



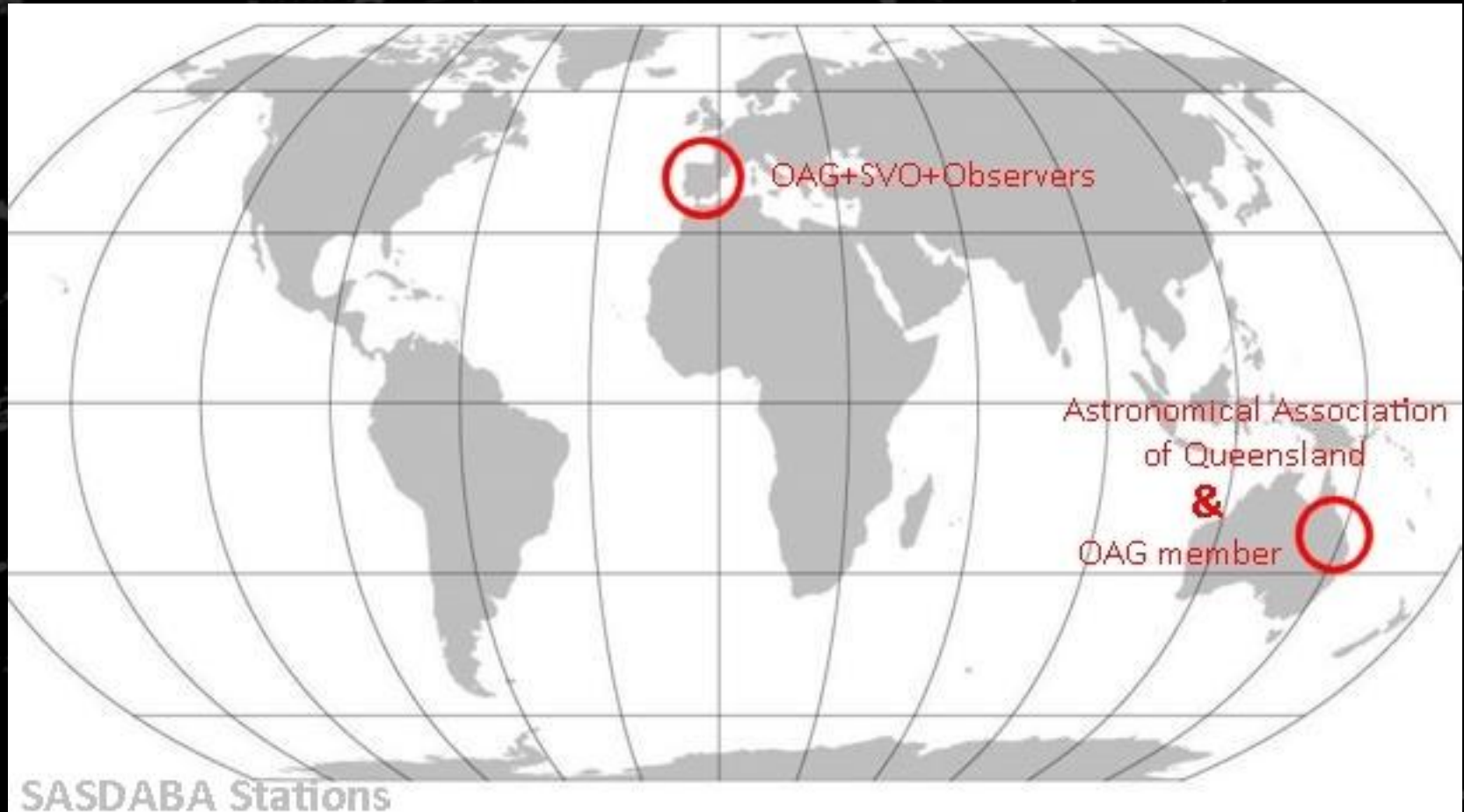
# OAG-SVO SASDABA PROJECT

*by T.Tobal*  
*26<sup>a</sup>CA\_2025, Sabadell*

# OAG-SVO SASDABA PROJECT

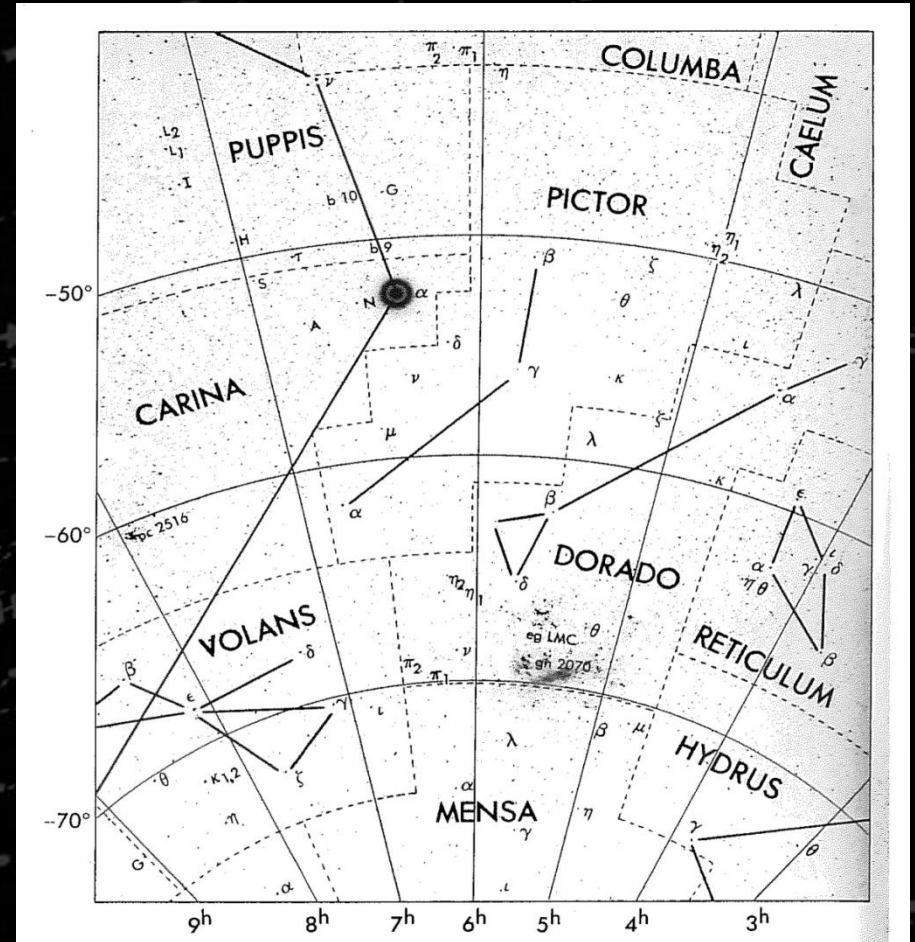
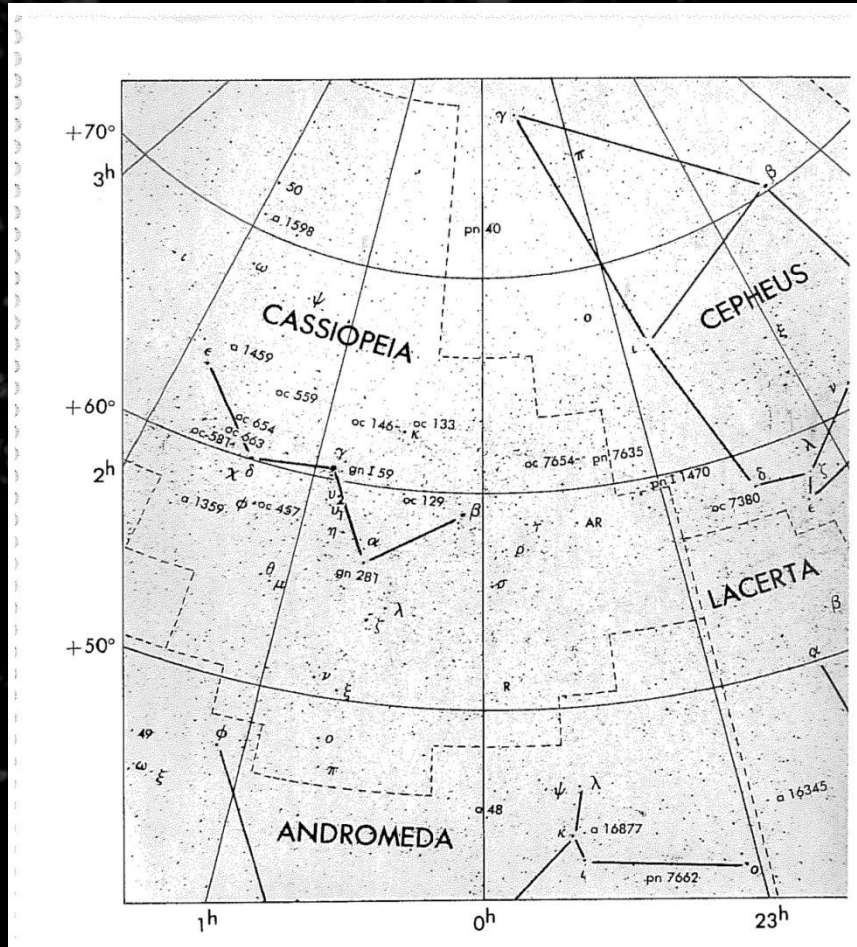
- SASDABA PROJECT is a learning & observational Pro-Am project in astronomical spectroscopy, for amateurs, teachers and students interested in the issues of spectral classification in the MK System.
- Its aim is to create an archive of spectroscopic images of bright stars (with approximate  $V=5$ ) in Northern and Southern Hemispheres (All Sky Survey).
- SASDABA stands for:  
Star Analyser Spectroscopic DAta BAse
- This project is coordinated by OAG-SVO  
(Garraf Astronomical Observatory &  
Spanish Virtual Observatory) in Spain
- In collaboration with : Astronomical Association of  
Queensland (Australia)

# OAG-SVO SASDABA PROJECT



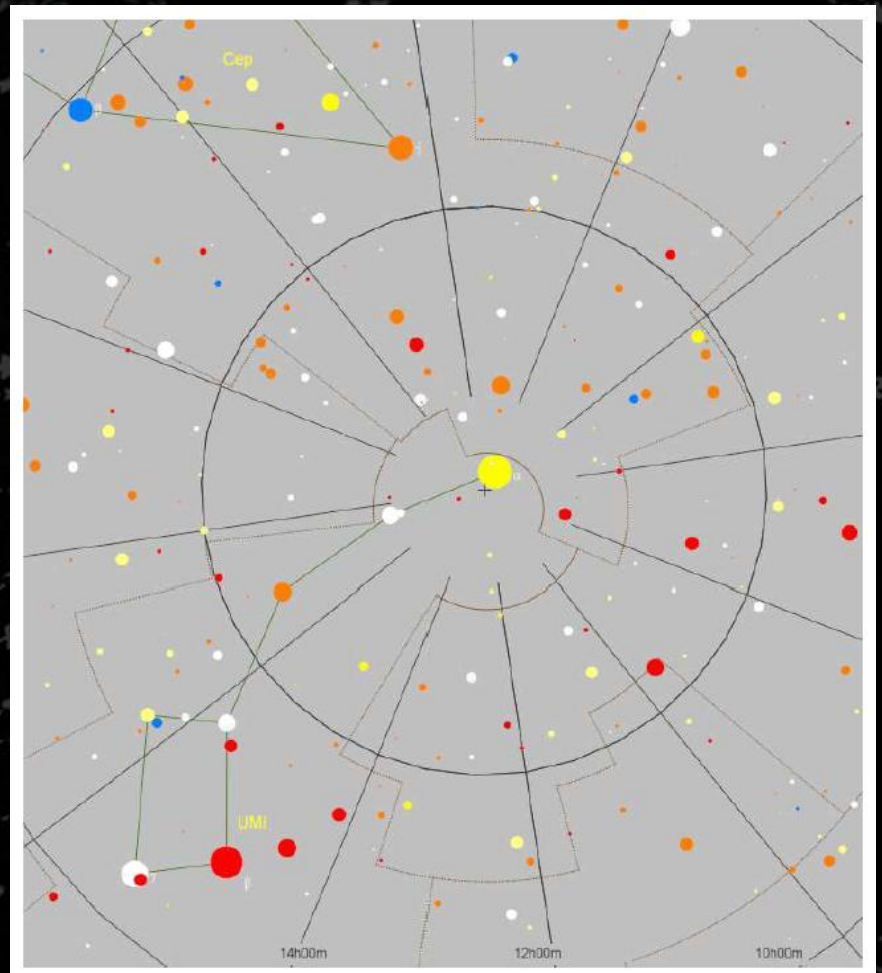
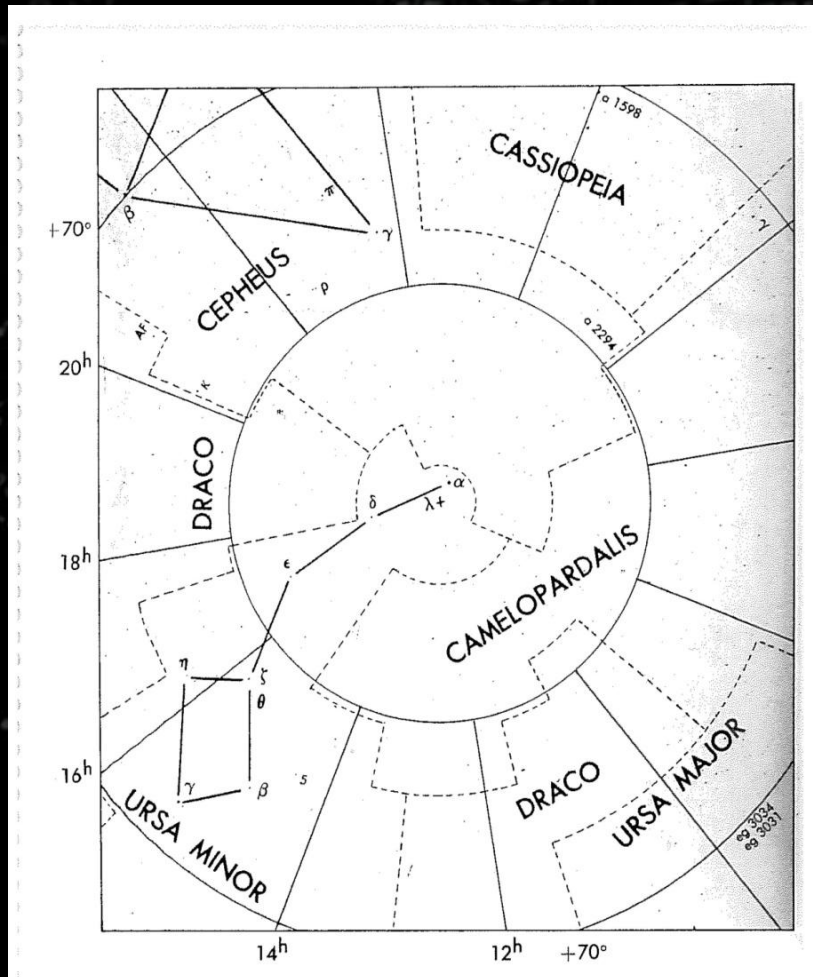
Two teams with Pro-Am members in Spain and Australia allow for full coverage the observations in the Northern & Southern hemispheres

# OAG-SVO SASDABA PROJECT



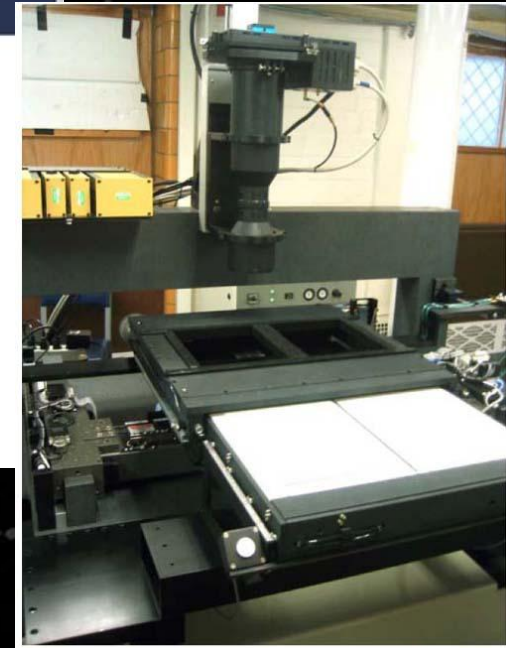
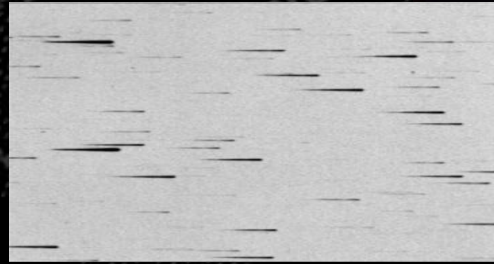
The Survey Charts (54) for SASDABA Project: Menzel's Photographic Atlas Charts  
Harvard Plates: see DASH Project in <http://dasch.rc.fas.harvard.edu/project.php>

# OAG-SVO SASDABA PROJECT



Menzel's PAC and map made with *Cartes du Ciel* for SASDABA Guide

# OAG-SVO SASDABA PROJECT



The DASH project (Digital Access to a Sky Century @ Harvard ) taught us a lot about creating the structure and presentation of the results on the OAG website. The photographic charts of the survey for SASDABA are digitized and numbered in DASH.

# OAG-SVO SASDABA PROJECT

## 2. Equipment: CCD and CMOS cameras, gratings, prisms and spectrographs

1



2



3



4

Telescope range: 80mm to 400mm aperture

Dispersion range: 1.5 Å – 22Å / pixel

File type: .avi / .fit / + .txt info

Grating: SA-100/200 & Prism 3.8° (1)

Spectrographs: Alpy600 (2), LHIRES-III (3)

DADOS (4) + 3D\_Star'ex\_JAS

# OAG-SVO SASDABA PROJECT



HOME

GARRAF PARK OBSERVATORY

PUBLIC ACTIVITIES 2025

CONTACT & RESERVES




ISS HD EARTH VIEWING



Garraf Astronomical Observatory  
Observatori Astronòmic del Garraf (OAG)

[www.oagarraf.net](http://www.oagarraf.net)



LAST NEWS / MARCH 2025

Spectroscopic observations of BS, VS, PN and Solar System  
by M.A.Almela, E.Matilla, J.J.Pueyo and T.Tobal

**\*\*Spectroscopic observations of Solar System  
by M.A.Almela, J.J.Pueyo and T.Tobal**

[\\*SASDABA Newsletter N°11, November, 2024](#)

[\\*SVO-OAG SASDABA Data Base 20241022 updated](#)

SVO-OAG SASDABA Data Base NEXT update: April 2025

|                                                                                                                                                                                                                                                                                                                                                                  |    |                      |                                                                                                   |       |                |  |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----|----------------------|---------------------------------------------------------------------------------------------------|-------|----------------|--|
|  <p>HOME</p> <p>GARRAF PARK OBSERVATORY</p> <p>PUBLIC ACTIVITIES 2025</p> <p>CONTACT &amp; RESERVES</p>   |    |                      |                                                                                                   |       |                |  |
|                                                                                                                                                                                                                                                                                                                                                                  | 11 | OPEN CLUSTERS ( I )  | <a href="#">Southern Open Clusters</a><br>DEC Zone: -15° / -90°                                   | 2020+ | Active         |  |
|                                                                                                                                                                                                                                                                                                                                                                  | 12 | OPEN CLUSTERS ( II ) | <a href="#">Northern Open Clusters</a><br>DEC Zone: +90° / -15°                                   | 2020+ | Available Data |  |
|                                                                                                                                                                                                                                                                                                                                                                  | 13 | SPECTROSCOPY         | <a href="#">OAG SPECTRA PROJECT</a><br>SVO-OAG Star Analyser<br>Spectroscopic Data Base (SASDABA) | 2018+ | Active         |  |

| Nº   | OAG-SVO SASDABA PROJECT                                                                                                                   |
|------|-------------------------------------------------------------------------------------------------------------------------------------------|
| I    | <a href="#">SASDABA-SVO Home</a>                                                                                                          |
| II   | <a href="#">Spectra Project Data Recording</a>                                                                                            |
| III  | <a href="#">Spectra Project Logbooks Abstracts</a>                                                                                        |
| IV   | <a href="#">Survey MzPAC Statuts Table</a>                                                                                                |
| V    | Planetary Nebulae Data (in process)                                                                                                       |
| VI   | <a href="#">Harvard College Observatory Plates for the Menzel's Photographic Atlas Charts</a>                                             |
| VII  | <a href="#">Stations &amp; Members</a>                                                                                                    |
| VIII | <a href="#">Technical support to observers</a>                                                                                            |
| IX   | <a href="#">SASDABA Publications</a>                                                                                                      |
| X    | <a href="#">SASDABA Color Index Charts v1</a>                                                                                             |
| XI   | <b>OAG-SASDABA Classroom</b><br>send inscription to e-mail:<br><a href="mailto:informaciooag@gmail.com">informaciooag@gmail.com</a>       |
| A1   | <a href="#">DASCH</a><br>Digital Access to a<br>Sky Century @ Harvard<br><br><a href="#">PHaEDRA PROJECT</a><br>Transcription of Logbooks |
| A2   | <a href="#">SCOPE PROJECT</a><br><a href="#">STELLAR CLASSIFICATION PUBLIC EXPLORATION</a>                                                |
| A3   | <a href="#">Spectral Classes and Stars Colors</a><br>(Wiky info)                                                                          |
| A4   | <a href="#">Greek Alphabet</a>                                                                                                            |

The OAG website: Project 13  
[www.oagarraf.net](http://www.oagarraf.net)

# OAG-SVO SASDABA PROJECT

## Spanish Virtual Observatory (SVO)

- *IVOA member since 2004.*
- *Coordination of VO activities in Spain.*
- *Four major lines of work:*
  - *VO compliance of astronomical archives.*
  - *Development of VO tools.*
  - *VO-science.*
  - *Education & Outreach.*



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



International Virtual Observatory Alliance

Credit: X-ray: NASA/CXC/CIA/R. Tullmann et al.; Optical: NASA/AURA/STScI

# OAG-SVO SASDABA PROJECT



OAG-SVO Star Analyser  
Spectroscopic Data Base  
(SASDABA)



CENTRO DE ASTROBIOLOGÍA



EXCELENCIA  
MARÍA  
DE MAEZTU

OAG-SVO STAR ANALYSER SPECTROSCOPIC DATA BASE  
(SASDABA)

☐ Esp ☒ Eng

## Pro-Am Project

**SASDABA** aims to create a database containing spectra of some 2,000 bright stars ( $V < 5$ ) from the northern and southern hemispheres. The spectra are obtained with Star Analyser 100-200 L / mm diffraction gratings to which a 3.8° prism can be added, as well as with various spectrographs (Alpy 600, LHIRES-III, DADOS or similar). The dispersions are of the order of 1 to 20 Å / pix. The instruments used have an aperture range between 80mm to 400mm. ...

[Read more](#)

[Quick guide](#)

[Detailed description of the project](#)

Software RSpec / Real Time Spectroscopy web site by Tom Field  
Tutorials by Tom Field  
Tutorials YouTube by Tom Field

Search

You can list all the objects and see their observation directly using the **Object list**

Or you can search into the archive using the following criteria:

- ☐ Search by date
- ☐ Search by object id
- ☐ Search by observer id

[Send](#)

The SASDABA interface in SVO web site

# OAG-SVO SASDABA PROJECT

## Results

results found

Search selected objects

| Select                   | Search            | Name    | HD Name  | Bayer id  | Flamsteed id | SIMBAD               | RA (degree) | Dec (degree) | RA           | Dec          | V?    | Spec. Type?                           |
|--------------------------|-------------------|---------|----------|-----------|--------------|----------------------|-------------|--------------|--------------|--------------|-------|---------------------------------------|
| <input type="checkbox"/> | View observations | -       | HD225003 | c Psc     | 32 Psc       | <a href="#">view</a> | 0.62376     | 8.48546      | 00 02 29.702 | +08 29 07.67 | 5.890 | F1V C 2006AJ...132..161G              |
| <input type="checkbox"/> | View observations | Sirrah  | HD358    | del Peg   | 21 And       | <a href="#">view</a> | 2.09692     | 29.09043     | 00 08 23.260 | +29 05 25.55 | 2.06  | B8IV-VHgMn C 2003AJ...126.2048G       |
| <input type="checkbox"/> | View observations | Caph    | HD432    | bet Cas   | 11 Cas       | <a href="#">view</a> | 2.29452     | 59.14978     | 00 09 10.685 | +59 08 59.21 | 2.27  | F2III C 2003AJ...126.2048G            |
| <input type="checkbox"/> | View observations | -       | HD493    | kap01 Scl | -            | <a href="#">view</a> | 2.33778     | -27.98793    | 00 09 21.067 | -27 59 16.53 | -     | F3V C 1982MSS...C03...0H              |
| <input type="checkbox"/> | View observations | Algenib | HD886    | gam Peg   | 88 Peg       | <a href="#">view</a> | 3.30896     | 15.18359     | 00 13 14.151 | +15 11 00.94 | 2.84  | B2IV D 2007MNRAS...374..664C          |
| <input type="checkbox"/> | View observations | -       | HD1013   | chi Peg   | 89 Peg       | <a href="#">view</a> | 3.65069     | 20.20670     | 00 14 36.165 | +20 12 24.12 | 4.800 | M2+III B 1989ApJ...71..245K           |
| <input type="checkbox"/> | View observations | -       | HD1038   | -         | 7 Cet        | <a href="#">view</a> | 3.66007     | -18.93287    | 00 14 38.417 | -18 55 58.31 | 4.46  | M1III C 1988MSS...C04...0H            |
| <input type="checkbox"/> | View observations | -       | HD1061   | -         | 35 Psc       | <a href="#">view</a> | 3.74517     | 8.82096      | 00 14 58.840 | +08 49 15.46 | 6.01  | F0 E 1993yCat.3135...0C               |
| <input type="checkbox"/> | View observations | -       | HD1280   | tet And   | 24 And       | <a href="#">view</a> | 4.27291     | 38.68164     | 00 17 05.499 | +38 40 53.89 | 4.61  | A2V C -                               |
| <input type="checkbox"/> | View observations | -       | HD1337   | -         | -            | <a href="#">view</a> | 4.42943     | 51.43309     | 00 17 43.063 | +51 25 59.12 | 6.14  | O9.2II+O8V(If) C 2014ApJS...211...10S |
| <input type="checkbox"/> | View observations | -       | HD1404   | sig And   | 25 And       | <a href="#">view</a> | 4.58191     | 36.78523     | 00 18 19.657 | +36 47 06.81 | 4.52  | A2V C 2012A&A...538L...6H             |

## Object List by AR order

## By Date

| Name     | HD Name | Bayer id    | Flamsteed id | SIMBAD               | RA (degree) | Dec (degree) | RA           | Dec          | V?   | Spec. Type?                | Date       | Time     | Obs. CODE | Sci File                 |
|----------|---------|-------------|--------------|----------------------|-------------|--------------|--------------|--------------|------|----------------------------|------------|----------|-----------|--------------------------|
| Rigel    | HD34085 | bet Ori A   | 19 Ori       | <a href="#">view</a> | 78.63447    | -8.20164     | 05 14 32.272 | -08 12 05.90 | 0.13 | B8Iae C 1943ApJ...98..153M | 2018-01-29 | 20:28:54 | TOB-1     | <a href="#">Sci File</a> |
| Castor B | HD60178 | alf01 Gem   | 66 Gem B     | <a href="#">view</a> | 113.65042   |              |              |              |      |                            |            |          |           | <a href="#">Sci File</a> |
| -        | HD37020 | tet01 Ori A | 41 Ori A     | <a href="#">view</a> | 83.81594    |              |              |              |      |                            |            |          |           | <a href="#">Sci File</a> |
| -        | HD37020 | tet01 Ori A | 41 Ori A     | <a href="#">view</a> | 83.81594    |              |              |              |      |                            |            |          |           | <a href="#">Sci File</a> |
| Rigel    | HD34085 | bet Ori A   | 19 Ori       | <a href="#">view</a> | 78.63447    |              |              |              |      |                            |            |          |           | <a href="#">Sci File</a> |

## By object ID

## Results

11 results found

Download selected files

| Name       | HD Name | Bayer id | Flamsteed id | SIMBAD               | RA (degree) | Dec (degree) | RA           | Dec          | V?   | Spec. Type?              | Date       | Time     | Obs. CODE | File                                              |
|------------|---------|----------|--------------|----------------------|-------------|--------------|--------------|--------------|------|--------------------------|------------|----------|-----------|---------------------------------------------------|
| North Star | HD8890  | alf UMi  | 1 UMi        | <a href="#">view</a> | 37.95456    | 89.26411     | 02 31 49.095 | +89 15 50.79 | 2.02 | F8Ib C 1993APC...45..59L | 2019-03-23 | 23:23:26 | TOB-1     | <a href="#">Sci File</a> <a href="#">Txt File</a> |
| North Star | HD8890  | alf UMi  | 1 UMi        | <a href="#">view</a> | 37.95456    | 89.26411     | 02 31 49.095 | +89 15 50.79 | 2.02 | F8Ib C 1993APC...45..59L | 2019-03-23 | 23:22:45 | TOB-1     | <a href="#">Sci File</a> <a href="#">Txt File</a> |
| North Star | HD8890  | alf UMi  | 1 UMi        | <a href="#">view</a> | 37.95456    | 89.26411     | 02 31 49.095 | +89 15 50.79 | 2.02 | F8Ib C 1993APC...45..59L | 2019-06-13 | 01:05:21 | TOB-1     | <a href="#">Sci File</a> <a href="#">Txt File</a> |
| North Star | HD8890  | alf UMi  | 1 UMi        | <a href="#">view</a> | 37.95456    | 89.26411     | 02 31 49.095 | +89 15 50.79 | 2.02 | F8Ib C 1993APC...45..59L | 2019-06-13 | 01:02:22 | TOB-1     | <a href="#">Sci File</a> <a href="#">Txt File</a> |
| North Star | HD8890  | alf UMi  | 1 UMi        | <a href="#">view</a> | 37.95456    | 89.26411     | 02 31 49.095 | +89 15 50.79 | 2.02 | F8Ib C 1993APC...45..59L | 2019-06-13 | 01:11:17 | TOB-1     | <a href="#">Sci File</a> <a href="#">Txt File</a> |

2049 results found

Download selected files

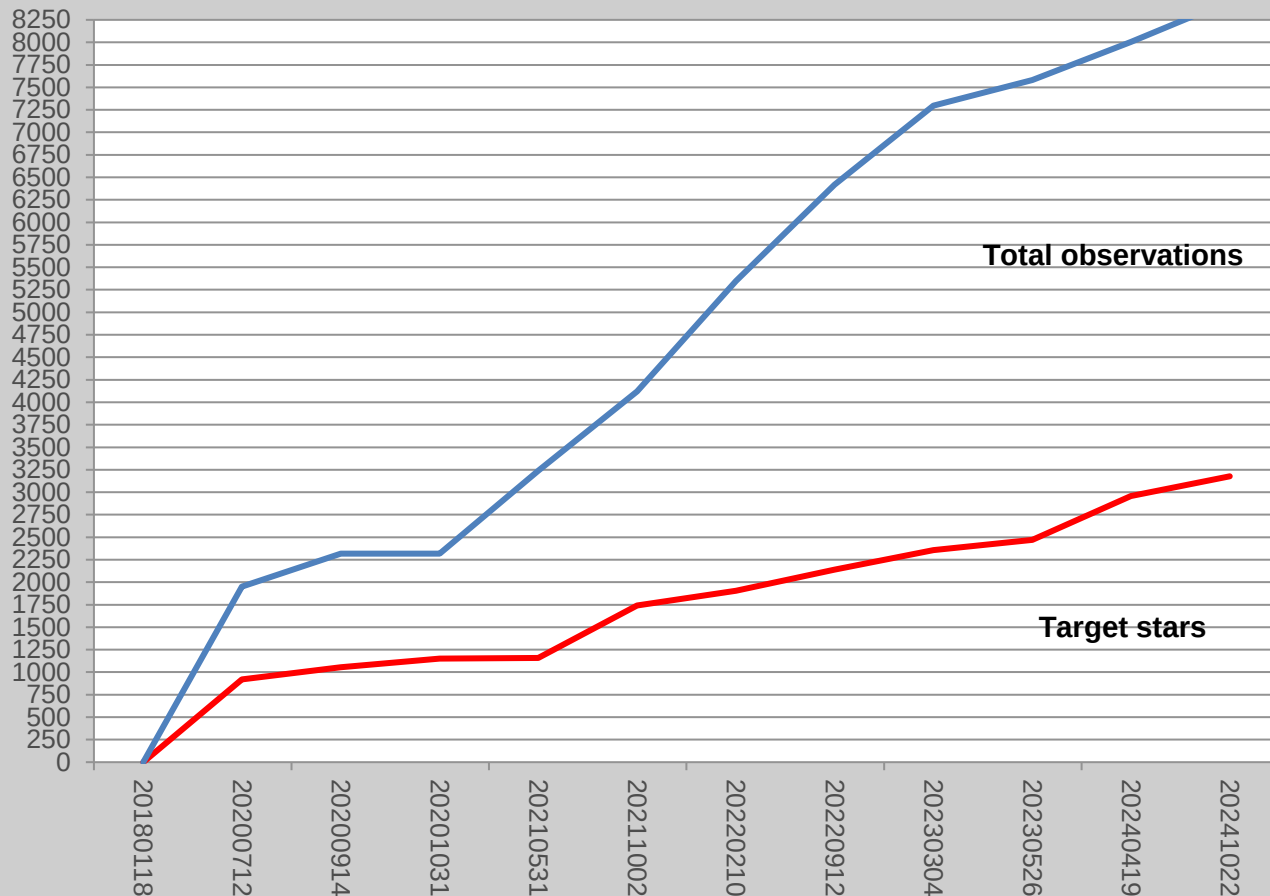
| Name     | HD Name | Bayer id    | Flamsteed id | SIMBAD               | RA (degree) | Dec (degree) | RA           | Dec          | V?   | Spec. Type?                        | Date       | Time     | Obs. CODE | File                     |
|----------|---------|-------------|--------------|----------------------|-------------|--------------|--------------|--------------|------|------------------------------------|------------|----------|-----------|--------------------------|
| -        | HD37020 | tet01 Ori A | 41 Ori A     | <a href="#">view</a> | 83.81594    | -5.38731     | 05 35 15.825 | -05 23 14.33 | 6.73 | B0V C 1977ApJS...34..115W          | 2018-01-29 | 20:34:53 | TOB-1     | <a href="#">Sci File</a> |
| Rigel    | HD34085 | bet Ori A   | 19 Ori       | <a href="#">view</a> | 78.63447    | -8.20164     | 05 14 32.272 | -08 12 05.90 | 0.13 | B8Iae C 1943ApJ...98..153M         | 2018-01-29 | 20:28:54 | TOB-1     | <a href="#">Sci File</a> |
| Castor B | HD60178 | alf01 Gem   | 66 Gem B     | <a href="#">view</a> | 113.65042   | 31.88849     | 07 34 36.100 | +31 53 18.57 | 3.0  | KA0hA2mA1IVs B 1995ApJS...99..135A | 2018-01-29 | 21:36:19 | TOB-1     | <a href="#">Sci File</a> |
| -        | HD37020 | tet01 Ori A | 41 Ori A     | <a href="#">view</a> | 83.81594    | -5.38731     | 05 35 15.825 | -05 23 14.33 | 6.73 | B0V C 1977ApJS...34..115W          | 2018-01-29 | 20:33:32 | TOB-1     | <a href="#">Sci File</a> |
| Pollux   | HD62509 | bet Gem     | 78 Gem       | <a href="#">view</a> | 116.32896   | 28.02620     | 07 45 18.950 | +28 01 34.32 | 1.14 | K0IIIB B 1989ApJ...71..245K        | 2018-01-29 | 21:20:03 | TOB-1     | <a href="#">Sci File</a> |

## By Observer Code

SASDABA search options: Object List, Date, Obs. Code, ID, (SIMBAD)

# OAG-SVO SASDABA PROJECT

## OAG/SVO SASDABA DATA BASE DEVELOPMENT 2018-2024



# OAG-SVO SASDABA PROJECT

## SASDABA RESULTS / UPDATED 20250301

1. Data: 160 GB
2. Files: 13.000+ (AVI / SER/ FITS)
3. Spectroscopic images: 8500+
4. Stars: 3.200+ (Northern & Southern Hemispheres)
5. Total Observations Nights: 900+ (Average 40% year)
6. Survey Status: 100 % completed (+90° to -90° DEC :100%). December 2023 (SASDABA\_R1)
7. Publications & technical support to observers
8. Meetings, Workshops and share information
9. New Programs: Variable Stars (V=7) / Planetary Nebulae
10. New Programs: Memorial Mc Lean Survey (V=3.5)

# OAG-SVO SASDABA PROJECT

Multiple system Beta Tuc\_SASDABA\_Project.  
C.Ryan (Australia): RC-10" f8+ SA-100+ASI-1600MMC  
d= 4,1A/pix  
Epoch: 20211113

Nomenclature T.Tobal(2021)

Beta-3\_HD\_3003

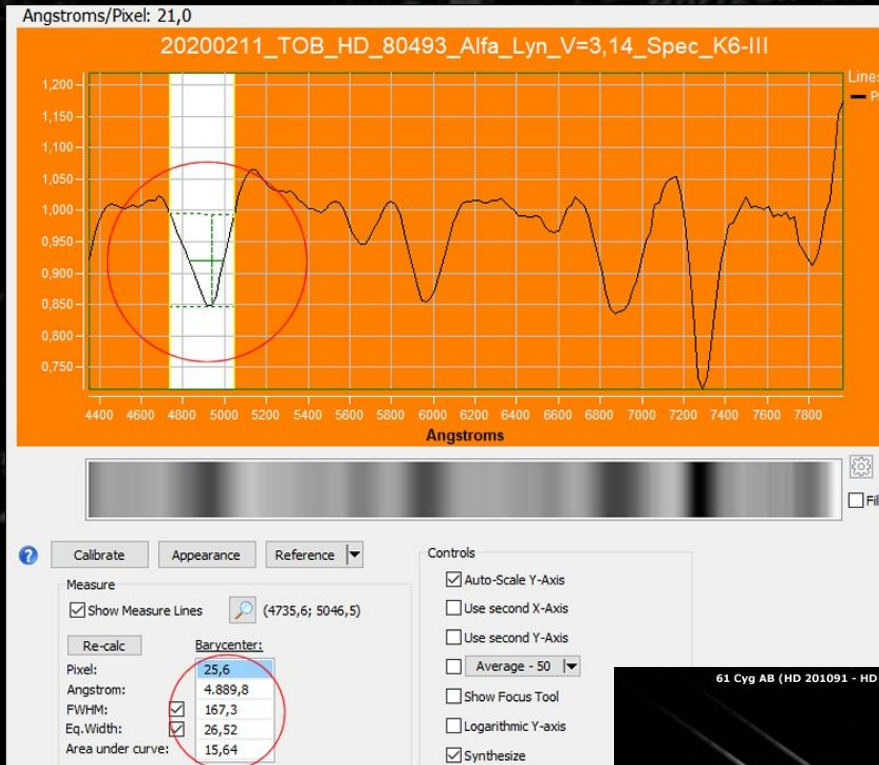
Beta-1\_HD\_2284

Beta-2\_HD\_2285

Beta-1: V= 4.36 Spec B9-IV (135 ly)  
Beta-2: V= 4.68 Spec A2-IV (168 ly)  
Beta-3: V= 5.07 Spec A1-IV (148 ly)

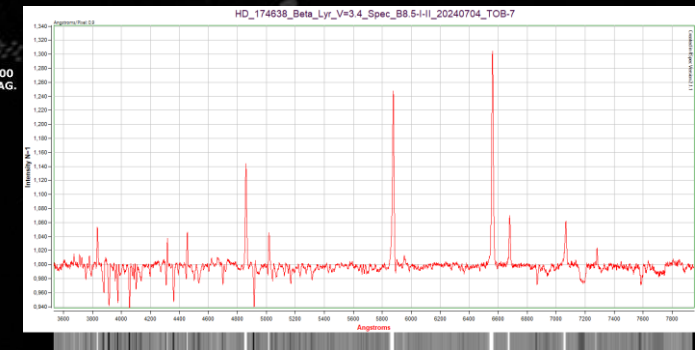
Beta\_Tuc system with Star Analyser by C.Ryan from Australia

# OAG-SVO SASDABA PROJECT



Excel Measurings, Barycenters - Microsoft Excel

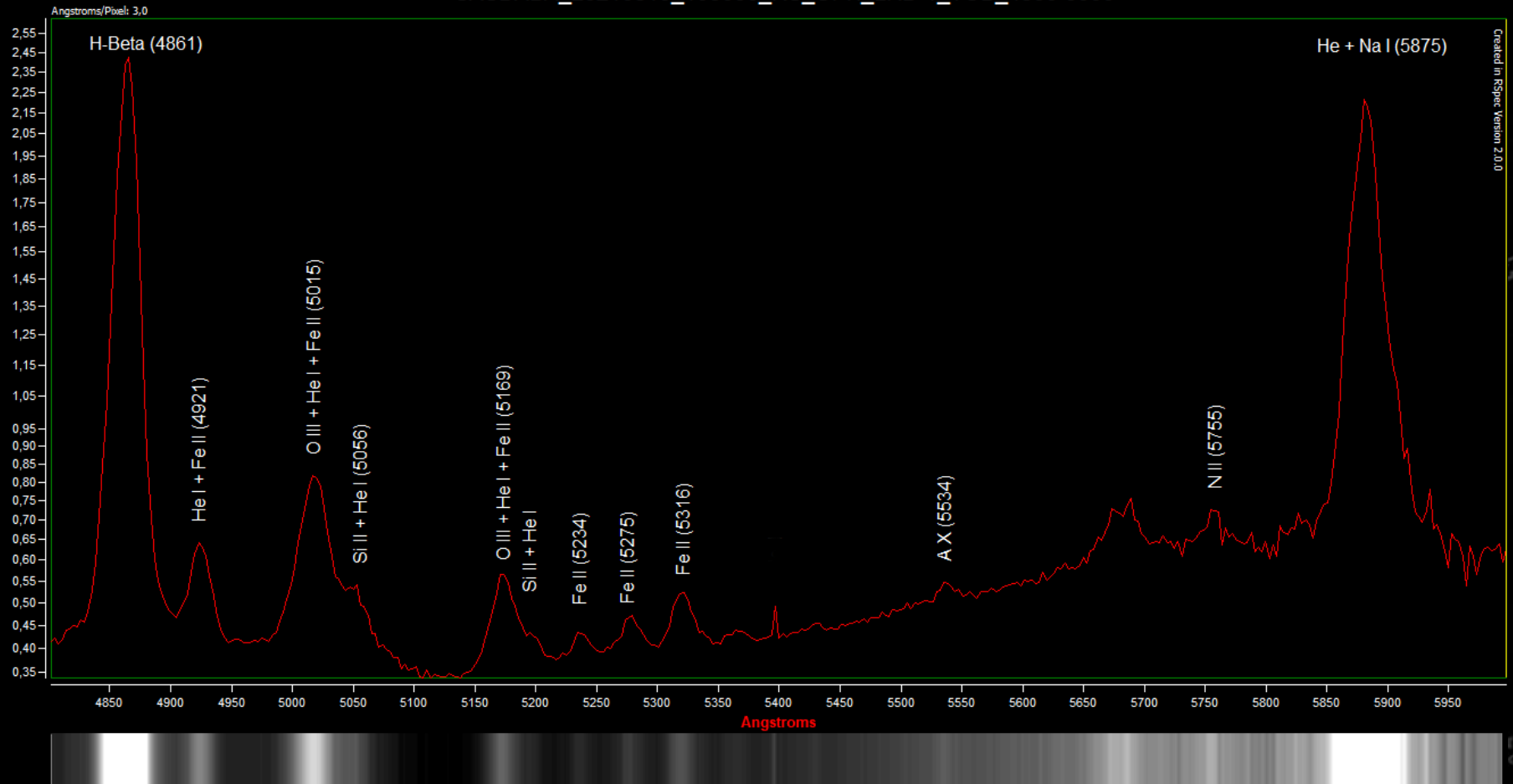
</



SASDABA allows a multitude of learning practices and subsequent analysis

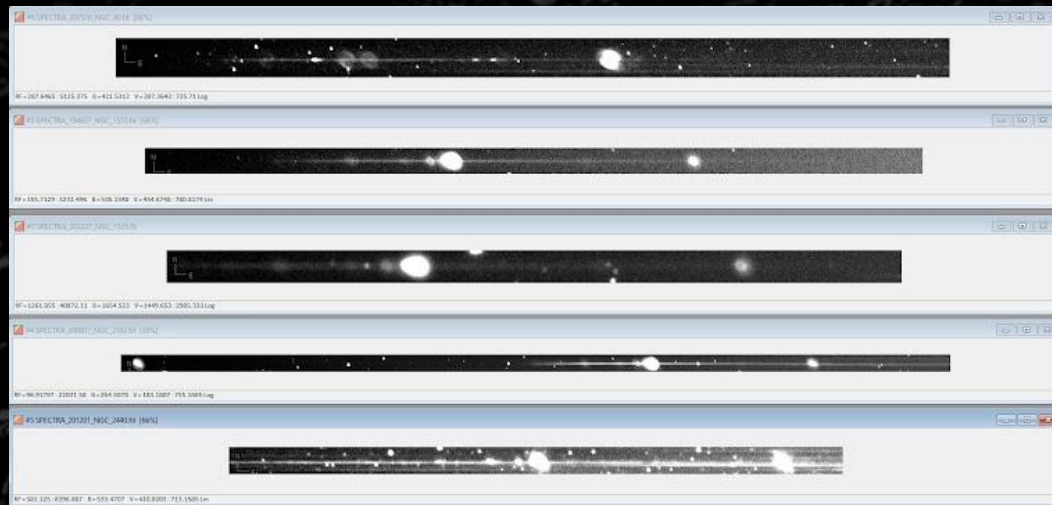
# OAG-SVO SASDABA PROJECT

SASDABA\_20210819\_195030\_RS\_OPH\_LRD-1\_TOB\_4800-6000



Processing stellar spectra ( IIIb ): Identification and labels

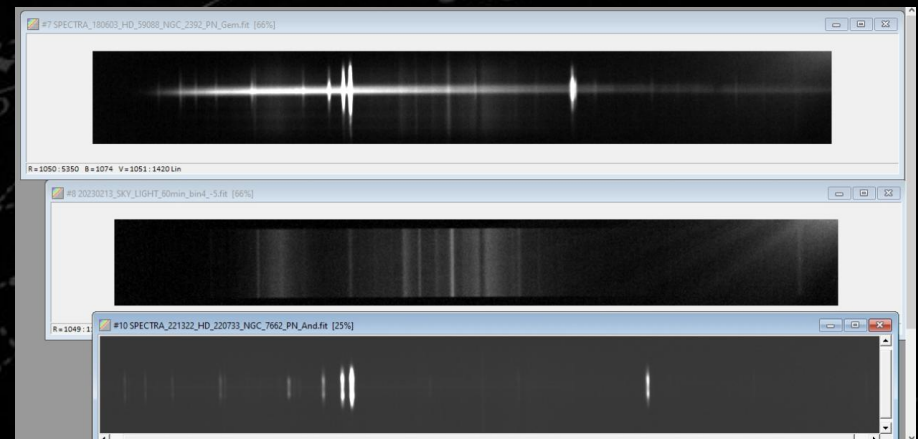
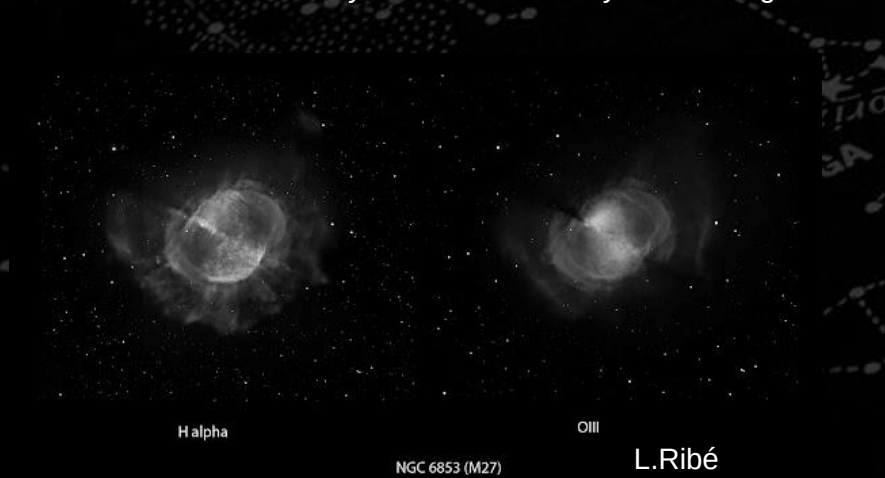
# OAG-SVO SASDABA PROJECT



Star Analyser observations by J.A.Santiago



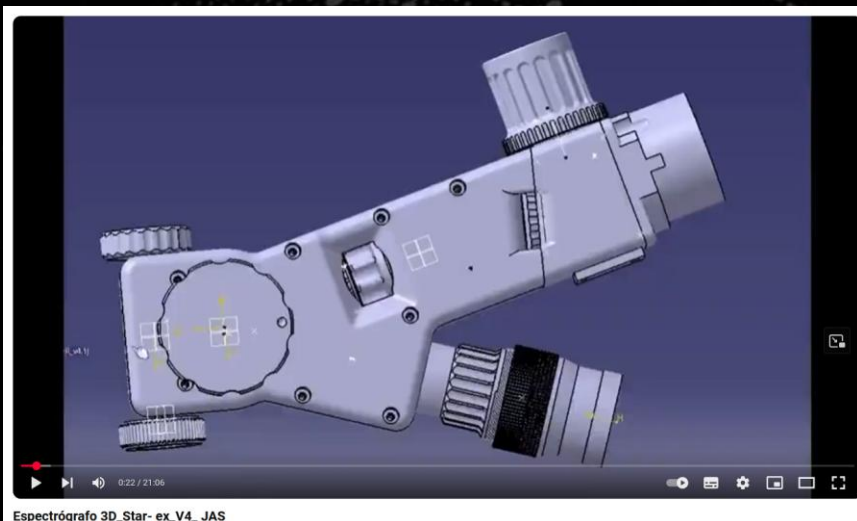
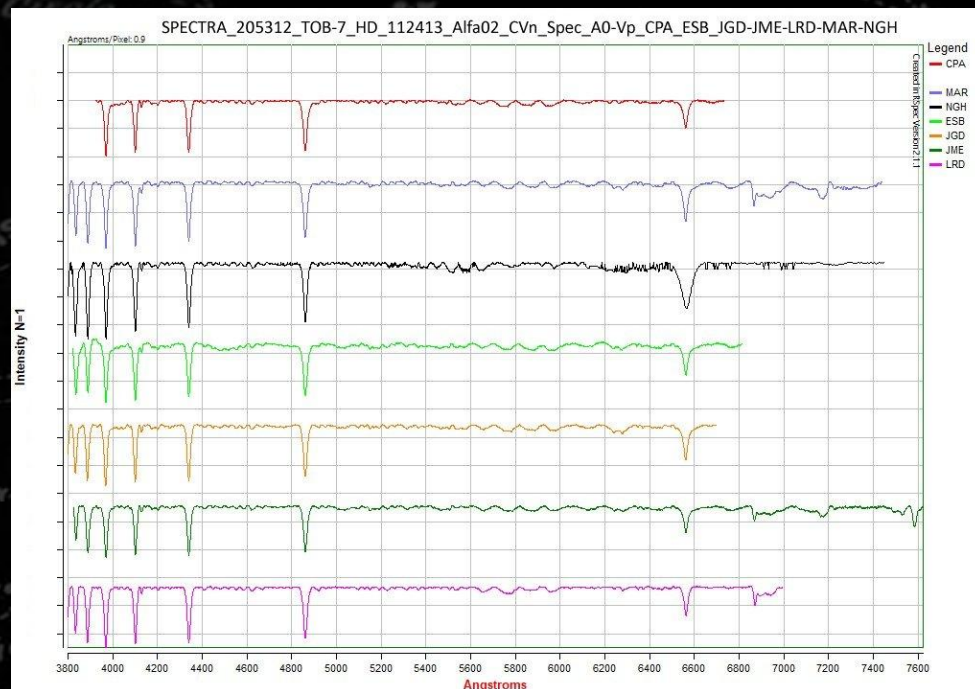
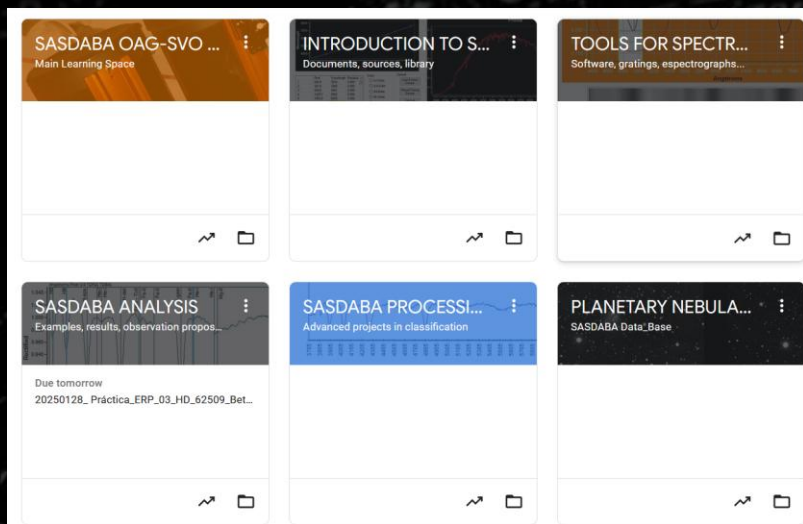
NGC 2392. IAC 80 by E.Matilla



Spectrograph observations by T.Tobal

Planetary Nebulae observations: gratings, spectrographs and selective filters

# OAG-SVO SASDABA PROJECT



SASDABA CLASSROOM Virtual Learning Space, it's free and open for everyone

# OAG-SVO SASDABA PROJECT

COORDINATION MEMBERS

| Member                    | Team         | Location             | Task                         |
|---------------------------|--------------|----------------------|------------------------------|
| T.Tobal                   | OAG          | Barcelona (Spain)    | Coordination-Am Project      |
| A.G.Santiago              | OAG          | Córdoba (Spain)      | Support to Coordination Am   |
| J.M.Espinosa              | OAG          | Cádiz (Spain)        | Support SASDABA Classroom    |
| E.Solano                  | SVO-CAB-CSIC | Madrid (Spain)       | Coordination-Pro Project     |
| J.M.Alacid<br>(2019-2020) | SVO-CAB-CSIC | Madrid (Spain)       | SASDABA Data Base            |
| A.Garcia<br>(2020-2024)   | SVO-CAB-CSIC | Madrid (Spain)       | SASDABA Data Base            |
| J.Cairol                  | OAG / ISHS   | Brisbane (Australia) | Didactic / Documentation     |
| R.Hernández               | AAM / UPM    | Madrid (Spain)       | Documentation / Applications |



➤ Observers and Collaborating Members (2018-2025):

*M.A.Almela, S.Blázquez, R.Castillo, A.Castro, D.Cejudo, L.M. Domínguez, J.M. Espinosa, S.Kerr, E.Matilla, J.Marco, V.Mateos, X.Miret, J.J.Pueyo, M. Rodríguez, L.Romero, C.Ryan, L.Ribé, A.G.Santiago, A.Sánchez, T.Tobal, J.West.*

# OAG-SVO SASDABA PROJECT

*The SASDABA Archive is part of the Spanish Virtual Observatory project funded by MCIN/AEI/10.13039/501100011033 through grant PID2020-112949GB-I00*

*This investigation used the Virtual Spanish Observatory (<http://svo.cab.inta-csic.es>) with the support of Spanish MINECO/FEDER through the grant AyA2017-84089.*

*This research used of "Aladin Sky Atlas" developed at CDS, Strasbourg Observatory, France → [2000A&AS..143...33B](#) and [2014ASPC..485..277B](#).*

*The DASCH project at Harvard is grateful for partial support from NSF grants AST-0407380, AST-0909073, and AST-1313370*

*SASDABA website: <https://sdc.cab.inta-csic.es/sasdaba/>*

*OAG website: [www.oagarraf.net](http://www.oagarraf.net)*

*Project contact: [informaciooag@gmail.com](mailto:informaciooag@gmail.com)*

*Acknowledgements: to [Còsmik SL](#) and [Astronscientific](#) for their providing us with the necessary equipment. To T. Field for his support in the RSpec software. To J.A.Soldevilla, A.Sánchez for their maintenance work in OAG Stations., and to D.Valls (Obs París-Meudon) and J.Fabregat (UV) for his support.*

A detailed star chart of the Northern Hemisphere, centered on the North Star (Polaris). The chart features numerous constellations, each represented by a pattern of stars connected by dashed lines. Key stars are labeled with their names in all caps: ALDEBARAN, CAPELLA, POLARIS, DENERB, VEGA, and ALTAIR. Two concentric dashed circles are labeled "Northern Horizon Circle". The background is black, and the stars are depicted as white dots of varying sizes. The text "OAG-SVO SASDABA PROJECT" is overlaid in a large, bold, white sans-serif font.

# OAG-SVO SASDABA PROJECT

*by T.Tobal*

*26<sup>a</sup>CA\_2025, Sabadell*