

# CEVO Task 4.2 progress report Since last Tech Forum

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F. Bonnarel (CDS)  
as coordinator



# Task 4.2 goals

- Implementation of FAIR principles for ESFRI data through the Virtual Observatory
- Push ESCAPE priorities at IVOA level
  - Help ESCAPE ESFRIs to use VO standards and expose the data
  - ESFRI feedback on VO standards and evolution of those.
- Community training events for scientists and data producers/providers
  - Vo schools
  - Data provider formats



# ESFRIs achievements

- ASTRON : LOTSS DR2  
(see tomorrow Yan Grange)
- JIVE : JIVE visibility data service release  
(see next screenshots)



# JIVE ObsTAP service with DataLink

Aladin v11.1 \*\*\* BETA VERSION (based on v11.116) \*\*\*

Fichier Edition Image Catalogue Graphique Couverture Outil Vue Interop Aide

The screenshot displays the ALADIN software interface. The main window shows a star field with several stars highlighted in green and red. A table of observation data is overlaid at the bottom, listing various parameters for each observation. The table includes columns for product name, date, catalog, observation ID, and publisher ID, among others. The interface also features a sidebar with various tools and a top menu bar.

prod...	d...	c...	obs_coll...	obs_id	o...	a...	a...	target_n...	t...	s...	s...	s...	s...	t...	t_max...	t...	t...	em_min...
bility	1	EVN	GB063A	ivo://iive.eu/~?GB063A_071031_1_1_10606-0724_6624.74MHz	a...	a...	10606-0724	9...	...	0...	0...	5...	54404.260	2...	1...	0.044822		
bility	1	EVN	EB032A	ivo://iive.eu/~?EB032A_060609_1_1_MONR2_6625.51MHz	a...	2...	MONR2	9...	...	0...	0...	5...	53896.655	3...	0...	0.044816		
bility	1	EVN	EB032A	ivo://iive.eu/~?EB032A_060609_1_1_0607-0610_6625.51MHz	a...	2...	0606-0724	9...	...	0...	0...	5...	53896.649	1...	0...	0.044816		
bility	1	EVN	EB032A	ivo://iive.eu/~?EB032A_060609_2_1_0607-0610_6625.51MHz	a...	2...	0607-0610	9...	...	0...	0...	5...	53896.652	1...	0...	0.044816		
bility	1	EVN	EB032A	ivo://iive.eu/~?EB032A_060609_2_1_MONR2_6665.26MHz	a...	9...	MONR2	9...	...	0...	0...	5...	53896.655	3...	0...	0.044924		
bility	1	EVN	EB032A	ivo://iive.eu/~?EB032A_060609_2_1_0606-0724_6665.26MHz	a...	9...	0606-0724	9...	...	0...	0...	5...	53896.649	1...	0...	0.044924		
bility	1	EVN	EB032A	ivo://iive.eu/~?EB032A_060609_2_1_0607-0610_6665.26MHz	a...	9...	0607-0610	9...	...	0...	0...	5...	53896.652	1...	0...	0.044924		
bility	1	EVN	EE008A	ivo://iive.eu/~?EE008A_110907_1_1_10541-0541_22233.13MHz	a...	2...	10541-0541	8...	...	0...	0...	5...	55811.236	2...	0...	0.013481		



# ESFRIs achievements

- ALMA : SIAV2 and ObsTAP services  
(see next screenshots)
- SKAO : preparing for the SRC network / strong integration of VO standards in the design.  
→How to integrate ivoa Provenance + ...



# ALMA SIA2 service

Aladin v11.1 \*\*\* BETA VERSION (based on v11.116) \*\*\*

Fichier Edition Image Catalogue Graphique Couverture Outil Vue Interop Aide

Données disponibles → 211 / 29137

Commande [x] Référentiel ICRS Projection Aitoff

DSS PanSTARRS SDSS 2MASS GALEX Gaia Simbad NED

DSS2 color

Sélecteur de serveurs

Autres File FoV... Tools...

Generic SIAV2 query ?

Position (ICRS, name) 05 55 26.3074800 -04 21 13.564100

Rayon 14'

Server IVOID or base ... jao.alma/sia2\_na

Data set identifier

Collection name

Telescope name

Instrument name

Target

Calibration level (0..3)

Maximum number of ... 99999

Réinit. Effacer CHERCHER Fermer ?

46.36° x 21.89°

access_url	obs_public	obs_id	f...	in...	obs_id	data...	calib...	target_n...	s_ra...	s_dec...	s_fov...	s_region	s_resolu...	t_min...	t_max...	t_exptim...
https://...	ADS/JAO...	ALMA	JAO	ALMA	uid://AO...	image	2	M12_622	83.74587...	-7.18766...	0.006941...	FOV	1.312410...	58818.25	58819.20	48.384
https://...	ADS/JAO...	ALMA	JAO	ALMA	uid://AO...	image	2	M12_622	83.74587...	-7.18766...	0.006941...	FOV	1.312410...	58818.25	58819.20	48.384
https://...	ADS/JAO...	ALMA	JAO	ALMA	uid://AO...	image	2	M12_622	83.74587...	-7.18766...	0.006941...	FOV	1.312410...	58818.25	58819.20	48.384
https://...	ADS/JAO...	ALMA	JAO	ALMA	uid://AO...	image	2	M12_765	84.60633...	-6.79930...	0.006941...	FOV	1.270464...	58818.28	58819.23	48.384
https://...	ADS/JAO...	ALMA	JAO	ALMA	uid://AO...	image	2	M12_765	84.60633...	-6.79930...	0.006941...	FOV	1.270464...	58818.28	58819.23	48.384
https://...	ADS/JAO...	ALMA	JAO	ALMA	uid://AO...	image	2	M12_765	84.60633...	-6.79930...	0.006941...	FOV	1.270464...	58818.28	58819.23	48.384
https://...	ADS/JAO...	ALMA	JAO	ALMA	uid://AO...	image	2	M12_765	84.60633...	-6.79930...	0.006941...	FOV	1.270464...	58818.28	58819.23	48.384

Warning: Aladin is running in low memory configuration (38MB)

2107 sel / 27705 src 737Mo

# ALMA DataLink

Aladin v11.1 \*\*\* BETA VERSION (based on v11.116) \*\*\*

Fichier Edition Image Catalogue Graphique Couverture Outil Vue Interop Aide

Commande 17:10:59.80 +60:33:31.0 Référentiel ICRS Projection Aitoff

DSS PanSTARRS SDSS 2MASS GALEX Gaia Simbad NED +

**DSS2 color**

220.7° x 97.89°

15°

grille exam.cligne nord.hdr multivues unit

access_ur	obs_publ	ob...	f...	in...	obs_id	data...	calib.le...	target_n...	s_ra...	s_dec...	s_fov...	s_region	s_resolu...	t
http://www.opencadc.org/caom2#pkg#this					2	PCCS2E_8...		358.5808...	24.55463...	0.011901...	Fov	5.805412...	5	
#datalink#this					2	PCCS2E_8...		358.5808...	24.55463...	0.011901...	Fov	5.805412...	5	
http://www.opencadc.org/caom2#pkg#auxiliary					2	J0019+2602		4.915752...	26.04785...	0.016588...	Fov	1.336673...	5	
#datalink#auxiliary					2	J0019+2602		4.915752...	26.04785...	0.016588...	Fov	1.336673...	5	
http://www.opencadc.org/caom2#pkg#progenitor					2	J0019+2602		4.915752...	26.04785...	0.016588...	Fov	1.336673...	5	

Données auxiliaires (size 3523 byte)  
http://www.opencadc.org/caom2#pkg#this (size 105263104 byte)  
#datalink#this  
http://www.opencadc.org/caom2#pkg#auxiliary (size 139961344 byte)  
#datalink#auxiliary  
http://www.opencadc.org/caom2#pkg#progenitor (size 593641472 byte)

Chercher

access\_uri (26 items)

# ALMA loaded moment image

The screenshot displays the ALMA software interface. The main window shows a DSS2 color image of a star field. A central moment image is overlaid on the field. The interface includes a menu bar (File, Edit, Image, Catalog, Overlay, Coverage, Tool, View, Interop, Help), a toolbar with various icons, and a sidebar with a catalog of data. The bottom of the interface features a search bar and a table of data.

Available data → 211 / 29137  
Command [x] Frame CRS Projection Atoff

DSS2 color

access url	access format	proposal id	data nights	gal longitude...	gal latitude...
https://almascie	application/x-vo	2017.1.01675.S	Public	211.5358899627	-19.34249029
https://almascie	application/x-vo	2017.1.01675.S	Public	211.5358899627	-19.34249029
https://almascie	application/x-vo	2017.1.01675.S	Public	211.5358899627	-19.34249029
https://almascie	application/x-vo	2017.1.00474.S	Public	211.5392683841	-19.34009873
https://almascie	application/x-vo	2017.1.00474.S	Public	211.5392683841	-19.34009873
https://almascie	application/x-vo	2017.1.00474.S	Public	211.5392683841	-19.34009873
https://almascie	application/x-vo	2017.1.00474.S	Public	211.5392683841	-19.34009873
https://almascie	application/x-vo	2017.1.00474.S	Public	211.5392683841	-19.34009873
https://almascie	application/x-vo	2017.1.00474.S	Public	211.5392683841	-19.34009873

Search [ ]

epoch - 05:39:46.12  
size - 18.13' x 9.53'  
dens. -  
opac. -  
zoom -

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# ESFRIs achievements

- All radio ESFRI projects + INAF radio archive + Nançay team participate a lot to IVOA radio interest group
  - [Implementation note](#)
  - Pulsar and FRB data + Single dish running meetings (Hack a thon SD metadata/ObsCore tomorrow)
  - [ObsCore extension for visibility data](#)





## IVOA Obscore Extension for Visibility data

### Version 1.0

#### IVOA Note 2021-10-27

##### Working group

Data Model Working Group

##### This version

<http://www.ivoa.net/documents/ObsCoreExtensionForVisibilityData/20211027>

##### Latest version

<http://www.ivoa.net/documents/ObsCoreExtensionForVisibilityData>

##### Previous versions

##### Author(s)

François Bonnarel, Mireille Louys, Mark Kettenis, Mark Lacy, Mattia Mancini, Yan Grange

##### Editor(s)

François Bonnarel

### Abstract

This is a proposed extension to the Obscore specification for description of visibility data

### Status of this document

This is an IVOA Note expressing suggestions from and opinions of the authors. It is intended to share best practices, possible approaches, or other



## 4.2 uv parameters

$uv\_distance\_min$  and  $uv\_distance\_max$  are evaluated by fitting an ellipse on the visibilities present in the uv plane.

To compute the ellipse's eccentricity of the UV distribution a principal component analysis (PCA) with 2 components is performed over the data points sampling the UV plane to select the main axis of data scattering. The first component is used to rotate the distribution of UV in a way that the major variation of the distribution is leaning towards the  $x$  axis of a bi dimensional  $xy$  Cartesian plane. The major axis length and the minor axis length of the ellipse are therefore defined as the semi distance between the most positive point along the  $x/y$  axis and the most negative point among the  $y$  axis. For instance, if the range of the rotated UV will cover on the  $x \in [-10, 10]$  the major axis distance would be 10, a similar procedure is done on the  $y$  axis. This procedure allows the definition of the UV distribution eccentricity:

$uv\_distribution\_exc$  computed as follows:

$$uv\_distribution\_exc = \sqrt{1 - \frac{b^2}{a^2}} \quad (1)$$

where  $a$  is the major axis length and  $b$  is the minor axis length. The filling factor of the UV plane (hereafter  $uv\_distribution\_fill$ ) is computed as the average number of samples found in a  $N_{samples}^{uv} \times N_{samples}^{uv}$  equispaced grid enclosing the rotated ellipse. In formulas, the boundaries of a cell  $(i,j)$  are defined by the boundaries

$$u \in \left[ u_{min} + \frac{u_{max} - u_{min}}{N_{samples}^{uv}} \cdot i, u_{min} + \frac{u_{max} - u_{min}}{N_{samples}^{uv}} \cdot (i + 1) \right] \quad (2)$$

and

$$v \in \left[ v_{min} + \frac{v_{max} - v_{min}}{N_{samples}^{uv}} \cdot j, v_{min} + \frac{v_{max} - v_{min}}{N_{samples}^{uv}} \cdot (j + 1) \right] \quad (3)$$

where  $u_{max}/v_{max}$  are the respective maximum  $u/v$  of the uv sample and  $u_{min}/v_{min}$  is the minimum  $u/v$  of the uv sample.

Given the above boundaries the number of samples within a cell  $(i,j)$  will be  $n_{i,j}^{uv}$  and  $uv\_distribution\_fill$  will be then computed as

$$uv\_distribution\_fill = \frac{\sum_{i=1}^{N_{samples}^{uv}} \sum_{j=1}^{N_{samples}^{uv}} n_{i,j}^{uv}}{(N_{samples}^{uv})^2}, \quad (4)$$

in the preliminary analysis  $N_{samples}^{uv} = 1000$ .

## 4.3 time parameters

$t\_exp\_min$  and  $t\_exp\_max$  are added because of strong variation in the individual time stamps duration.



Jump  Search

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Wiki > IVOA Web > WebPreferences > IvoaRadio > JointRIG-TDIGVirtualMeeting (2022-01-26, FrancoisBonnarel)

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Solar System  
Theory  
Time Domain

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www.ivoa.net

## Joint RadiolG/TDIG Meeting Jan 11, 2022, 20 UTC

### On pulsar data and other time oriented radio data in the VO

Organized by Brent Miszalski, Mark Cresitello-Dittmar, (TDIG)  
Mark Lacy, François Bonnarel ([RadiolG](#))  
Ada Nebot (as CSP chair)

Meeting topic was "Discovery and access of radio pulsar data and FRB data use cases : How current protocols work. do we need evolution for Time axis and radio specificities ?"

Meeting agenda :

V.Galluzi : [pulsar/transient data at INAF : use cases and status report](#)

M.Louys : [ObsCore Extension for TimeDomain. Focus on PSRFITS mapping](#)

F.Bonnarel : [Discovery and Access strategies for radio timeseries.](#)

ALL : open questions. Formats/datamodels. Next steps

[Notes\(etherpad\)](#) [Notes\(saved\)](#)

#### Attachments

!	Attachment	Action	Size	Date	Who	Comment
	<a href="#">INAF radio data archive ongoing activities future plans about pulsar FRB data.pdf</a>	<a href="#">manage</a>	1632.9 K	2022-01-21 - 16:10	<a href="#">FrancoisBonnarel</a>	Pulsar Data at INAF
	<a href="#">NotesTDIG-RadiolG.txt</a>	<a href="#">manage</a>	7.6 K	2022-01-26 - 20:56	<a href="#">FrancoisBonnarel</a>	Meeting Notes
	<a href="#">ObscoreExtensionforTimeandFreq-MLouys.pdf</a>	<a href="#">manage</a>	650.6 K	2022-01-26 - 16:32	<a href="#">MireilleLouys</a>	<a href="#">ObsCore</a> Extension for Time Radio data
	<a href="#">RadioTimeSeriesDiscoverAcc.pdf</a>	<a href="#">manage</a>	1558.3 K	2022-01-21 - 09:33	<a href="#">FrancoisBonnarel</a>	Radio data time series discovery and access

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Topic revision: r6 - 2022-01-26 - [FrancoisBonnarel](#)



# ESFRIs achievements

- CTA + KM3Net
  - Find out use cases for gamma-ray neutrino interoperability and VO exposition
  - Several meetings organized to understand the issues and pave the way to solutions (see next screenshot)
  - Hack a Thon this afternoon at 2 30 PM



25 June 2021	IVOA metadata and High Energy Astrophysics	preliminary Working meeting	face to face meeting in Meudon	<a href="#">Agenda</a> Minutes by M.Louys and M.Servillat
9 July 2021	SKAO CEVO provenance meeting	Working meeting	(Virtual)	<a href="#">Agenda</a> General ProvSDP introduction by S.Sanchez IVOA ProvDM presentation by M.Servillat SKAO feedback on IVOA data model by J.Garrido Minutes
1 September 2021	CEVO (CTAO + High energy) datamodels and standards for interoperability	Kickoff meeting	virtual	<a href="#">Agenda</a> <a href="#">Introduction</a> <a href="#">June25thView</a> <a href="#">DL3 datamodel proposal</a> <a href="#">minutes</a>
13. September 2021	HiPS in the Data Lake	ESCAPE event	On-line event	
29 September 2021	ESCAPE General Assembly	Meeting	online	<a href="#">Link</a>
24-28 October 2021	ADASS 2021	Conference	Cape Town and online	<a href="#">Link</a>
02-04 November 2021	IVOA Interop	Conference	Videocon Meeting	On-line
23-26 November 2021	Hands-on workshop for Data Providers	Workshop	On-line (gather.town)	<a href="#">event page</a>
08 December 2021	CTA/KM3Net CEVO "datamodels for interoperability" workshop	Workshop	on-line	<a href="#">Agenda+Intro</a> <a href="#">CTA DL3 draft datamodel</a> <a href="#">KM3Net</a> <a href="#">GADF</a> <a href="#">Legacy work 1</a> <a href="#">Legacy Work 2</a> <a href="#">IVOA DM/specs for HEA</a> <a href="#">minutes</a>
22-24 February 2022	2nd Science with interoperable data school	Hands-on School	Strasbourg (or on-line if necessary)	<a href="#">Event page</a>



# ESFRIs achievements

- EGO/VIRGO :
  - visualization using MOC and AladinLite (see Giuseppe Greco talk tomorrow)
- ESO :
  - use of ESO services in Aladin/CASSIS prototype for spectral cubes visualisation by CDS/OMP (see ADASS slides next)



# ESO VO interfaces to data

## MUSE

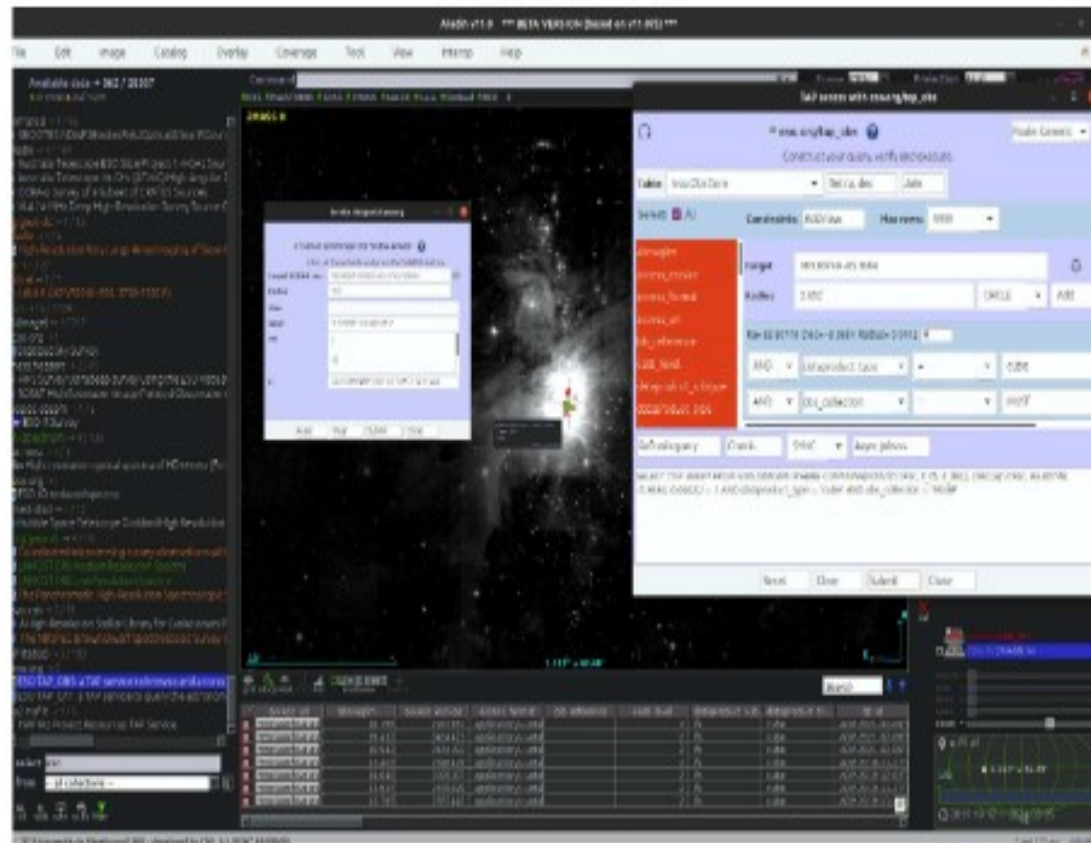


Figure 1. Discovery of MUSE cubes in Orion area with ESO ObsTAP service and SODA interface to obtain a cutout on one of the cubes.





# ESFRIs achievements

- EST :
  - Mapping solarnet metadata / UCD + a few VEPs
  - 3 EPN-TAP services at ROB : USET sunspots and SPOCA coronal holes.
  - Study for VO integration of SPASE event database



# Uset Drawing service (ROB-EST)

← → ↻ 🏠 solrwc2:8077/eventdb/uset\_drawings/usetdr/form 50% ☆ 📄 📄 📄 📄 📄

**DaCHS** Virtual Observatory Publishing

Help Service info

Metadata

Identifier [ivo://my-auth/eventdb](#)

Cite this [Advice on citing this](#)

Description [Description TBD](#)

Keywords Sun

Creator [TBD](#)

Created 2018-09-22T12:00:00

Data updated 2021-10-29T11:47:5

Metadata updated 2021-10-29T12:38:2

Rights ROB

Reference URL [Service info](#)

📄

## USET drawings service title

Result

Matched: 38

[Send via SAMP](#) [Quick Plot](#)

Granule_uid	Granule_gid	Obs_id	Dataproduct_type	Target_name	Target_class	Time_min [d]	Time_max [d]	Time_sampling_step_min [s]	Time_sampling_step_max [s]	Time_exp_min [s]	Time_exp_max [s]	Spectral_range_min [Hz]	Spectral_range_max [Hz]	Spectral_sampling_st [Hz]
uset_drawing_20211001_073500	uset_drawing_20211001_073500	usd202110010735.jpg	N/A	sun	star	2459488.815972222	2459488.815972222	N/A	N/A	N/A	N/A	749481145000000.0	374740572500000.0	
uset_drawing_20211002_084100	uset_drawing_20211002_084100	usd202110020841.jpg	N/A	sun	star	2459489.8618055554	2459489.8618055554	N/A	N/A	N/A	N/A	749481145000000.0	374740572500000.0	
uset_drawing_20211003_154400	uset_drawing_20211003_154400	usd202110031544.jpg	N/A	sun	star	2459491.1555555556	2459491.1555555556	N/A	N/A	N/A	N/A	749481145000000.0	374740572500000.0	
uset_drawing_20211004_081500	uset_drawing_20211004_081500	usd202110040815.jpg	N/A	sun	star	2459491.84375	2459491.84375	N/A	N/A	N/A	N/A	749481145000000.0	374740572500000.0	
uset_drawing_20211005_074500	uset_drawing_20211005_074500	usd202110050745.jpg	N/A	sun	star	2459492.8229166665	2459492.8229166665	N/A	N/A	N/A	N/A	749481145000000.0	374740572500000.0	
uset_drawing_20211005_090500	uset_drawing_20211005_090500	usd202110050905.jpg	N/A	sun	star	2459492.878472222	2459492.878472222	N/A	N/A	N/A	N/A	749481145000000.0	374740572500000.0	
uset_drawing_20211007_080500	uset_drawing_20211007_080500	usd202110070805.jpg	N/A	sun	star	2459494.8368055555	2459494.8368055555	N/A	N/A	N/A	N/A	749481145000000.0	374740572500000.0	
uset_drawing_20211007_133500	uset_drawing_20211007_133500	usd202110071335.jpg	N/A	sun	star	2459495.065972222	2459495.065972222	N/A	N/A	N/A	N/A	749481145000000.0	374740572500000.0	
uset_drawing_20211008_075000	uset_drawing_20211008_075000	usd202110080750.jpg	N/A	sun	star	2459495.826388889	2459495.826388889	N/A	N/A	N/A	N/A	749481145000000.0	374740572500000.0	
uset_drawing_20211009_075500	uset_drawing_20211009_075500	usd202110090755.jpg	N/A	sun	star	2459496.829861111	2459496.829861111	N/A	N/A	N/A	N/A	749481145000000.0	374740572500000.0	
uset_drawing_20211009_140500	uset_drawing_20211009_140500	usd202110091405.jpg	N/A	sun	star	2459497.0868055555	2459497.0868055555	N/A	N/A	N/A	N/A	749481145000000.0	374740572500000.0	

# Uset groups service



## USET groups service title

Help

Service info

Metadata

Identifier

ivo://my-auth/eventdb

Cite this

Advice on citing this

Description

Description TBD

Keywords

Sun

Creator

TBD

Created

2016-09-22T12:00:00

Data updated

2021-11-08T13:03:51

Metadata updated

2021-10-29T13:58:30

Rights

ROB

Reference URL

Service info

2021-10-29T13:58:30

### Result

Matched: 87

Send via SAMP Quick Plot

Granule_uid	Granule_gid	Obs_id	Dataproduct_type	Target_name	Target_class	Time_min [d]	Time_max [d]	Time_sampling_step_min [s]	Time_sampling_step_max [s]	Time_exp_min [s]	Time_exp_max [s]	Spectral_range_min [Hz]	Spectral_range_max [Hz]	Spectral_sampling_st [Hz]
uset_group_0_20211001_073500	uset_drawing_20211001_073500	usd202110010735.jpg		N/A	sun	star	2459488.815972222	2459488.815972222		N/A	N/A	N/A	374740572500000.0	749481145000000.0
uset_group_1_20211001_073500	uset_drawing_20211001_073500	usd202110010735.jpg		N/A	sun	star	2459488.815972222	2459488.815972222		N/A	N/A	N/A	374740572500000.0	749481145000000.0
uset_group_0_20211002_084100	uset_drawing_20211002_084100	usd202110020841.jpg		N/A	sun	star	2459489.8618055554	2459489.8618055554		N/A	N/A	N/A	374740572500000.0	749481145000000.0
uset_group_1_20211002_084100	uset_drawing_20211002_084100	usd202110020841.jpg		N/A	sun	star	2459489.8618055554	2459489.8618055554		N/A	N/A	N/A	374740572500000.0	749481145000000.0
uset_group_0_20211003_154400	uset_drawing_20211003_154400	usd202110031544.jpg		N/A	sun	star	2459491.1555555556	2459491.1555555556		N/A	N/A	N/A	374740572500000.0	749481145000000.0
uset_group_1_20211003_154400	uset_drawing_20211003_154400	usd202110031544.jpg		N/A	sun	star	2459491.1555555556	2459491.1555555556		N/A	N/A	N/A	374740572500000.0	749481145000000.0
uset_group_0_20211004_081500	uset_drawing_20211004_081500	usd202110040815.jpg		N/A	sun	star	2459491.84375	2459491.84375		N/A	N/A	N/A	374740572500000.0	749481145000000.0
uset_group_1_20211004_081500	uset_drawing_20211004_081500	usd202110040815.jpg		N/A	sun	star	2459491.84375	2459491.84375		N/A	N/A	N/A	374740572500000.0	749481145000000.0
uset_group_0_20211005_074500	uset_drawing_20211005_074500	usd202110050745.jpg		N/A	sun	star	2459492.8229166665	2459492.8229166665		N/A	N/A	N/A	374740572500000.0	749481145000000.0
uset_group_1_20211005_074500	uset_drawing_20211005_074500	usd202110050745.jpg		N/A	sun	star	2459492.8229166665	2459492.8229166665		N/A	N/A	N/A	374740572500000.0	749481145000000.0
uset_group_0_20211005_090500	uset_drawing_20211005_090500	usd202110050905.jpg		N/A	sun	star	2459492.878272222	2459492.878272222		N/A	N/A	N/A	374740572500000.0	749481145000000.0