



JMMC service updates & roadmap 2023

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JMMC Services



VLTI



CHARA

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

AMHRA
Real time astrophysical models

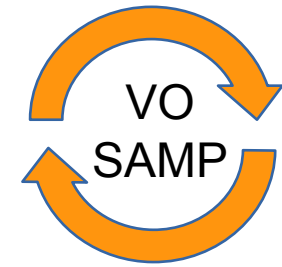
SearchCal
SearchCal File Edit Query Calibrators Help

Reduce data
- amdlib
- pndrs

Aspro2
Main settings

SearchFTT
GRAVITY online FT fitting software

OIFits Explorer
View Data



CDS Catalogs
CDS Catalogs

JSDC JMDC
JSDC JMDC

LITpro
Fit Models

Search Data
Search Data

OiDB
OiDB

Reconstruct Images
Reconstruct Images

Olmaging
Olmaging

JMMC software & service releases

- New Release page:
 - <https://releases.jmmc.fr/index.html>
 - get direct access to Java applications (JAR/JNLP files)
 - links to web services
 - check new versions & release notes
- Most of source code available:
 - <https://github.com/JMMC-OpenDev>
 - More to be opened soon !

JMMC's applications and services releases

Please find below public and beta application links to run our Web, Python or Java applications (JAR or JavaWebStart), get release notes, credits, details...

Application	Release page	Version	Release date
Java applications			
	public	1.1.9	JNLP JAR
	beta	1.1.10 beta 1	JNLP JAR
	public	23.03	JNLP JAR
	beta	23.03 beta 2	JNLP JAR
	public	1.1.1	JNLP JAR
	beta	1.2.0 beta 2	JNLP JAR
	public	0.5.3	JNLP JAR
	beta	0.5.3 beta 1	JNLP JAR
	public	1.0.2	JNLP JAR
	beta	1.0.2 beta 1	JNLP JAR
	public	5.1.4	JNLP JAR
	beta	5.1.6 beta 1	JNLP JAR
oitools	public	OITools release 2023.03	JNLP JAR
Python applications			
a2p2	public	0.6.3	JNLP JAR
Web applications			
A2P2W	public beta	0.7 alpha 0.7 alpha	JNLP JAR

JMMC

Jean-Marie Mariotti Center

6 followers · Grenoble, Lyon, Nice, Paris / France · <http://www.jmmc.fr>

Overview · Repositories 44 · Projects 5 · Packages · Teams 3 · People 12 · Settings

Pinned

- jmmc-java-build** (Public) · Build at JMMC Java GUI at once
- oitools** (Public) · OITools is a Java library dedicated to reading / writing OIFITS files
- aspro** (Public) · This module contains the ASPRO2 java application developed by the JMMC technical team.
- a2p2** (Public) · Aspro to Proposals Programmmations
- oimaging** (Public) · This module contains the OImaging java application developed by the JMMC technical team.
- oexplorer** (Public) · This module contains the OImaging java application developed by the JMMC technical team.

Repositories

Find a repository... Type Language Sort New

- migui** (Public) · Java · 0 stars · GPL-3.0 · 0 forks · 1 pull request · Updated 13 minutes ago
- oival** (Public) · XQuery · 0 stars · 0 forks · 0 pull requests · Updated 3 hours ago

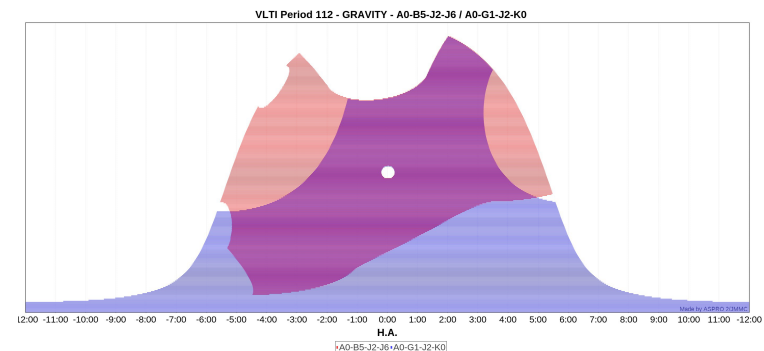
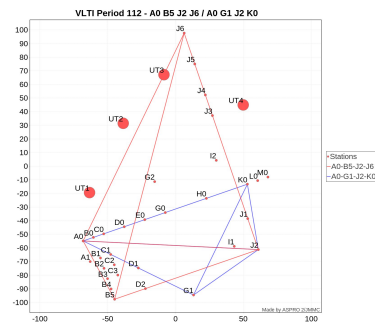
View as: Public

Top languages: Java, XQuery, Shell, Python, Dockerfile



Preparing observation: ASPRO2

- VLTl Period 112: New Extended conf (up to 200m), double-path DL
- Custom configuration CHARA_7T (7th tel)
=> Allow prototyping changes (VLTl, CHARA, new arrays or instruments)
- CHARA Period 2023:
 - Updated telescopes horizons
 - Best PoP algorithm working on **Selected** target(s) only instead of **All** targets



Preparing observation: ASPRO2

- Improved interoperability (VOTable) with SPICA preparation tools to deal with large programs:
 - send your target list with extra information (table data), groups (programs, priority)
 - provide associated geometrical models and any other extra information (data)
- a2p2: provide a python client to the JMMC catalog API (SPICA database) + interoperability API

Aspro2 - nss_dataproduct_category.aspro [c1]

File Edit Interop Help

Targets: Simbad

Main settings: Interferometer: CHARA, Period: CHARA Future, Instrument: SPICA

Configuration(s): E1 W1 S2 E2, E1 W1 S1 E2, E1 S2 S1 E2, W2 W1 S2 S1, W2 W1 S2 E2, W2 W1 S1 E2, W2 S2 S1 E2, W1 S2 S1 E2, S1 S2 W1 W2 E1 E2

Constraints: Night restriction, Date: 2020/07/04, Min. Elevation: 30, Wind: []

Status: Warning

Id	Type	Target	Groups	Notes	RA (HMS)	DEC (DMS)	Equi...	RA	DEC	Parallaxe_pa...	Ids	ObjType	SpType	B	V	C
V_V1143...	SCIENCE	V* V1143	grp = priority_pi=0		19.644773	54.973791		294.672	54.974	24.709	0.029	EB*	F8Va		5.76	
V_WW_A...	SCIENCE	V* WW_Aur	grp = priority_pi=0		6.540885	32.454898		98.113	32.455	11.143	0.069	EB*			5.80	
V_RR_Lyn	SCIENCE	V* RR_Lyn	grp = priority_pi=0		6.44051	56.285096		96.608	56.285	12.416	0.092	EB*	kA3hA7VnF2	2.8...	5.4	
_jot_Lyr	SCIENCE	*jot_Lyr	grp = priority_pi=0		19.121703	36.100159		286.826	36.1	3.393	0.226	Be*	B8V	2.9...		
_19_Lyr	SCIENCE	*19_Lyr	grp = calprim grp		19.196113	31.283456		287.942	31.283	3.421	0.042	RotV*alf2CVn	B8IIIpSIS	2.9...	5.96	
_54_Cam	SCIENCE	*54_Cam	grp = priority_pi=1		8.043273	57.273626		120.649	57.274	10.041	0.03	RSCVn	F8V	3.1...	6.318	
HD_208727	SCIENCE	HD_208727	grp = priority_pi=1		21.950617	48.668568		329.259	48.669	2.497	0.215	PulsV*	B8V	3.1...	6.52	
HD_21203	SCIENCE	HD_21203	grp = priority_pi=1		3.47322	60.255675		52.098	60.256	5.59	0.66	**	B9V	6.493	6.463	
HD_47703	SCIENCE	HD_47703	grp = priority_pi=1		6.693822	35.93192		100.407	35.932	15.434	0.278	SB*	F8III	6.489	6.33	
HD_197226	SCIENCE	HD_197226	grp = priority_pi=1		21.683434	39.082323		310.252	39.082	3.24	0.31	SB*	B6III	6.489	6.478	
HD_1601	SCIENCE	HD_1601	grp = priority_pi=1		6.341925	48.968633		5.129	48.969	3.075	0.023	Star	G0	6.482	6.317	
HD_101177	SCIENCE	HD_101177	grp = priority_pi=1		11.645806	45.108418		174.687	45.108	43.01	0.73	**	GOV+K2V	6.477		
HR_8064	SCIENCE	HR_8064	grp = priority_pi=1		21.046839	45.848891		315.703	45.849	2.49	0.07	**	B3Vn	6.477	6.462	
HD_194668	SCIENCE	HD_194668	grp = priority_pi=1		20.408991	53.551928		306.135	53.552	2.349	0.029	Star	B9V	6.476	6.457	
HD_162132	SCIENCE	HD_162132	grp = priority_pi=1		11.785565	47.612248		266.783	47.612	7.534	0.142	SB*	A2Vs	6.467	6.453	
HD_192538	SCIENCE	HD_192538	grp = priority_pi=1		21.234689	36.604883		303.52	36.605	3.611	0.039	Star	AOV	6.462	6.439	
HD_17484	SCIENCE	HD_17484	grp = priority_pi=1		1.824142	37.326411		42.362	37.326	8.592	0.241	SB*	F6III-IV	6.457	6.333	
HD_17581	SCIENCE	HD_17581	grp = priority_pi=1		2.862744	58.314294		42.941	58.314	11.487	0.036	SB*	A1m	6.447	6.424	
HD_159026	SCIENCE	HD_159026	grp = priority_pi=1		17.511169	38.882204		262.668	38.882	3.211	0.055	Star	F5.5III-IVnp	6.44	6.298	
HD_77692	SCIENCE	HD_77692	grp = priority_pi=1		9.111983	59.344525		136.68	59.345	3.514	0.045	Star	A2V	6.434	6.403	
HD_217811	SCIENCE	HD_217811	grp = priority_pi=1		23.045874	44.058749		345.688	44.059	2.185	0.028	V*	B2V	6.411	6.375	
HD_203454	SCIENCE	HD_203454	grp = priority_pi=1		21.350393	40.344974		320.256	40.345	37.468	0.07	SB*	F8V	6.397	6.226	
HD_138525	SCIENCE	HD_138525	grp = priority_pi=1		15.522863	36.616599		232.843	36.617	15.233	0.315	SB*	F8IV	6.395	6.25	
HD_28271	SCIENCE	HD_28271	grp = priority_pi=1		4.48111	30.36155		67.217	30.362	14.201	0.254	SB*	F7V	6.392		
HD_177109	SCIENCE	HD_177109	grp = priority_pi=1		19.030103	33.621266		285.452	33.621	2.097	0.093	Star	B5IV	6.373	6.35	
HD_195066	SCIENCE	HD_195066	grp = priority_pi=1		20.439854	56.638694		306.598	56.639	4.514	0.042	Star	B9V	6.369	6.358	
V_V492...	SCIENCE	V* V492 Per	grp = priority_pi=1		4.532485	36.742689		67.987	36.743	8.176	0.041	RSCVn	G5	6.349	6.087	
HD_10293	SCIENCE	HD_10293	grp = priority_pi=1		1.704917	58.627737		25.574	58.628	2.28	0.044	Star	B7III	6.345	6.315	

uv coverage done. 165 M Provided by JMMC

New Target table prototype (filters)



Preparing observation: ASPRO2

2023 tasks & projects:

- Finalize the new Target table with filters and better group handling
- Upgrade noise model for instruments GRAVITY+, SPICA, (other instruments ?)
- New geometric & chromatic models + interpolation in user models (fits cubes)

CHARA specific items:

- Improve PoP optimizations to minimize Pop changes to observe a single target
- Update for CMAP (7th tel) ?
- a2p2: integration between ASPRO2 and Cosmic Debris (prototype with SPICA Team) ?

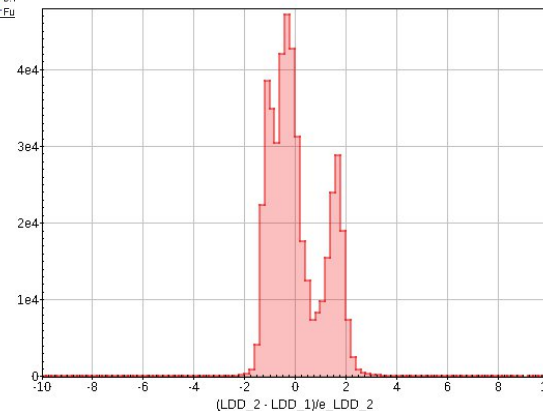
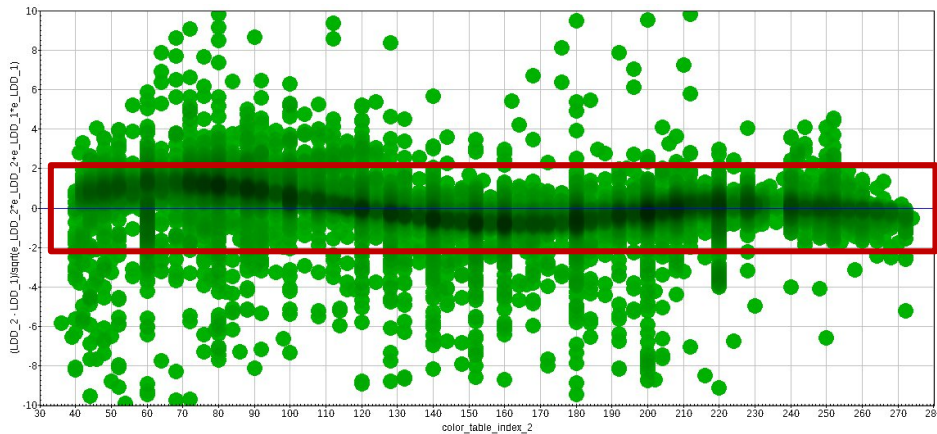
Preparing observation: JMDC / JSDC 3

JSDC 2 released in 2017, JSDC 3 EA (2020) to include GAIA DR2 information

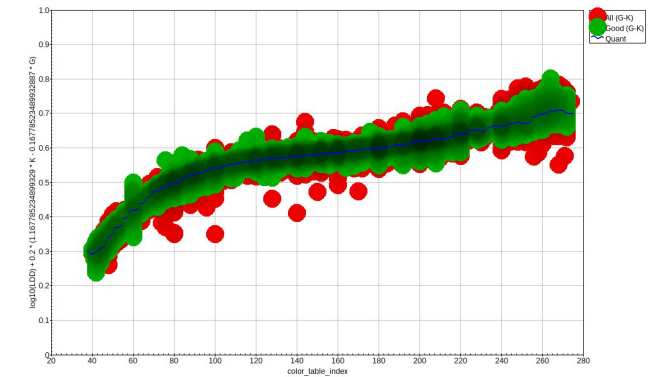
Goal for 2023: update JSDC 3 with GAIA DR3 data (ID, RA/DEC, pm) + updated diameter estimations

- JMDC updated: 2045 measurements
- Study new polynomial solution on (V-JHK) photometries + updated spectral types (Simbad) **[WIP]**
- Compare new results with GAIA stellar parameters (450m diameters) + new (G K) estimation ?

New VJHK polynoms solution ~ +/- 2 stddev



LDD vs (G-K) plot:



- New SearchFTT tool to identify fringe tracker targets within 30 as: <http://searchfft.jmmc.fr/index.html>



OIFITS data handling: OIFits Explorer

OIFits Explorer / JMMC OITools (command-line tools) provide **new filtering capabilities**

=> export filtered & merged dataset into 1 OIFITS file !

Plotting window (with tabs)

The screenshot displays the OIFits Explorer interface with several key components:

- Granule tree panel:** A hierarchical tree view on the left showing data granules for target ACHERNAR, including files like PIONIER_Phnt and OI_VIS2#4.
- OI data selector:** A panel below the tree listing specific data points with their coordinates and identifiers.
- Filter panel:** A section for applying generic filters, such as 'EFF_WAVE' and 'MJD', with input fields and buttons.
- Oitools Command line arguments:** A text area at the bottom left showing CLI arguments for target selection and filtering.
- Plotting window (with tabs):** The main area on the right showing two plots: 'VISZDATA' vs 'SPATIAL_FREQ' and 'T3PHI (deg)' vs 'SPATIAL_FREQ'. It includes a 'Plot/data switch' and various plotting parameters.

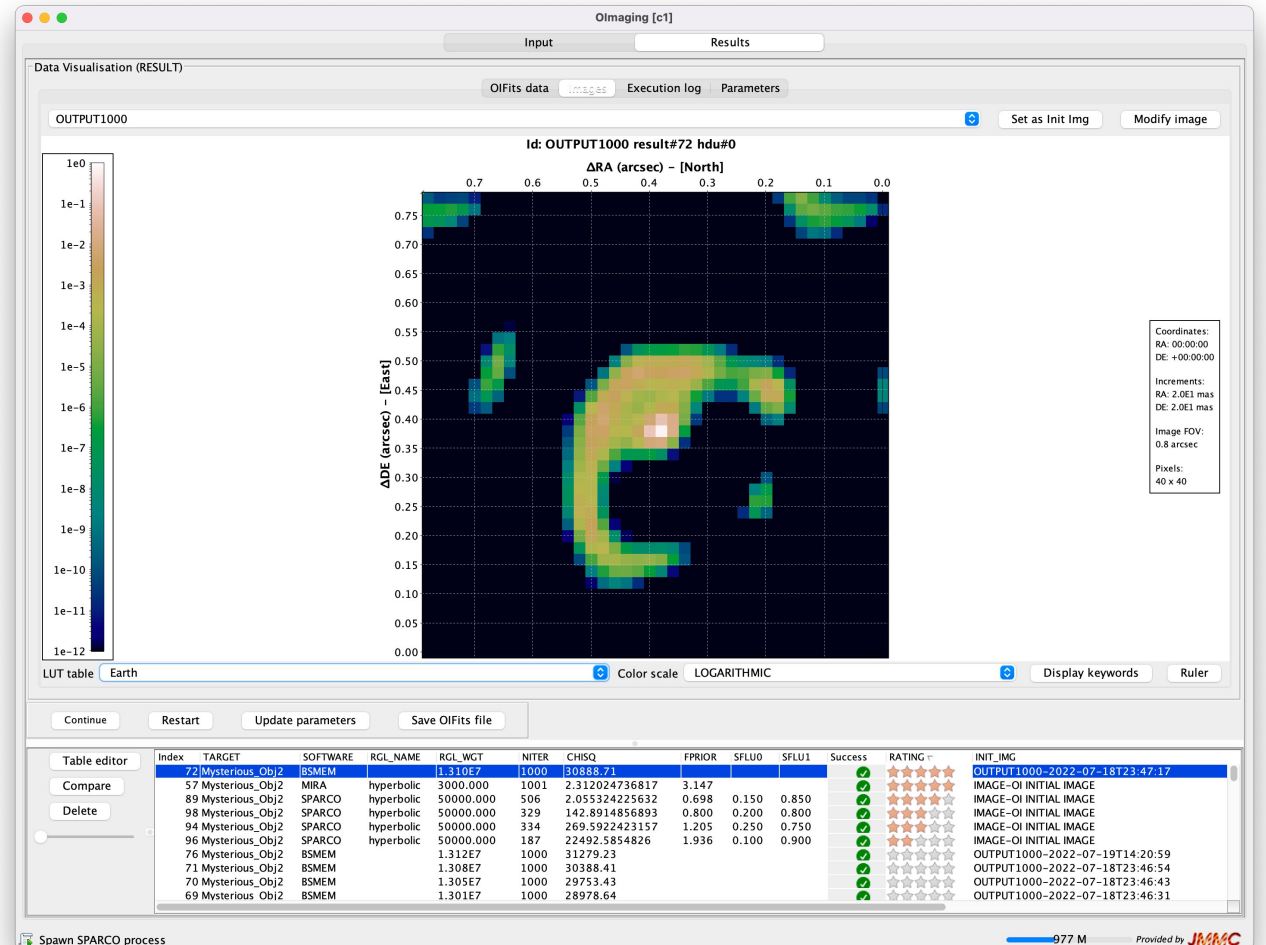
Plotting parameters

2023: improve session handling & rewrite the granule selection management



Modeling & Image reconstruction

- OImaging: major improvements to provide better GUI, workflow & result management
- => v1.0 released for SPIE 2022
 - 4 software: BSMEM, MiRA, SPARCO, WISARD
 - New result table (rating, keywords)
 - New comparison view
 - Internal user review: good feedback
- AMHRA service:
 - new simple YSO model (sYSOm)
 - prepare some grid model **[WIP]**
- LITpro: asynchronous jobs for (longer) genetic algorithm **[WIP]**



JMMC databases (OiDB, SPICA)

- OiDB:
 - Support private collections with delegation (pi)
 - New science / calibrator dataproduct_category
 - 2023:
 - prepare synchronization with ESO science archive and CHARA database
 - (re)think UI for easier OIFITS submission
 - improve long term and open-science data handling
- SPICA project: testing workflow in progress (catalog API + obs logs + oidb), looking forward first data to finalize software integration
- Tech: provide TAP services to all database & catalogs

Final words

- Many software & service updates released in 2022
- Tons of pending requests & many on-going projects for 2023 at JMMC

Take-over messages:

- Please submit your published data into OiDB
- Please report any problem or question to the JMMC User Support at www.jmmc.fr/support

Feedback always appreciated and useful !

Thanks for your attention!