

VLTI Expertise Centres

ESO coordination meeting:
Jan 19-20 2021

JMMC **Updates**

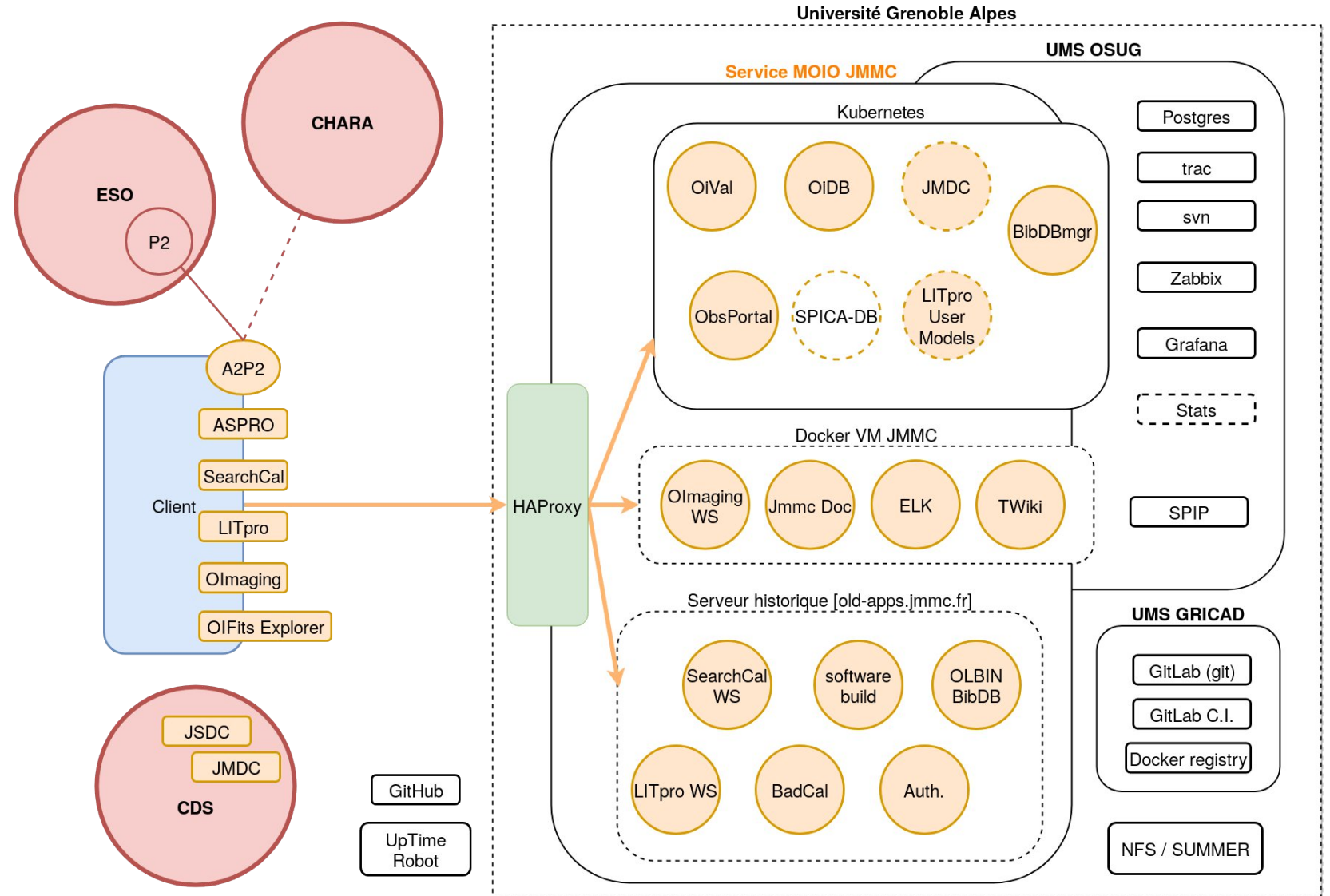


Platform update

Software developments involves service deployments and both software / resources maintenance

JMMC servers for multiples services

- Optimize resource management:
- build a modular architecture
 - update services as often as possible
 - group and refactor services
 - enhance reliability





ASPRO 2 + Obs Portal

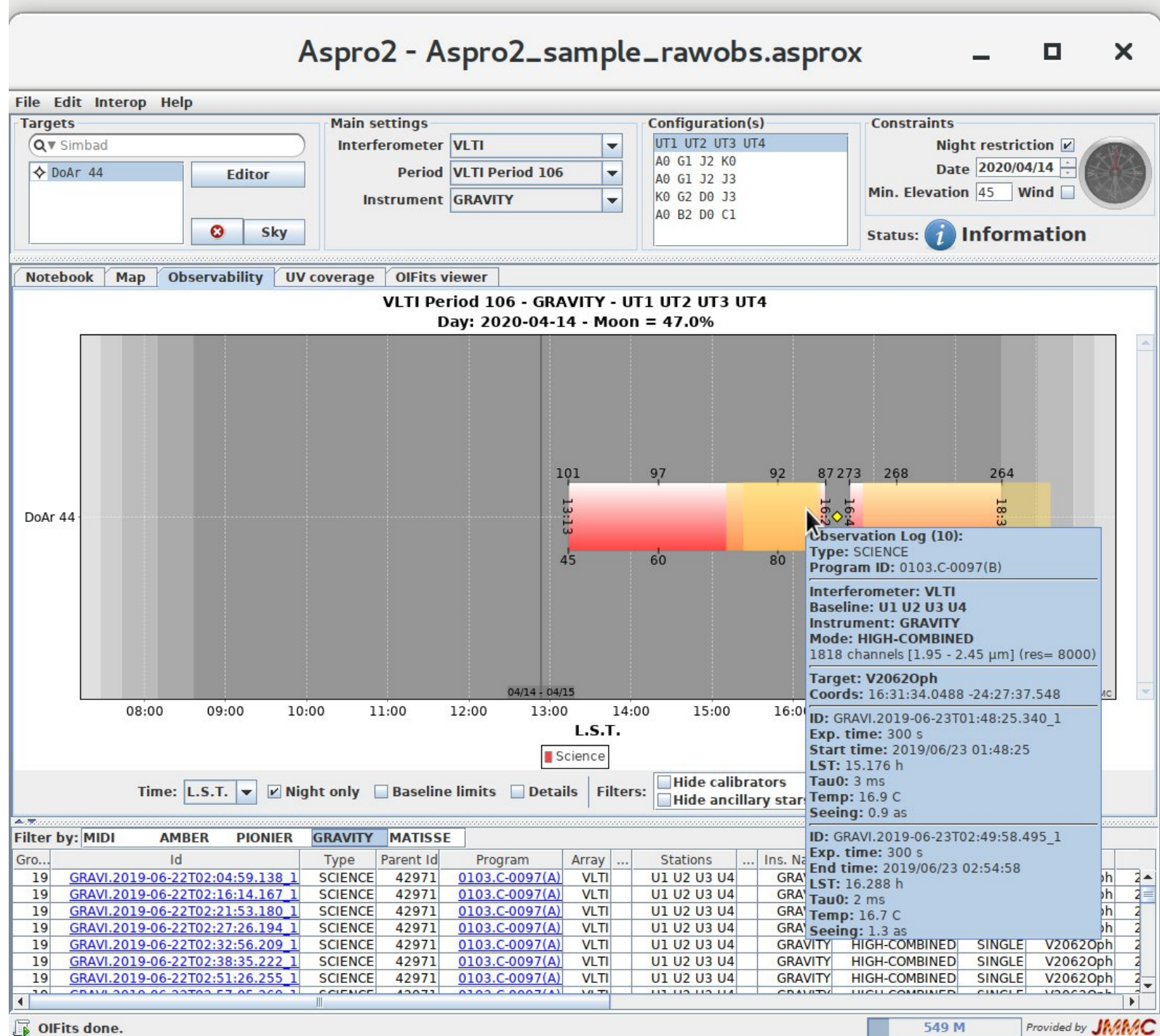
Integrate VLTI observation logs (tracking) in ASPRO2

http://www.jmmc.fr/twiki/bin/view/Jmmc/Software/JmmcAspro2#Get_Information_about_past_obser



Since [Aspro2 20.05](#) public release

- get latest obs logs from obs portal
- show table + details in tooltips
- Filter logs (instrument, more filters to come)
- *Problem: cross identification of targets (ra, dec)*



File Edit Interop Help

Targets
 Q Simbad
 DoAr 44 Editor
 Sky

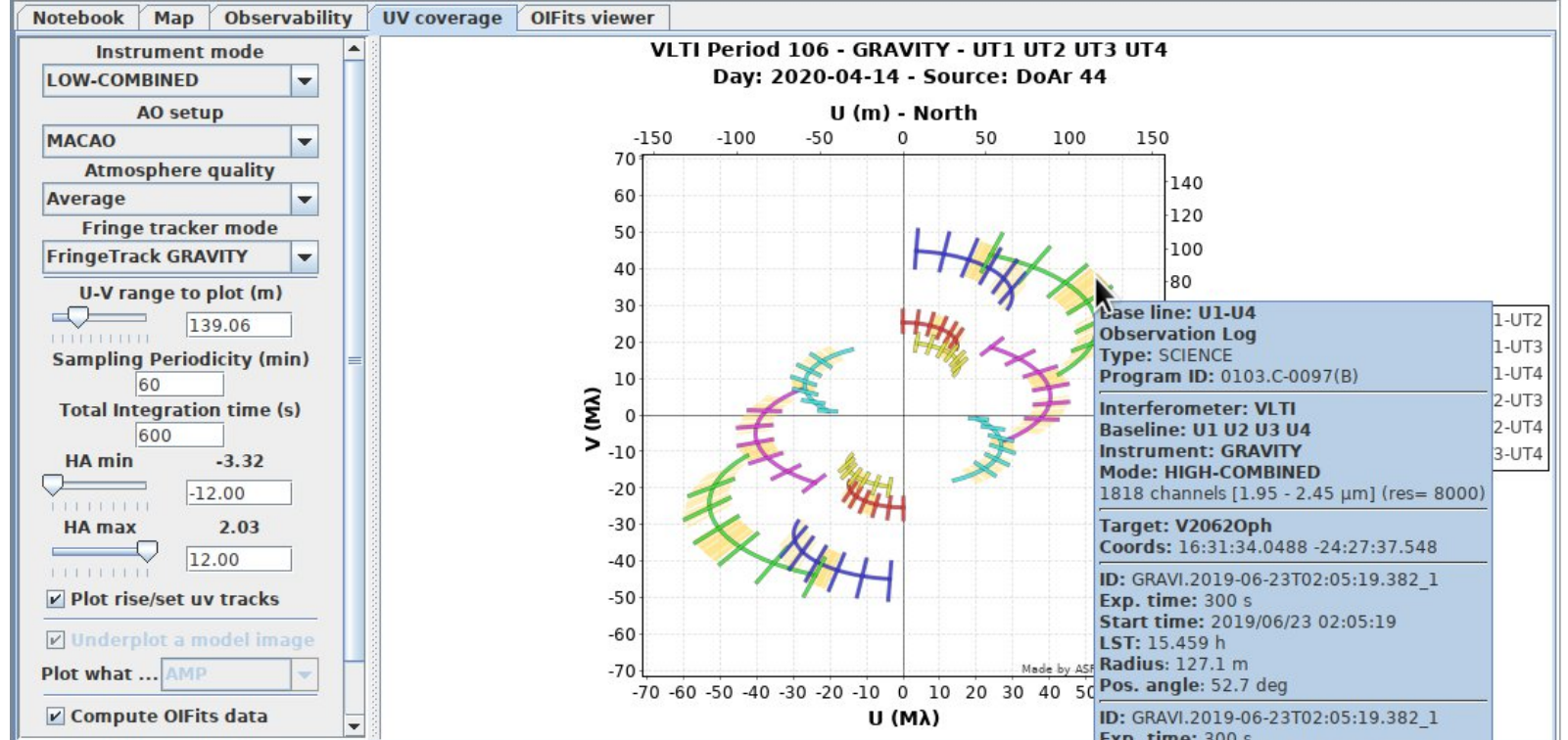
Main settings
 Interferometer: VLT
 Period: VLT Period 106
 Instrument: GRAVITY

Configuration(s)
 UT1 UT2 UT3 UT4
 A0 G1 J2 K0
 A0 G1 J2 J3
 K0 G2 D0 J3
 A0 B2 D0 C1

Constraints
 Night restriction
 Date: 2020/04/14
 Min. Elevation: 45 Wind

Status: Information

- Show UV points already done of filtered obs logs

Filter by: MIDI AMBER PIONIER **GRAVITY** MATISSE

Gro...	Id	Type	Parent Id	Program	Array	Stations	Ins. Nar
19	GRAVI.2019-06-22T02:04:59.138_1	SCIENCE	42971	0103.C-0097(A)	VLTI	U1 U2 U3 U4	GRAVITY		
19	GRAVI.2019-06-22T02:16:14.167_1	SCIENCE	42971	0103.C-0097(A)	VLTI	U1 U2 U3 U4	GRAVITY		
19	GRAVI.2019-06-22T02:21:53.180_1	SCIENCE	42971	0103.C-0097(A)	VLTI	U1 U2 U3 U4	GRAVITY		
19	GRAVI.2019-06-22T02:27:26.194_1	SCIENCE	42971	0103.C-0097(A)	VLTI	U1 U2 U3 U4	GRAVITY		
19	GRAVI.2019-06-22T02:32:56.209_1	SCIENCE	42971	0103.C-0097(A)	VLTI	U1 U2 U3 U4	GRAVITY	HIGH-COMBINED	SINGLE V2062Oph
19	GRAVI.2019-06-22T02:38:35.222_1	SCIENCE	42971	0103.C-0097(A)	VLTI	U1 U2 U3 U4	GRAVITY	HIGH-COMBINED	SINGLE V2062Oph
19	GRAVI.2019-06-22T02:51:26.255_1	SCIENCE	42971	0103.C-0097(A)	VLTI	U1 U2 U3 U4	GRAVITY	HIGH-COMBINED	SINGLE V2062Oph

OIFits done.

510 M

Provided by JMMC

JMMC Obs Portal

<http://obs.jmmc.fr/>

(Python/Postgres web app)

- Observation Logs VLTi
 - all instruments
 - ESO sync twice a day (TAP)
- OiDB sync => L0 ESO
- *Future:*
 - *Better Log filtering in ASPRO2*
 - *VO TAP interface*
 - *Improved cross identification*
 - *Ingest SPICA / CHARA logs*

ObsPortal

The **JMMC** ObsPortal service provides both a web interface and a cone-search service (TAP in the future) on its database containing raw optical interferometry observations (L0):

- **ESO archive** provides VLTi observations (observing blocks & exposures). Supported instruments are MIDI, AMBER, PIONIER, GRAVITY, MATISSE.

The **JMMC** also provides the **OiDB** service that contains published & science-ready datasets (L2, L3) in the OIFITS file format.

Please contact the [JMMC user support](#) for any remark or issue on this service.

Change log

- 2020.05.05: Release 20.05:
 - Automatic synchronization (ESO TAP)
 - Added UV points per baseline and atmospheric conditions
 - Improved performance: indexes + rewritten VOTable writer
 - Improved header validation
- 2020.02.25: First release, integrated in ASPRO2 20.03

Database statistics

Header count	1014509
Target count	34719
Observation count	46406
Exposure count	332563
Valid exposure count	326476 (98.17%)
Exposure Date min	2003-06-14 07:13:36.000
Exposure Date max	2021-01-18 08:42:29.592
Header last ModificationDate	2021-01-18 15:45:37 UTC+0000

JMMC Obs Portal : feedback on ESO TAP

- ESO TAP dbo.raw table:
 - possible NULL release_date since GRAVI.2020-11-28T03:00:02.623
- ESO OIFITS headers:
 - target identifier : not reliable (free text, may be blank)
 - target coordinates: not reliable (0,0) or pointing coordinates, not epoch 2000 !
 - See:
 - <http://obs.jmmc.fr/search?ra=0&dec=0> : (0,0) coords are present !
 - http://obs.jmmc.fr/search?target_name=alf%20cma : Sirius has moving coordinates RA / DEC in OIFITS !
- *Conclusion: target cross-identification (SIMBAD or JSDC) is critical to ensure proper cross-matches by positions in ASPRO2*



O  *DB*

OiDB V2 online

Optical Interferometry DataBase

17 FACILITIES	16 INSTRUMENTS	182 DATA-PIIS	31 COLLECTIONS	9424 OIFITS	10624 GRANULES	364483 OBS. LOGS
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Target name or position

Enter target name or visit the [advanced form](#)

Welcome on the **second** version of the public release of OiDB !
 OiDB aims to centralise the access to reduced optical interferometry data and observation logs obtained with a wide range of interferometers.

- UI enhancement:
 - search form, result table
 - quick plots / data quality flags
 - show ancillary links accross various calibration levels $L(0-3) \leftrightarrow L(0-3)$
- New categories for data collections: simulations, private (SUV)
- Better ESO obs log(L0) ingest (through obsportal proxy)
- Provides a reliable release_date to PIONIER L2 collection and VLTi Olfits (was obs_date+1year)

OiDB screenshots of https://oidb.jmmc.fr

L band observation of Kappa Tuc

Any Collection

L3 - Published calibrated OIFITS / suv

L band observation of Kappa Tuc

L3 - Published calibrated OIFITS / public

Large granulation cells on the surface of the giant star π 1 Gruis

AMBER and MIDI observations of V838 Mon

Optical interferometry and Gaia measurement uncertainties reveal the physics of...

T Pyx AMBER observations

Numerical simulations and infrared spectro-interferometry reveal the wind colli...

The R CrB star V854 Cen

Infrared Interferometric Three-dimensional Diagnosis of the Atmospheric Dynamic...

The structure of disks around intermediate-mass young stars from mid-infrared i...

iot Peg

L3 - Published calibrated OIFITS / VizieR

VLTi observations of V4334 Sgr (Chesneau+, 2009)

Milli-arcsecond imaging of SS Lep (Blind+, 2011)

(epsilon) Aur visibility measurements (Mourard+, 2012)

Interferometry of (alpha) Eri (Domiciano de Souza+, 2012)

VLTi/MIDI AGN Large Program observations (Burtcher+, 2013)

The VLTi/MIDI survey of Massive YSOs (Boley+, 2013)

JMMC O_iDB Home Search Submit new data Help Sign In

Filters

Object: Name or J2000 coordinates Radius: 2 arcmin Date of observation: after YYYY-MM-DD before YYYY-MM-DD

Instrument: Any Instrument Wavelength range: any value Data reduction level: L0, L1, L2, L3 Availability: Public Restricted All

Collection: Any Collection DataPI: Any DataPI Program: program Id ObsId: ~MATIS.2019-07-11

25 rows max. per page, sorted by Date descending with all columns

Search Reset

Results 5 records from 0 obs logs and 5 oifits files

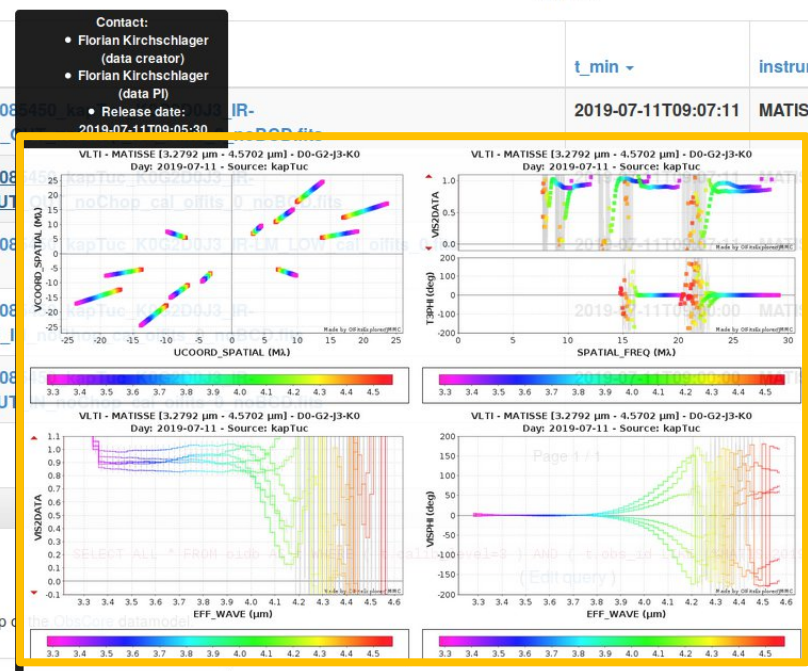
Page 1 / 1

	target_name	access_url	t_min	instrument_name	wlen_min	wlen_max	nb_channels	datapi
3	kapTuc	2019-07-11T08:00:00 LM_LOW_IN	2019-07-11T09:07:11	MATISSE	3.27923480	4.57017900	64	Florian Kirchschrager
3	kapTuc	2019-07-11T08:00:00 LM_LOW_OUT		SE	3.27923480	4.57017900	64	Florian Kirchschrager
3	kapTuc	2019-07-11T08:00:00 LM_LOW_IN		SE	3.27923480	4.57017900	64	Florian Kirchschrager
3	kapTuc	2019-07-11T08:00:00 LM_LOW_OUT		SE	3.27923480	4.57017900	64	Florian Kirchschrager

Results for ADQL query

Provided metadata are an extension on top of the base data model

ORDER BY t_min DESC



Add calibrated OIFITS files

Step 1 : Upload OIFITS files

Target	Instrument	Instrument mode	Time interval	Quality
+ Add files				

Step 2 : Choose collection

Step 3 : Save

Add calibrated OIFITS files

Step 1 : Upload OIFITS files

Target	Instrument	Instrument mode	Time interval	Quality
+ Add files				

Step 2 : Choose collection

Collection details

Collection type

public
 simulation
 SUV

Name

Title

Description

Keywords

Data PI

Step 3 : Save

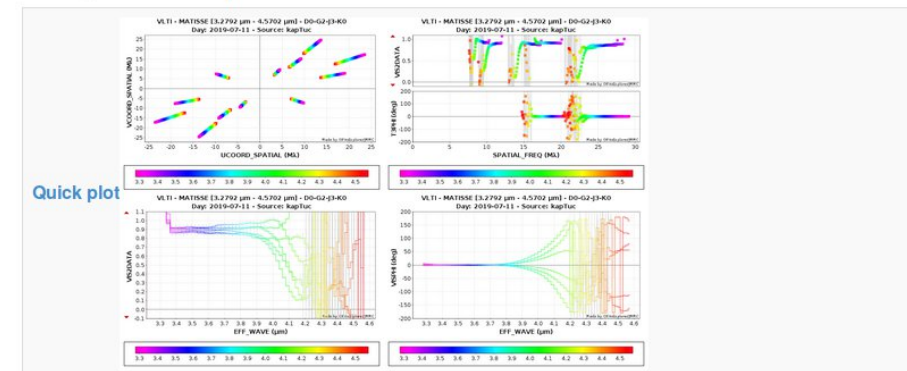
Contact

Data PI / OBS creator
Florian Kirchschrager

Comments

+ Add the first comment

Quicklook plots



Contact

Data PI
Not present in metadata
OBS creator
jmmc-tech-group - Bour

Ancillary data

calib_level	id	obs_collection	datapi
0	1293809	ESO VLTI import	✉

Comments

+ Add the first comment

External resources

[Details progid 0103.C-0725\(A\) on ESO archive](#)

[Details progid 0103.C-0725\(A\) on JMMC ObsPortal](#)

[Check or display content in OIFitsValidator](#)

Ancillary

calib_level	id	target	creator
3	1355457	Kappa Tuc	Florian Kirchschrager ✉
3	1355464	Kappa Tuc	Florian Kirchschrager ✉

External resources

[Details progid 0103.C-0725\(A\) on ESO archive](#)

[Details progid 0103.C-0725\(A\) on JMMC ObsPortal](#)

[Details exposure MATIS.2019-07-11T09:03:31.168_1 on JMMC ObsPortal](#)

OiDB future

- Register OiDB in the VO-registry
 - we are building a new common JMMC TAP service that will host OiDB
- Enhance **ingestion and update** process
 - user could edit / fix some descriptive parts, link data...
- Enable dataPI to **share private data** to other cols, **groups**...
- Provide **DOIs** ? per granule, per collection ?

& ... fix some last small points/doc and announce V2 on OLBIN



JSDC 3 / SearchCal 6

Important JSDC upgrade to get latest data from
SIMBAD / GAIA DR2 / MDFC

JSDC3: 475 000 stars ... to 2.5m stars !

- Changes:

- Crossmatch +++ : best in 3as neighbourhood + XM flags = No duplicates. "CalFlag bit 3 set if the star has neighbours within 0.5 as (GAIA) or 1.0 as (2MASS)"
- Data: SIMBAD, GAIA DR2 (better ra/dec, pm, teff, dist), MDRC (flag, flux)
- [JSDC3 BRIGHT EA](http://jmmc.fr/~bourgesl/sclsvr_JSDC/JSDC_2020/LAST/) : http://jmmc.fr/~bourgesl/sclsvr_JSDC/JSDC_2020/LAST/
- [JSDC3 FAINT EA](http://jmmc.fr/~bourgesl/sclsvr_JSDC/JSDC_FAINT_2020/LAST/) : http://jmmc.fr/~bourgesl/sclsvr_JSDC/JSDC_FAINT_2020/LAST/

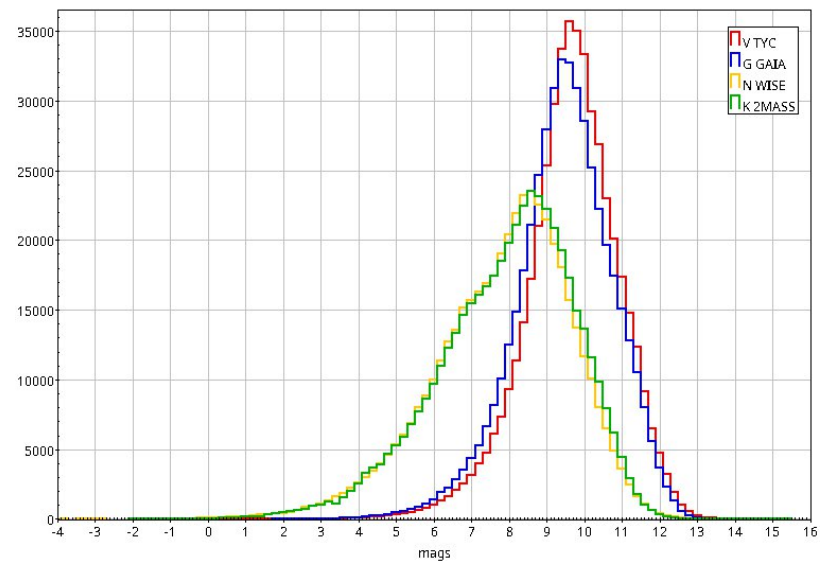
Services: [SearchCal 6 EA](#): 2021 ? [GetStar EA](#)

- Perspectives:

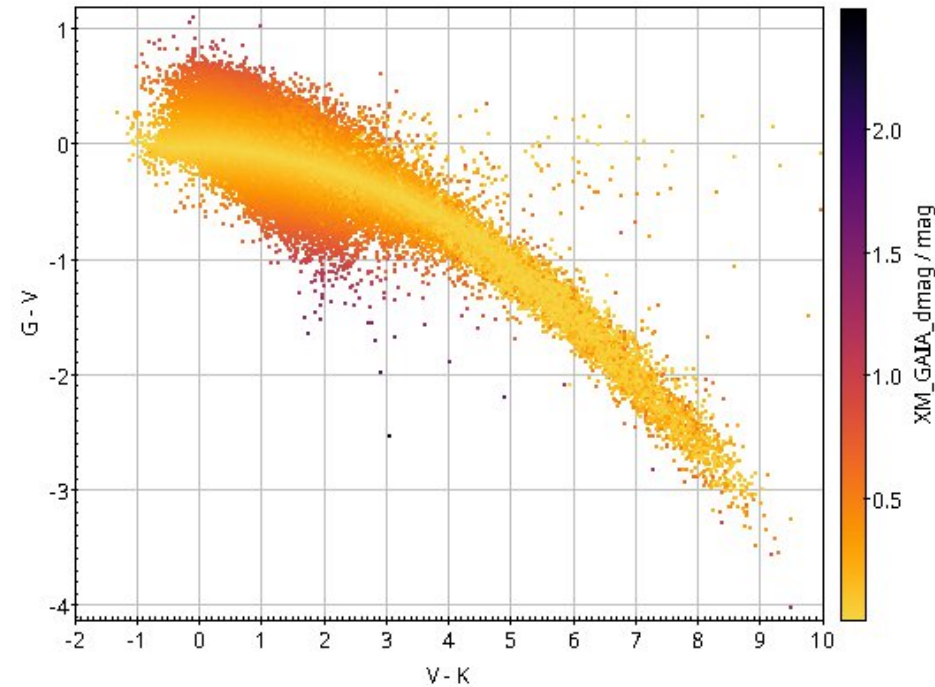
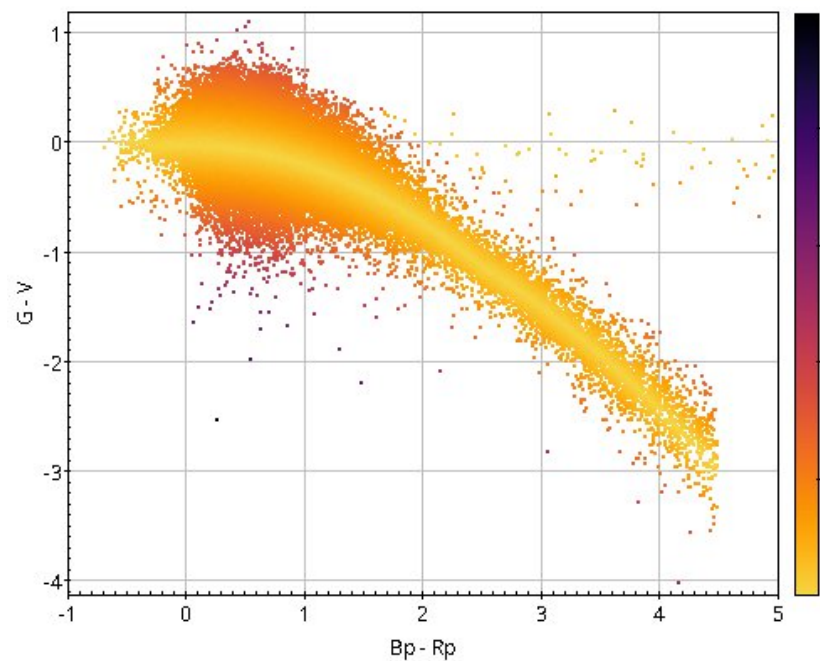
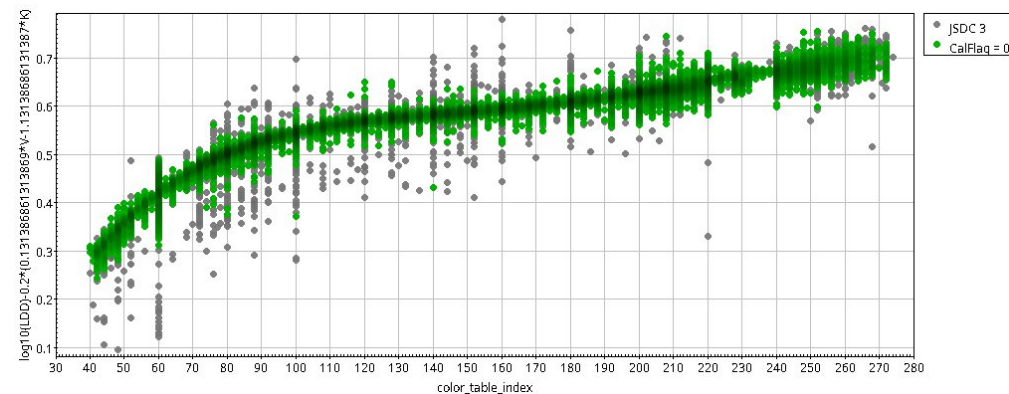
- Publish both Bright / Faint catalogs : 2.5m star (TYCHO2) in JMMC TAP interface + CDS
- Update GAIA Early DR3 ?
- Future: use JMDC and new color GAIA (G, Bp, Rp) + All Wise (L, M, N)

Total Rows: 474963

column	good
SIMBAD	474963
GAIA	471475
TYC1	473651
TYC2	473651
TYC3	474963
2MASS	474963
WISE	470294
AKARI	153541
HD	245091
HIP	105272
DM	348198
SBC9	2454
WDS	39400



JSDC 3 BRIGHT EA:



Next operations (mid / long term)

- Enhance consistency with ESO :
 - update A2P2 for MATISSE
 - fix Aspro Configuration on some (borderline) configurations (UT shadowing, switchyard)
- Update LITpro / OIMaging :
 - UI enhancements
 - Fix performance issues (be ready for next VLTI School)
 - Release new algorithms (genetic fitter, polychromatic data)
- Enhance ObsPortal / OiDB capabilities to link and share more data
- Continue to open more codes :
 - <https://github.com/JMMC-OpenDev/>
 - <https://gricad-gitlab.univ-grenoble-alpes.fr/OSUG/JMMC>
- Enhance OLBIN's publication database portal ([ADS API](#), improve update)
 - Please [contact us](#) if you want to help and tag missing OLBIN papers
- AOB...