

"We interfere constructively"

JMMC Updates 2025

Gaspard Duchêne on behalf of the JMMC team

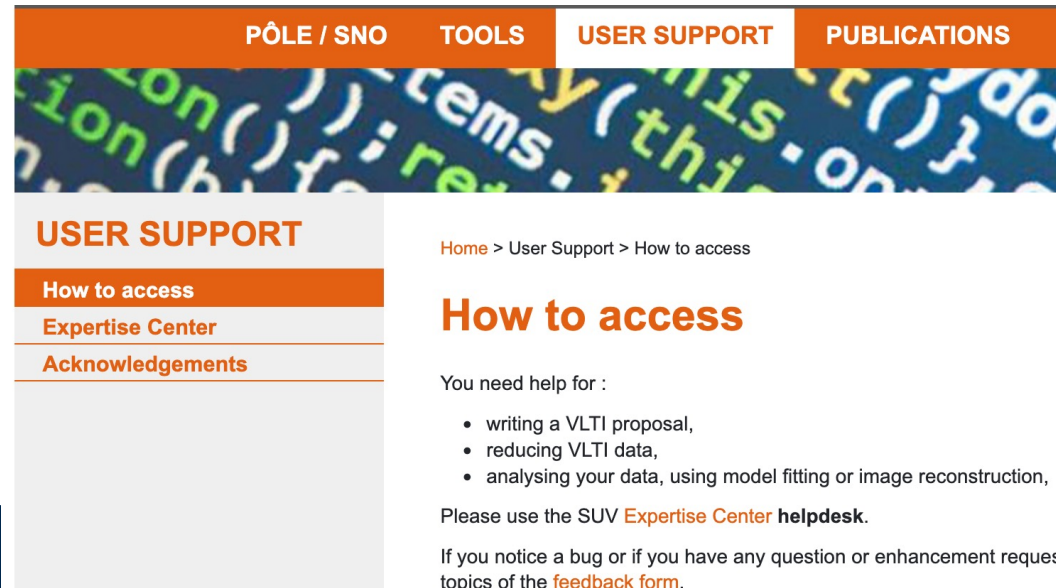
Laurent Bourgès, Guillaume Mella,

Jean-Philippe Berger, Alexis Matter & Isabelle Tallon-Bosc

2025.04.29 @ Nice

General News

- Great 12th VLT School in the Porquerolles Island, September 2024
- New acknowledgment page: <https://www.jmmc.fr/english/user-support/acknowledgements/>
- *Reminder*: all releases @ <https://releases.jmmc.fr/>
- Feel free to report bugs/feedback: <https://www.jmmc.fr/english/user-support/how-to-access/>



The screenshot shows the JMMC User Support page. The top navigation bar has four tabs: "PÔLE / SNO", "TOOLS", "USER SUPPORT" (which is highlighted), and "PUBLICATIONS". Below the navigation bar is a banner image with a blue background and white text that reads "lon()", "tems", "this", "do", "re", "this", "on". Below the banner is a sidebar with the heading "USER SUPPORT" and three links: "How to access", "Expertise Center", and "Acknowledgements". The main content area has a breadcrumb trail "Home > User Support > How to access" and a heading "How to access". Below the heading is a list of items that need help for: "writing a VLT proposal", "reducing VLT data", and "analysing your data, using model fitting or image reconstruction". At the bottom, there is a note: "Please use the SUV Expertise Center helpdesk." and a link to the "feedback form".



JMMC Services



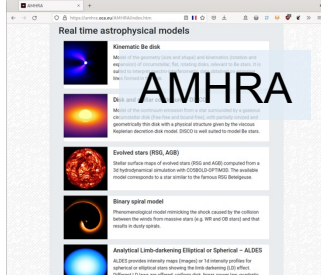
VLTI



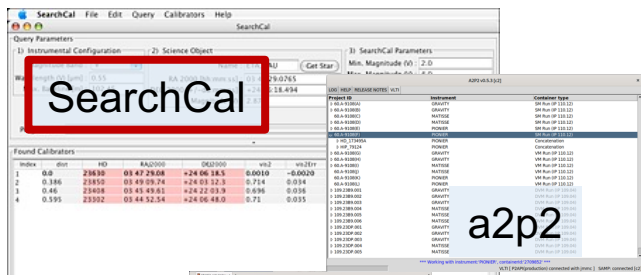
CHARA

- + Expertise Center
- + User Support
- + Training
- + OLBIN publications

The CHARA Science Meeting 2025



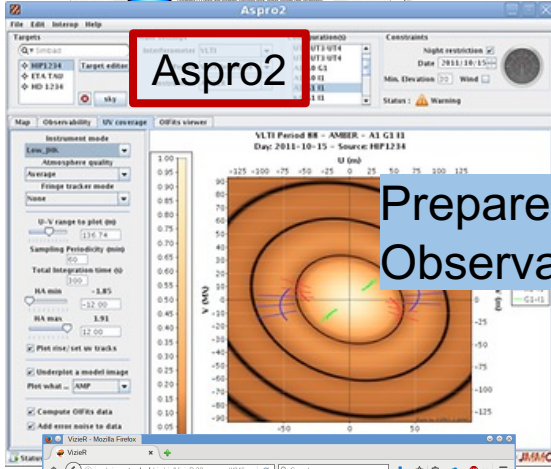
AMHRA



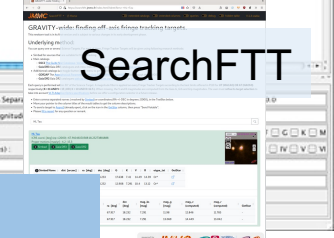
SearchCal



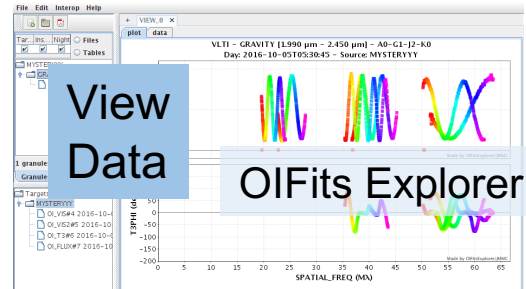
a2p2



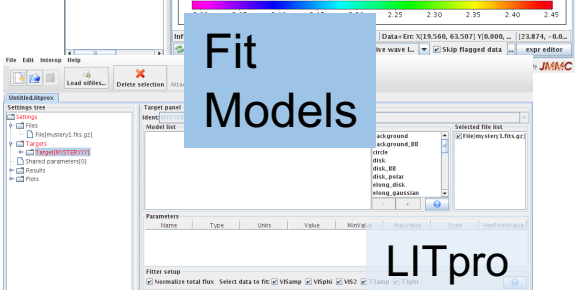
Aspro2



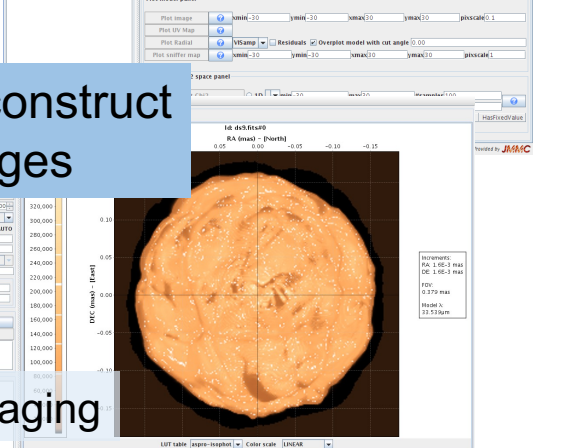
SearchFTT



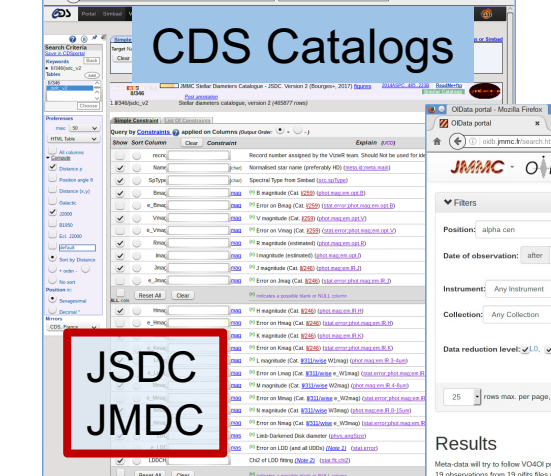
OIFits Explorer



Fit Models



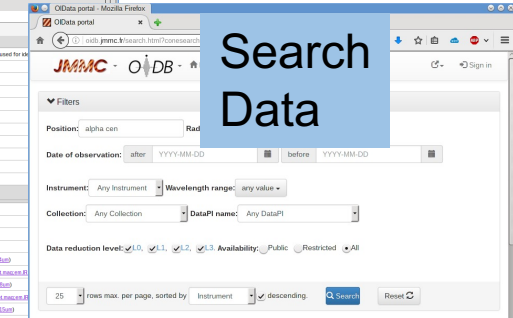
LITpro



CDS Catalogs



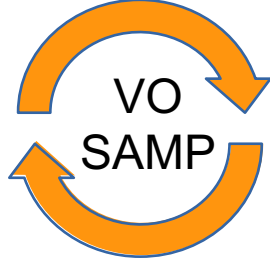
JSDC JMDC



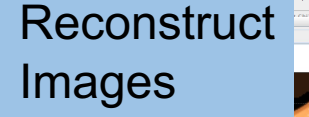
Search Data



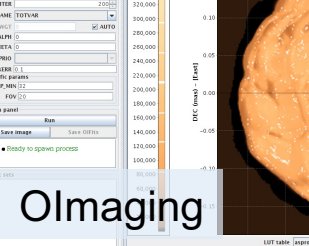
OiDB



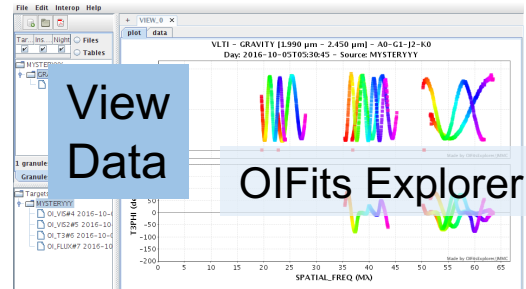
VO SAMP



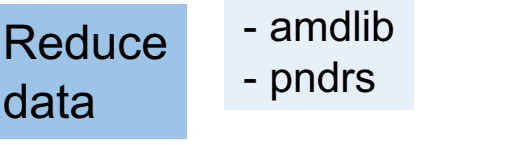
Reconstruct Images



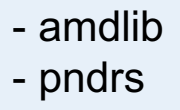
Olmaging



View Data



Reduce data



- amdlib
- pndrs



LESIA



Aspro2: black-body models

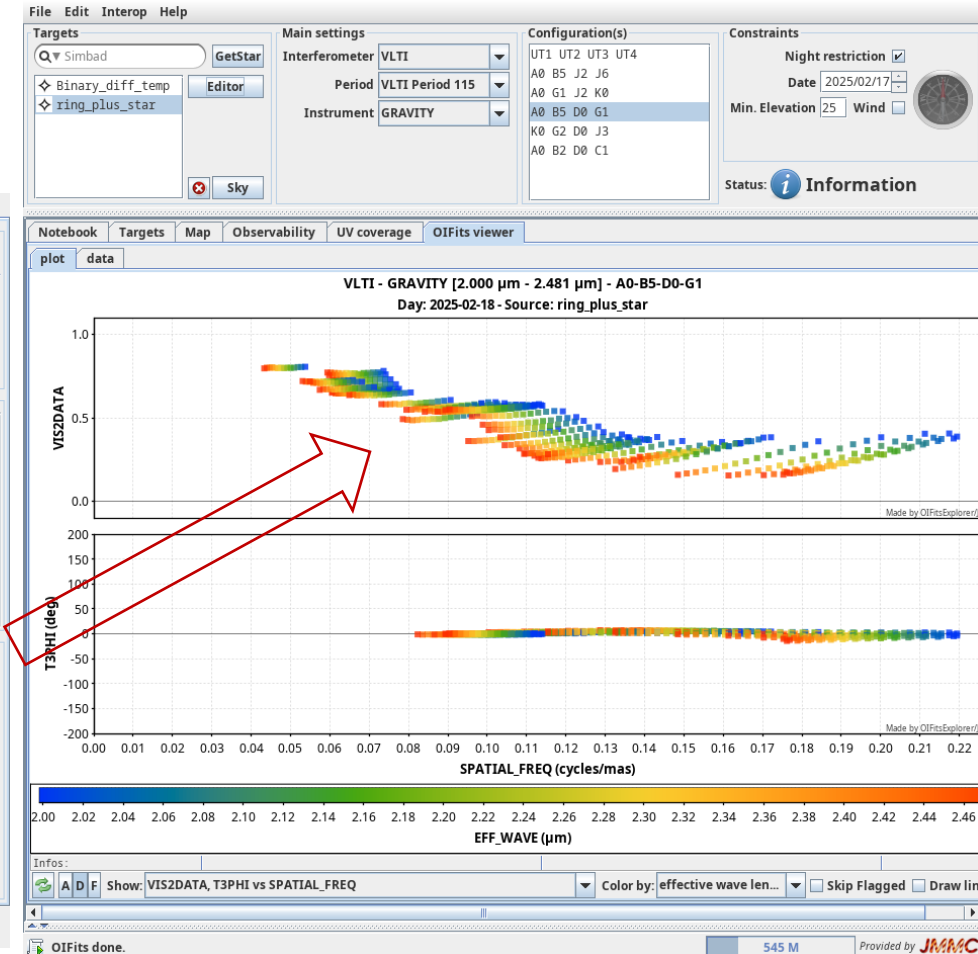
New black-body components (disk, gaussian, ring) with temperature (K) using the solid angle to scale the flux ratio:

$$V_{tot}(u, v, \lambda) = \frac{\sum_i^N S_i B(\lambda, T_i) V_i(u, v)}{\sum_i^N S_i B(\lambda, T_i)}$$

See [doc](#)

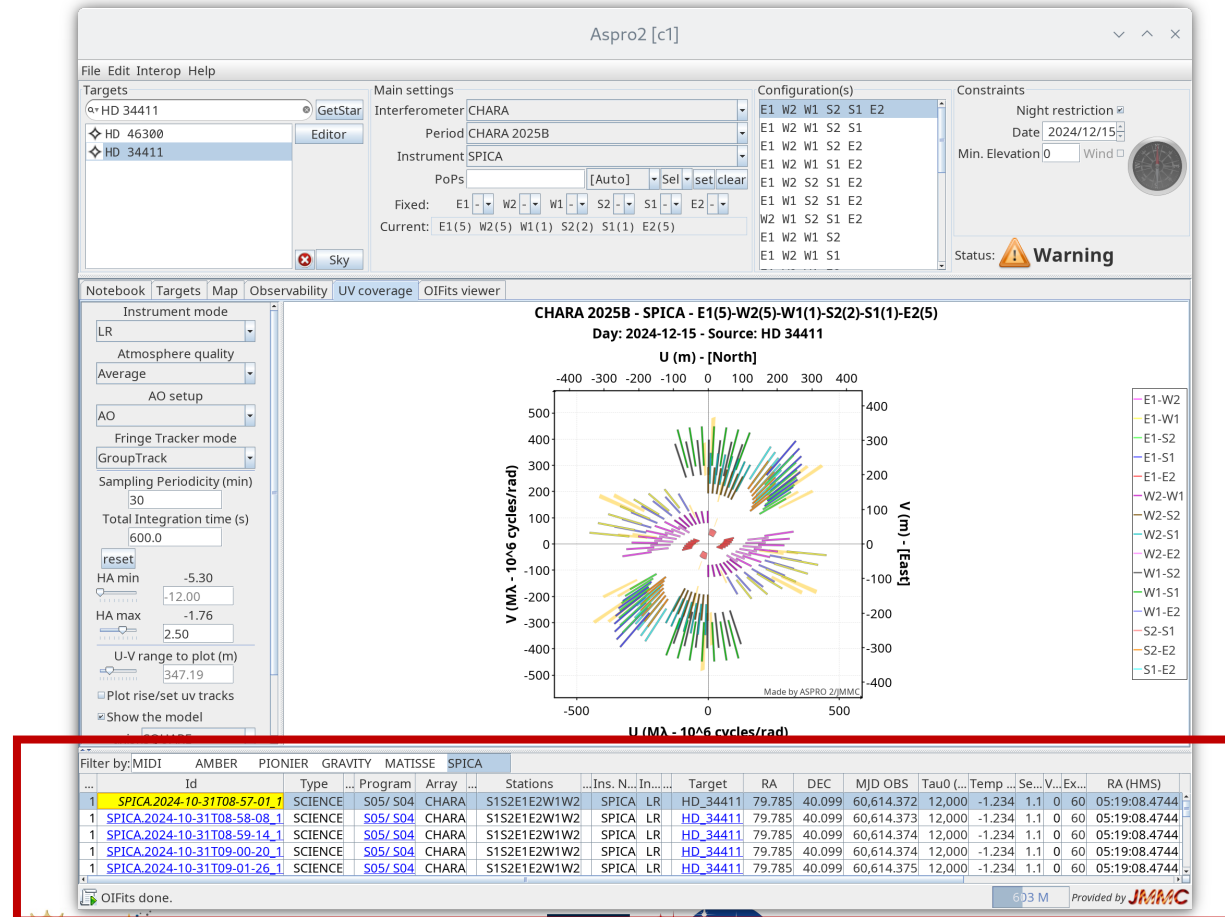
Model Parameters

Model	Name	Units	Value
disk_BB1	flux_weight1		1
	temperature1	Kelvin	10,000
	x1	mas	0
	y1	mas	0
flatten_ring_BB2	diameter1	mas	0.5
	flux_weight2		1
	temperature2	Kelvin	1,500
	sep2	mas	0.5
	pos_angle2	deg	0
	major_internal_diameter2	mas	7
	flatten_ratio2		1.3



Aspro2 interoperability

- Improved integration with GetStar 6 to get fluxes (G, LMN)
- SPICA obs logs ingested in Obs portal => ASPRO2



JSDC 3 / SearchCal 6

- Updated dataset JSDC 3 (24.12): 514k diameters (bright)
 - based on TYCHO2 (ASCC I/280) = 2.5 million candidates
 - SIMBAD (20m objects) with up-to-date spectral & object types
 - GAIA DR3: pos + G Bp Rp (+ radius) with G to V conversion
 - MDRC: IRFlag + LMN fluxes (Jy)
- Improved crossmatchs + new CalFlag/IRFlag/BadCal
- Added GAIA DR3 (G, Bp, Rp) => V, used if no V flux (GetStar)
- Available in SearchCal 6 beta: <https://www.jmmc.fr/~betaswmgr/SearchCal/>
- Future tasks:
 - Validation & comparison JSDC v3 vs v2 => write change log + data paper
 - Complete JMDC with new diameters => update new polynomial laws for JSDC4

SearchCal 6

SearchCal [c1]

File Edit Query Calibrators Interop Help

Query Parameters

1) Instrumental Configuration

Magnitude Band : V
Wavelength [V] [μm] : 0.55
Max. Baseline [m] : 102.45

2) Science Object

Name :
RA 2000 [hh:mm:ss] : 03 47 29.0765529
DEC 2000 [+-dd:mm:ss] : +24 06 18.488347
Magnitude [V] : 2.87

3) SearchCal Parameters

Min. Magnitude [V] : 0.87
Max. Magnitude [V] : 4.87
Scenario : ☒ Bright ☐ Faint
RA Range [mn] : 240.0
DEC Range [deg] : 20.0

Progress :

Get Calibrators

Found Calibrators (164 sources, 9 filtered)

Ind...	vis2	vis2Err	diam_chi2	LDD	e_LDD...	UD_B	UD_V	UD_R	UD_I	Group...	SIMBAD	SpType	ObjTypes	B	V	R	G	BADCAL	CalFlag
1	0.818	0.031	0.549	0.323	9.106	0.312	0.314	0.316	0.317	0	* q Tau	B6IV	,SB*,**IR,NIR,SB*,UV,V*,X	4.202	4.293	4.3	4.261		6
2	0.547	0.086	0.049	0.562	11.683	0.529	0.533	0.54	0.544	0	* kap01 Tau	A7IV-V	,HighPM*,**IR,NIR,PM*,UV,V*,	4.366	4.201	4.0	4.167		2
3	5.887E-5	6.659E-4	0.044	2.751	6.784	2.451	2.505	2.545	2.585	0	HD 20468	K2IIBCN0.5	,Star*,IR,NIR,	6.349	4.828	3.7	4.352		0
4	0.697	0.042	1.679	0.44	7.722	0.413	0.417	0.422	0.426	0	HD 28527	A6IV	,delSctV*,**IR,NIR,PM*,UV,V*,dS*,	4.974	4.763	4.6	4.752	11	4
5	0.672	0.058	1.17	0.46	9.922	0.433	0.437	0.442	0.446	0	* sig02 Tau	A5Vn	,HighPM*,**IR,NIR,PM*,UV,	4.842	4.664	4.5	4.642		0
6	0.899	0.019	0.043	0.235	9.595	0.228	0.229	0.23	0.231	0	* 35 Ari	B3V	,SB*,**IR,NIR,Pu*,SB*,UV,	4.524	4.643	4.6	4.615		6
7	0.561	0.081	0.08	0.552	11.181	0.518	0.523	0.529	0.534	0	* c Tau	A6V	,BlueStraggler_Candidate,***BS*,IR,NIR,PM*,UV,X	4.412	4.262	4.1	4.253		2
8	0.608	0.071	0.102	0.513	10.727	0.482	0.487	0.493	0.497	0	* iot Tau	A7V	,***,**IR,MIR,NIR,PM*,UV,	4.796	4.614	4.4	4.583		2
9	0.867	0.026	0.645	0.274	9.981	0.263	0.265	0.266	0.268	0	* lam Cet	B6III	,Star*,IR,NIR,UV,	4.602	4.703	4.7	4.664		0
10	0.601	0.049	4.948	0.514	7.337	0.488	0.492	0.497	0.501	0	* pi.02 Ori	A1Vn	,Star*,IR,MIR,NIR,UV,	4.377	4.348	4.2	4.342		0
11	0.093	0.057	0.167	1.035	9.263	0.956	0.974	0.984	0.995	0	* del Tri	G0.5VFe-0.5	,SB*,**IR,MIR,NIR,PM*,SB*,UV,X	5.48	4.864	4.7	4.671		6
12	0.644	0.042	0.72	0.483	6.828	0.455	0.459	0.464	0.469	0	* mu. Aur	A4m	,***,**IR,NIR,UV,	5.041	4.821	4.6	4.732		2
13	0.83	0.034	0.331	0.311	10.4	0.301	0.302	0.304	0.305	0	* pi.04 Ori	B2III	,SB*,**IR,NIR,SB*,UV,V*,	3.52	3.674	3.7	3.668		6
14	0.684	0.047	0.102	0.45	8.229	0.424	0.427	0.433	0.436	0	* 58 And	A5IV-V	,HighPM*,**IR,NIR,NIR,PM*,UV,	4.919	4.782	4.6	4.753		0
15	0.032	0.038	0.108	1.208	10.073	1.086	1.11	1.126	1.141	0	* nu. Cet	G8III	,SB*,**IR,MIR,NIR,SB*,UV,X	5.748	4.868	4.7	4.64		6
16	0.774	0.041	0.706	0.368	9.698	0.35	0.353	0.357	0.359	0	* 136 Tau	A0V+A0V	,SB*,**IR,NIR,SB*,UV,V*,	4.553	4.553	4.5	4.529		6
17	0.735	0.053	0.498	0.405	10.886	0.383	0.386	0.391	0.394	0	* ups Psc	A3V	,Star*,IR,NIR,	4.807	4.745	4.6	4.726		0
18	0.847	0.027	0.323	0.294	9.326	0.284	0.285	0.287	0.288	0	* pi. And	B5V	,SB*,**IR,NIR,SB*,UV,V*,	4.227	4.337	4.3	4.305		6
19	0.494	0.067	0.271	0.606	8.55	0.567	0.574	0.58	0.586	0	* 71 Tau	FOV	,delSctV*,**IR,NIR,PM*,SB*,UV,V*,X,dS*,	4.757	4.48	4.2	4.406		6
20	0.75	0.039	1.907	0.39	8.449	0.371	0.373	0.377	0.38	0	* pi.01 Ori	A0Va_II	,HighPM*,**IR,MIR,NIR,PM*,UV,V*,	4.743	4.646	4.5	4.636		0
21	0.616	0.067	0.193	0.507	10.13	0.474	0.481	0.485	0.491	0	* lam Ari	FOV	,HighPM*,**IR,NIR,PM*,Rad,UV,X	5.079	4.767	4.5	4.704		0
22	0.803	0.044	0.577	0.338	11.749	0.326	0.327	0.33	0.331	0	* nu. Gem	B6Ive	,Be*,**Be*,Em*,IR,MIR,NIR,V*,	4.022	4.132	4.1	4.059	18	2
23	0.69	0.054	0.45	0.443	9.817	0.419	0.423	0.428	0.431	0	* sig And	A2V	,HighPM*,**IR,MIR,NIR,PM*,UV,V*,	4.592	4.505	4.4	4.502		0
24	0.176	0.086	0.306	0.909	11.128	0.846	0.86	0.868	0.877	0	* ome Psc	F4V	,SB*,**IR,NIR,PM*,SB*,UV,X	4.453	4.025	3.6	3.924		4
25	0.017	1.027E-4	0.134	1.976	8.67	1.769	1.808	1.834	1.861	0	* 37 Tau	K0III-IIIb	,HighPM*,**IR,NIR,PM*,UV	5.42	4.342	3.9	4.065		0

Filters

☐ Reject stars farther than : Maximum RA Separation (mn) : 10.0

☐ Reject stars with magnitude : below : 0.0

☐ Reject Spectral Types (and unknowns) :

☐ Reject Luminosity Classes (and unknowns) :

☐ Reject Visibility below : vis2 : 0.5

☐ Reject Visibility Accuracy above (or unknown) : vis2Err/vis2 (%) : 2.0

☐ Reject Variability

☒ Reject Multiplicity

☐ Reject Invalid Object Types

☐ Diameter quality : Maximum chi square : 2.0

☐ Maximum relative error (%) : 10.0

☐ SBC9 & WDS ☐ Badcal

searching calibrators... done.

475 M Provided by JMMC

GetStar 6

- New form to customize inputs (fluxes and spectral type) used by diameter estimation
- Based on JSDC3 (2.5e6 rows) + custom queries for unknown sources
- Can use (G => V + JHK) for sources without V mag to get a diameter

Welcome to the JMMC GetStar service.

Please enter your object name to retrieve all its information from Simbad & VizieR catalogs:

Name: Format:

Advanced parameters: [show / hide](#)

- Photometries:

- V (mag):	0.541	e_V (mag):	0.018
- J (mag):	-2.989	e_J (mag):	0.103
- H (mag):	-4.007	e_H (mag):	0.162
- K (mag):	-4.378	e_K (mag):	0.186
- Spectral Type:	M1-M2Ia-lab		

It may take few seconds to get results (multiple CDS queries and computation of various propert.

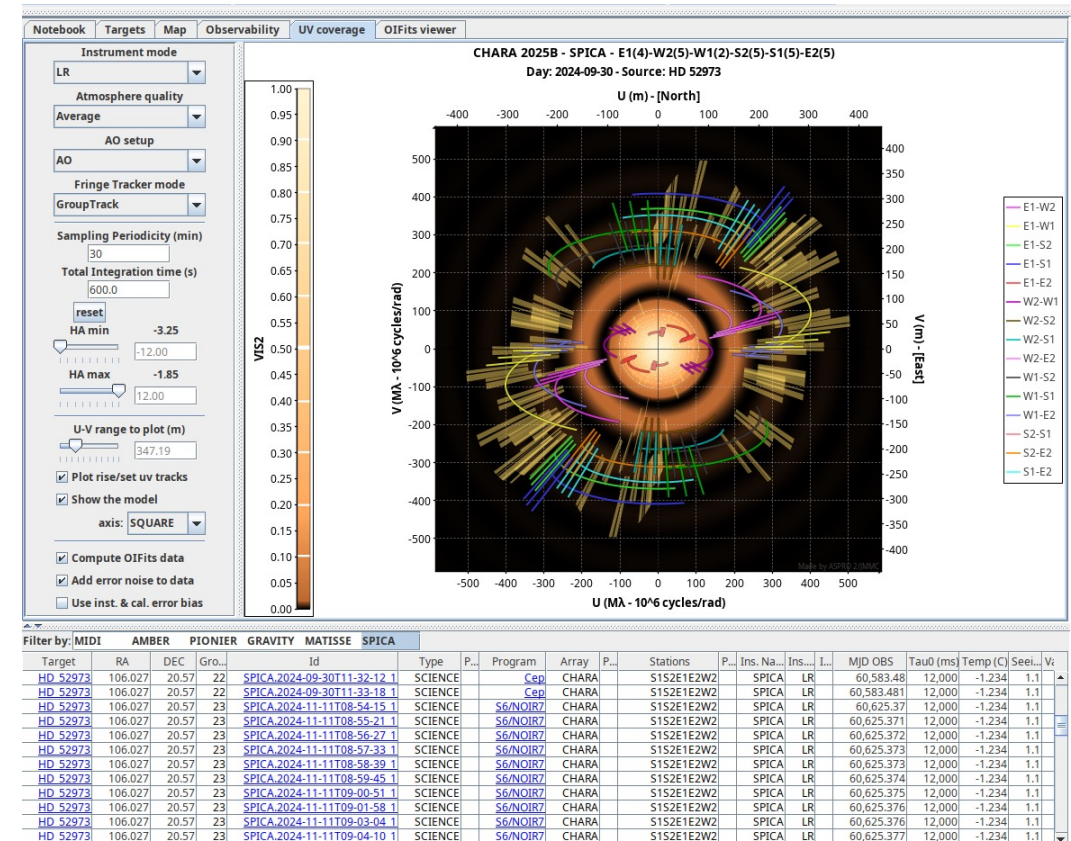
GetStar result:

Version: SearchCal Server v6.25.02-21
 GetStar software (In case of problem, please report to jmmc-user-support@jmmc.fr)
 Request parameters: -objectName betelgeuse -format vot
 Generated on (UTC): 2025-03-09T21:27:15

Property	Value	(Unit)	
HD	39801		HD identifier, click to call
HIP	27989		HIP identifier, click to call
DM	701055		DM number, click to call Simb
ASCC	1015030		ASCC identifier, click to cal

SPICA-db

- a2p2 ready to queue observation on site with SPICA-DB
- CatalogAPI enhanced to crossmatch multiple catalogs
 - Being tested to plot science data associated to the survey list
 - Should be a tool to update and curate program catalogs with their specific data
- Headers injected to ObsPortal so we can plot UV coverage of past observations



Publications.OLBIN.org

Updated public web page

“Data paper” planned

You can search papers by keywords (years, titles, author names , part of bibcodes), or/and by using tags from the list. [Tag List](#)

The OLBIN interactive interferometry publications database includes all refereed papers related to optical interferometry referenced in ADS and aims at being as complete as possible. It is made up of refereed interferometric papers, that are distributed into various categories (Astrophysical results, Catalogs, Instrumentation, Review papers, Theory and predictions, etc), various interferometer facilities and instruments, various types of object observed, etc. This labelling enriches the basic information from ADS (title, list of authors, year of publication). Just click on the “Tag List” button for the complete list of tags.

It is not easy to define an interferometric paper, and in some cases, the decision to include or not a paper in OLBIN may be somewhat subjective. But we can say that it is a referred paper:

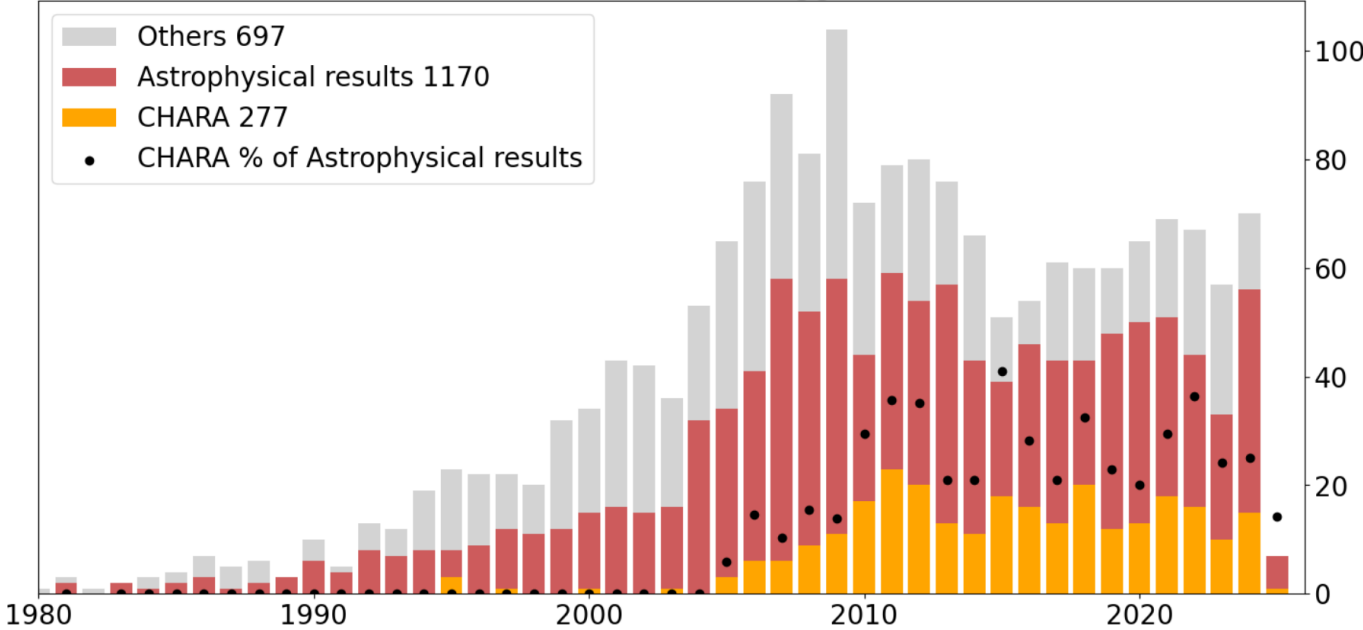
- whose main topic is optical interferometry (Long Baseline or Sparse Aperture Masking),
- with new astrophysical interferometric data and results, or
- that uses already published interferometric observables (visibilities, closure phases and so on) together with other types of data, within a model to produce new astrophysical results.

OLBIN refereed papers get its **own ADS** library so you can subscribe with your ADS account and be notified on future updates. If you notice that a paper is missing please **send the ADS bibcode to the webmaster** and any other useful information. You can find the **current list of reviewed papers** to complete the OLBIN database (is empty after the review).

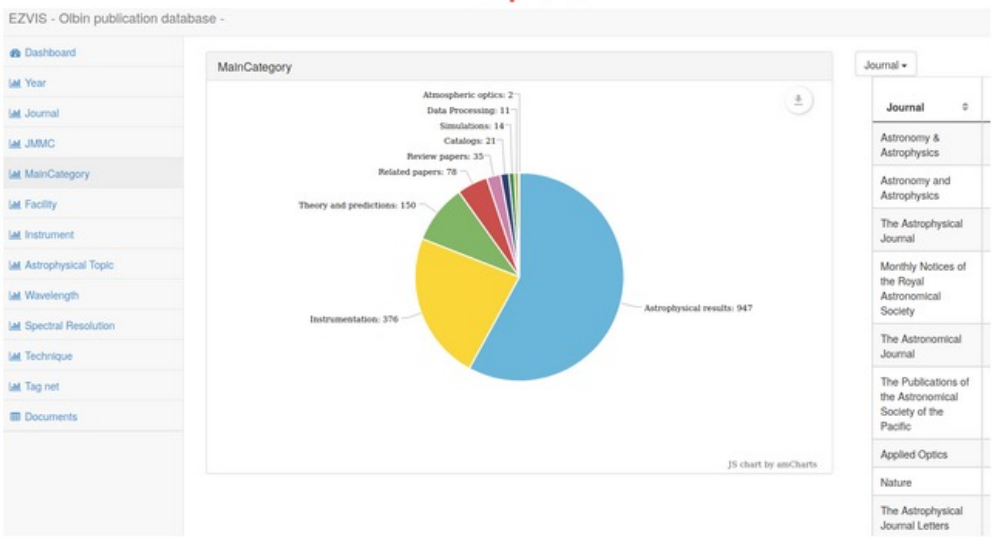
All the database contents can be downloaded as one **spreadsheet file**, in CSV format for your own use (e.g. for plotting graphics).

Get publications for a given target on ADS

OLBIN (1920 - 2025) - Rank A articles tagged 'CHARA' (total 277)

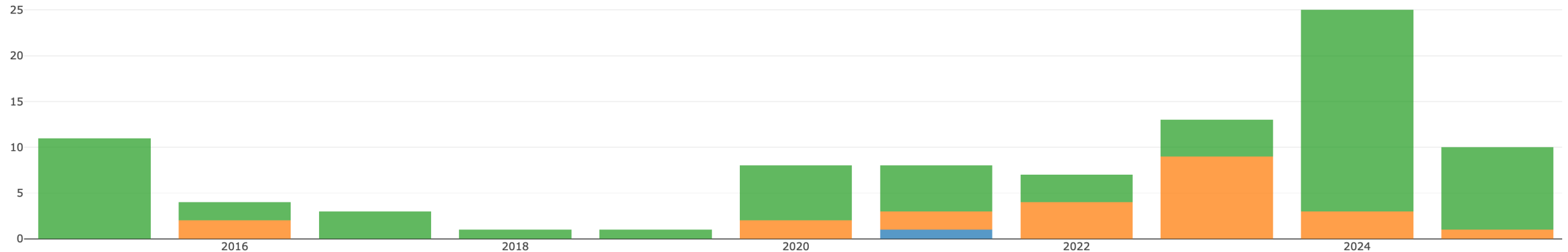


EZVis plots



OiDB

- 31 new L3 collections added (thanks everyone!)
- Future ingestion of ESO “Phase 3” archive (GRAVITY L2)



OiDB

- 31 new L3 collections added (thanks everyone!)
- Future ingestion of ESO “Phase 3” archive (GRAVITY L2)
- CHARA L0 (thanks Jeremy!)
- SPICA L1-L2 (thanks Imène and David!)

Interferometric Survey of Stellar Parameters

Description

Name: ISSP

Title: Interferometric Survey of Stellar Parameters

Type: chara (embargo duration : P1Y6M)

Creator name: Denis Mourard

Description:



ISSP associated data.

CHARA observation logs

Description

Name: [CHARA obs log import](#)

Title: CHARA observation logs

Type: public (embargo duration : P0M)

Creator name: Jeremy Jones

Description:



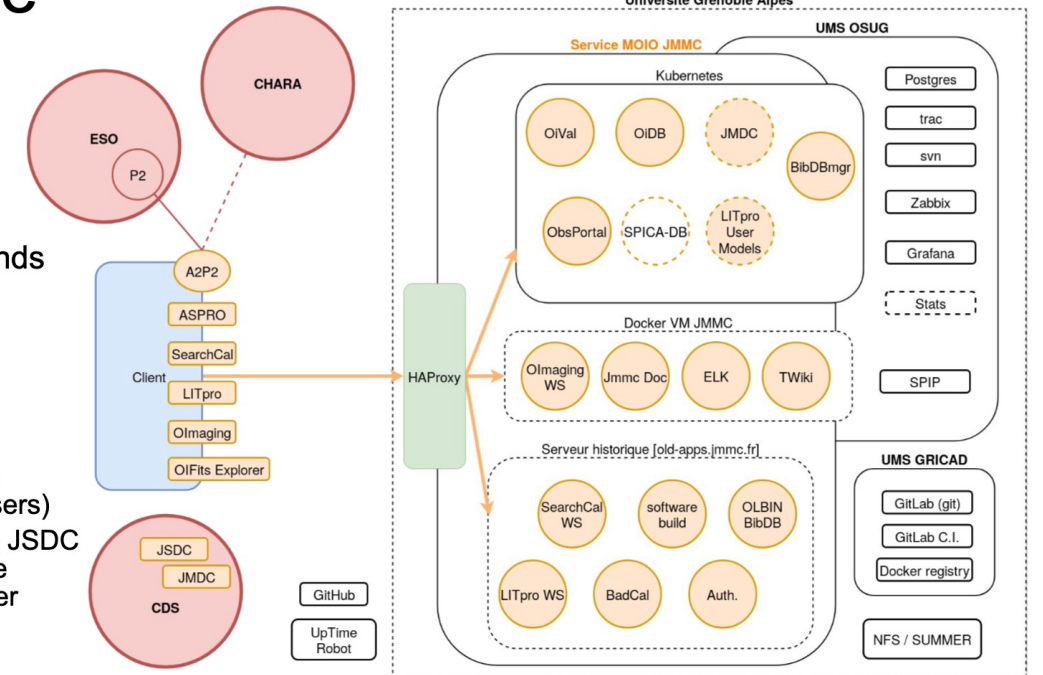
This collection gathers observation logs from CHARA.

Infrastructure

- JMMC needs fit well on the infrastructures provided by universities and observatories :
 - network
 - datastorage / backup
 - computation ressources
- Some aging services
- Still moving most services on the cloud system managed by OSUG
 - Increase reliability
 - Reduce system administration
 - Could help to scale some computation
 - Next scheduled upgrades : SearchCal server & OiMaging service

Infrastructure @OSUG

- Datastore : 2 TB
- HAProxy : ~ 50 backends
- 6 VMs
 - 8 containers
- 15 pods K8S
- Databases :
 - 5 postgres databases (OSUG) + 1 mysql (users)
 - New SPICA, JMDC & JSDC catalogs stored on the shared postgres server



Roadmap

- Continued improvements on JMMC tools

- OIFITSExplorer

- OImaging

- JSDC3 validation

- Update JMDC -> -> JSDC4

- OiDB

- DOIs

- OIFITS files versionning

- NIFITS format support (VLTI Asgard suite)

- ***We welcome input/suggestions/recommendations from the CHARA community!***

Contact US

- Email: jmmc-user-support@jmmc.fr
- User Support: <https://apps.jmmc.fr/feedback/>
- Releases: <https://releases.jmmc.fr/>
- JMMC Issues on github
<https://github.com/JMMC-OpenDev/>