astrophysics**

### Proper motions of young stars in Chamaeleon

#### II. New kinematical candidate members of Chamaeleon I and II\*

Belén López Martí<sup>1</sup>, Francisco Jiménez-Esteban<sup>1,2,3</sup>, Amelia Bayo<sup>4,5</sup>, David Barrado<sup>1,6</sup>, Enrique Solano<sup>1,2</sup>,  
Hervé Bouy<sup>1</sup>, and Carlos Rodrigo<sup>1,2</sup>

# SVO: Outreach. Citizen science

<http://www.laeff.cab.inta-csic.es/projects/near/>

Identificación de asteroides cercanos a la Tierra

Inicio Registro Ayuda Asteroides Hall of fame Créditos Email: Pass: Login

Bienvenidos  
cuyo princip  
que pueden  
Si quieres s  
registrado, it

al Español,  
s asteroides  
Si ya te has

Precovery

Discovery

Follow-up

0:00 / 2:31

YouTube

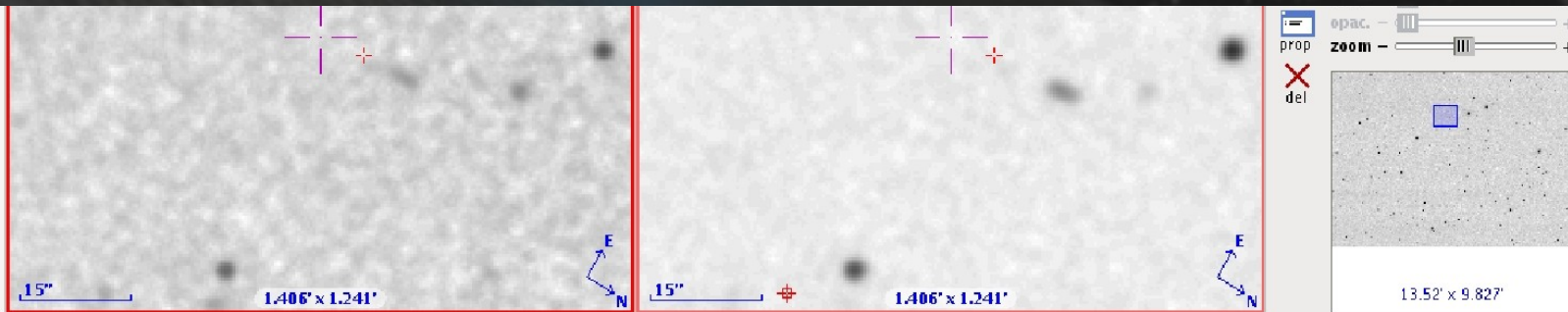
# SVO: Outreach. Citizen science



Ver resumen hasta el 2014 - 11 - 14 Ver

Número de usuarios registrados: 3678

	all	mars	nea	sdss	vhs	vst	ukidss
Número de usuarios que han hecho medidas	530	229	505	502	67	39	89
Número de medidas realizadas	378277	172411	205857	363057	3684	748	10779
Número de objetos comprobados	3759	2400	1358	3469	61	44	346
Número de parejas objeto/imagen distintas comprobadas	37029	25151	11877	35309	497	92	1130
Objetos para los que se han publicado medidas en el MPC	936	339	597	860	44	3	39
Número de medidas publicadas en el MPC	4323	1787	2536	3901	317	6	99



# INTA and ASTERICS

## ASTERICS WP4: DADI (Data Access, Discovery and Interoperability)

*Task 4.1 - Support to astronomy ESFRI facilities, their pathfinders and other infrastructures of pan-European interest for implementation of their data in the VO framework*

Partner	INAF	UHEI	APC	CPPM	OAS	UNIS TRA	LUTH	OBSPAR	UEDIN	ASTRON	INTA
Effort (PM)	36	36	15	8	18	4	3	23	15	26	15

**Task 4.2 - Support to the astronomical community**

Partner	INTA	OAS	UNIS TRA	APC	CPPM	INAF	LUTH	OBSPAR	UEDIN	ASTRON	UHEI
Effort (PM)	36	32	4	7	2	13	3	7	15	10	10

*Task 4.3 - Updates of the VO framework from feedback and requirements*

Partner	OAS	UNIS TRA	UEDIN	INAF	CPPM	APC	LUTH	UHEI	OBSPAR	ASTRON	INTA
Effort (PM)	32	4	36	17	2	4	1	20	5	6	15