

Dernières nouvelles du côté de la couche d'accès aux données IVOA (DAL) - développements CDS associés



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□ Paysage DAL

VOTABLE

TAP,ADQL

→ADQL 2.1

ObsTAP ([Obscore 1.0] -> 1.1)

SLAP

DALI 1.0 (common spec)->1.1

ConeSearch,SIAV1

SSA1.1

SIAV2.0

SODA 1.0 (AccessData)

DataLink 1.0

SimDAL 1.0

VTP 2.0



□ Paysage DAL et avalanche de données

- Le paysage DAL est complexe
 - 14 protocoles différents en utilisation ou proches de la recommandation
 - Incluent des changements de version majeurs
- L'accroissement du volume de données va plus vite que le processus de recommandation
 - Équilibre entre Ressources et exigences?
- Deux moyens
 - Comprendre la logique du paysage DAL
 - Préparer l'évolution
 - -> poster ADASS XXVI (Molinaro and Bonnarel)



propriétés des protocoles DAL

- type de données
 - Catalogues/tables
 - Images/cubes
 - Spectres/series temporelles
 - Données théoriques
 - Raies spectrales
 - Données brutes ou «bas niveau» (“event lists”, “visibility”)
- Fonctionnalités pour l'utilisateur
 - Découverte
 - Description
 - Accès de base
 - Accès étendu
 - liens
- Interface et aspects logiciels
 - Sync/async
 - Compatibilité DALI
 - Adql
 - langage paramétrique
 - ...



Les protocoles DAL

	Design	Functionalities					
Data type		ConeSearch-Discovery	Multi-dimensional Discovery	Description (NB: SIA1 is very different from others)	Simple-Access	Access-processing	Link
Catalogues/tables	Sync	TAP,CS,ObsTAP	TAP,ObsTAP		TAP,CS		DataLink
	Async	TAP,ObsTAP	TAP,ObsTAP		TAP		
	ADQL	TAP,ObsTAP	TAP,ObsTAP		TAP		
	PBL	CS			CS		DataLink
	DALI	TAP,ObsTAP	TAP, ObsTAP		TAP		DataLink
	No-DALI	CS			CS		
Spectra / timeseries	Sync	SSA,ObsTAP	SSA,ObsTAP	SSA,ObsTAP	SSA	SSA	DataLink
	Async	ObsTAP	ObsTAP	ObsTAP			
	ADQL	ObsTAP	ObsTAP	ObsTAP			
	PBL	SSA	SSA	SSA	SSA	SSA	DataLink
	DALI	ObsTAP	ObsTAP	ObsTAP			
	No-DALI	SSA	SSA	SSA	SSA	SSA	DataLink
Images/cubes	Sync	SIA1,SIA2,ObsTAP	SIA2,ObsTAP	SIA1,SIA2,ObsTAP	SIA1,SODA1.0	SIA1,SODA1.1	DataLink
	Async	SIA2,ObsTAP	SIA2,ObsTAP	SIA2,ObsTAP	SODA1.0	SODA1.1	
	ADQL	ObsTAP	ObsTAP	ObsTAP			
	PBL	SIA1,SIA2	SIA2	SIA1,SIA2	SIA1,SODA1.0	SIA1,SODA1.1	DataLink
	DALI	SIA2,ObsTAP	SIA2,ObsTAP	SIA2,ObsTAP	SODA1.0	SODA1.1	DataLink
	No-DALI	SIA1		SIA1	SIA1	SIA1	

	Design	Functionalities					
Data type		ConeSearch-Discovery	Multi-dimensional Discovery	Description (NB: SIA1 is very different from others)	Simple-Access	Access-processing	Link
Raw data/Event list/Visibility	sync	ObsTAP	ObsTAP	ObsTAP			DataLink
	async	ObsTAP	ObsTAP	ObsTAP			
	ADQL	ObsTAP	ObsTAP	ObsTAP			
	PBL						DataLink
	DALI	ObsTAP	ObsTAP	ObsTAP			
	No-DALI						
Spectral Lines	sync	SLA	SLA	SLA			
	async						
	ADQL						
	PBL	SLA	SLA	SLA			
	DALI						
	No-DALI	SLA	SLA	SLA			
Theory data	sync		SimDAL	SimDAL	SimDAL	SimDAL	SimDAL
	async						
	ADQL						
	PBL						
	DALI						
	No-DALI		SimDAL	SimDAL	SimDAL	SimDAL	SimDAL



Scenario Accès cube

Priorité scientifique OV 2013

- I) Découverte de service :
 - > découvrir les services de cube dans le répertoire IVOA (Registry)
 - **ObsTap** (générique, ObsCore, ADQL)
 - SIAV2 (orienté cube, requête paramètre)
- II) Requête **ADQL** à partir d'un service ObsTAP
 - > la réponse est une VOTABLE sérialisant le modèle ObsCore et décrivant les « datasets » sélectionnés.



Scenario Accès cube bis

Priorité scientifique OV 2013

- I) Découverte de service :
 - > découvrir les services de cube dans le répertoire IVOA (Registry)
 - ObsTap (générique, ObsCore, ADQL)
 - **SIAV2 (orienté cube, requête paramétrique)**
- II bis) Requête **paramétrique** à partir d'un service SIAV2
 - > la réponse est une VOTABLE serialisant le modèle ObsCore et décrivant les “datasets” sélectionnés.



Scenario Accès cube fin

Priorité scientifique OV 2013

- III) resource {links} de DataLink
 - Liens fixes,
 - Services de métadonnées,
 - Services propriétaires (« service descriptor » de DataLink)
 - Service SODA (« Server-side operation for DataAccess »)
- III bis) chemin direct à SODA (via « service descriptor »)
- IV) SODA:
 - Extraction dirigée par paramètres identiques à Query
 - CIRCLE = 12 34 0.5
 - POS= POLY 12.0 14.0 12.0 16.0 15.0 16.0 15.0 14.0
 - BAND=500 550
 - TIME= 55000.0 56000.0
 - POL=Q,POL=.....



□ Les protocoles multi-dimensionnels

- ObsCore 1.1 / ObsTAP (rec imminente dans DM)
- DataLink (18 juin 2015)
- SIA2.0 (23 décembre 2015)
- SODA (rec imminente)
- **Demandes minimales du CSP enfin satisfaites!!!**



DataLink 1

service descriptor

- Mécanisme pour description de service HTTP de type « PARAM=... »
- Basé sur la structuration des PARAM de VOTABLE

3 factor semantics: name, unit, ucd

- ```
<RESOURCE type="meta" utype="adhoc:service" ID="soda-sync">
```
- ```
<PARAM arraysize="*" datatype="char" name="accessURL" value="http://www.cadc-ccda.hia-ihp.nrc.gc.ca/caom2ops/sync"/>
```
- ```
<GROUP name="inputParams">
```
- ```
<PARAM arraysize="*" datatype="char" name="ID" value="" ref="fileURIRef"/>
```
- ```
<PARAM arraysize="*" ucd="obs.field" datatype="char" name="PAR1" >
```
- ```
<VALUES>
```
- ```
<MIN>.....</MIN>
```
- ```
<MAX>.....</MAX>
```
- ```
<OPTION>.....</OPTION>
```
- ```
</VALUES>
```
- ```
<PARAM arraysize="2" ucd="em.wl;stat.interval" datatype="double" name="PAR2" unit="m" />
```
- ```
<PARAM arraysize="2" ucd="time;stat.interval" datatype="double" name="PAR3" unit="d" />
```
- ```
<PARAM arraysize="2*" ucd="phys.polarization.stokes" datatype="char" name="PAR4" />
```
- ```
</GROUP>
```
- ```
</RESOURCE>
```

- Peut décrire des services propriétaires ou standard dans/pour
  - Réponses SIA, SSA, COneSearch
  - DataLink {links} resource
  - SODA



# DataLink 2

## {links} RESOURCE

La réponse est une table pour un/plusieurs datasets comportant

The list of links that is returned by the {links} resource can be represented as a table with the following columns:

name	description	required	UCD
ID	Input identifier	yes	meta.id;meta.main
access_url	link to data or service	one only	meta.ref.url
error_message	error if an accessURL cannot be created		meta.code.error
service_def	reference to the description of a service at access_url	no	meta.ref
description	human-readable text describing this link	no	meta.note
semantics	limited vocabulary describing this link	no	meta.code
content_type	mime-type of file the link returns	no	meta.code.mime
content_length	size of download the link returns	no	phys.size;meta.file

- Moyenne du Cube avec liens fixes, accesdata (*custom services*)
- Données Calibration , métadonnées provenance, SODA



# □ DALI, TAP

- DALI
  - Règles communes (paramètres communs des services, xtypes, etc..)
  - derniers changements =
    - sens des polygones (inverse des aiguilles d'une montre),
    - liste de xtypes prédéfinis ,
    - Z dans les "timestamps" autorisés pour temps usuels
  - discussion au sein du groupe est terminée. "Proposed recommendation"
- TAP 1.1 :
  - compatibilité avec le nouveau DALI (moins de choses définies dans TAP)
  - Simplification de la spécification régions
  - Question liées à l'évolution du TAP\_SCHEMA.
  - Passage en PR imminent
  - TAPRegExt est adapté à TAP 1.1 sera adopté juste après

# □ ADQL

- ADQL 2.1 :
  - nouvelles fonctionnalités (par rapport à ADQL 2.0 comme le cross-match) ,
  - Le BNF n'est pas fiable
- Proposition :
  - BNF corrigée avant de passer en “proposed recommendation”

# □ Protocoles « hébergés » (procédure de validation terminée)

- SimDAL : découverte, description, accès aux données de simulation.
  - Développé par le groupe théorie de l'OV (D.Languignon, F.Lepetit).
  - Recommandation attendue.
- VTP (= VOEvent transport protocol) définit un réseau de « broker », de « diffuseurs » et d' « écouteurs » d'événements astronomiques subits.

# □ Avenir du DAL (1)

- Découvrir et accéder aux séries temporelles (priorité scientifique) .
  - Recensement des besoins et possibilités
  - Travail de prototypage en cours avec TDIG et groupe DM.
- Retour sur les nouveaux standards (SIAV2, DataLink, SODA)
- Question du couplage avec MOC et HiPS
- Exécution de code utilisateur près des données
- Page IVOA et session à l'interop de Shanghai  
<http://wiki.ivoa.net/twiki/bin/view/IVOA/DALFuture>

## □ Avenir du DAL (2)

- Formats (Json ?) et langages (PQL ? PDL ? Langages)
- Nouvelle version de SLAP
  - 1.1 compatibilité ascendante et meilleur accord avec VAMDC
  - SLAP2 implémentant VAMDC



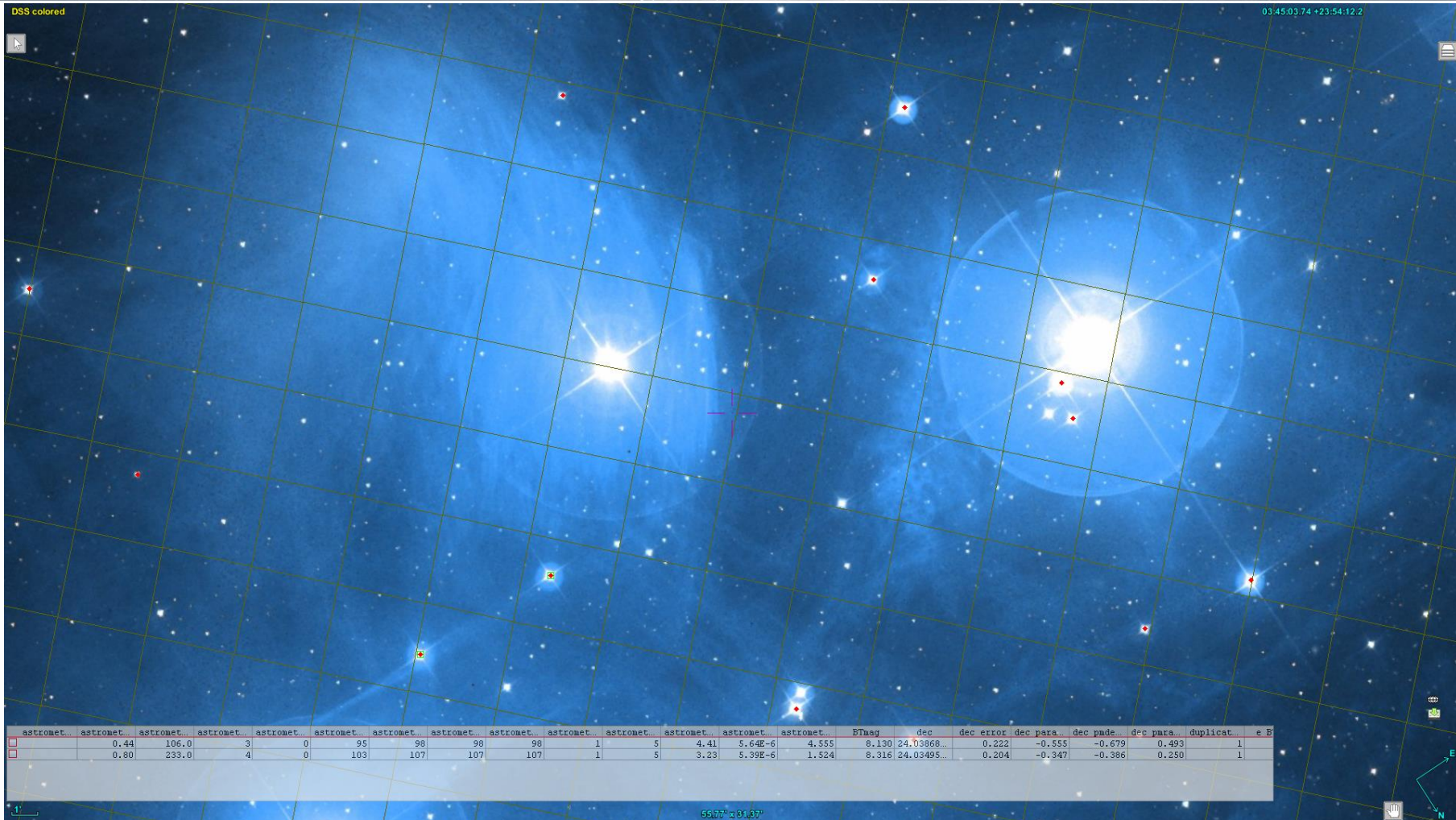
# □ Implémentations dans l'interface Aladin

- TAP/ObsTap (customisé ou générique)
- SIAV2, DataLink
- Intégration des services à un arbre de découverte commun à tous les modes d'accès

# □ L'interface TAP dans Aladin

- Cet interface manquait dans Aladin
- Forte motivation:
  - participation CDS à la distribution Gaia DR1
  - Émergence de services ObsTap avec des images et des cubes
- → intégration d'un interface TAP dans le code principal d'Aladin (plutôt que Plugin)
  - Interfaces dédiés et génériques

# Gaia DR1 pour M45 (Pleiades) dans Aladin: supplement TGAS avec magnitudes BT et VT



# □ Gaia: interface classique

The screenshot displays the Aladin v9.0 web interface. The main window shows a star field with a grid overlay. A 'Server selector' dialog box is open, showing the 'Gaia DR1 (Gaia Collaboration, 2018)' server selected. The dialog box contains the following fields:

- Target (ICRS, name): 03 47 00.00 +24 07 00.1
- Radius: 2.895°
- Table: I/337/tgasptyc - TGAS supplemented with BT and ...
- Plx [mas](ex: >50): >7
- Gmag (ex: 10.11):
- pmRA [mas/yr] (ex: <20):
- pmDE [mas/yr] (ex: >30):
- Output columns: \* - Default columns
- Output max: 999999

At the bottom of the main window, there is a table with the following columns: RAJ2000, DEJ2000, V, TYC, HIP, Source, RA ICRS, e RA, DE ICRS, e DE, Plx, pmRA, pmDE, Di.

RAJ2000	DEJ2000	V	TYC	HIP	Source	RA ICRS	e RA	DE ICRS	e DE	Plx	pmRA	pmDE	Di
56.837658	24.116266	VizieR 1800-2201-1			66715101399291392	56.837753769	0.383	24.1160800639	0.216	7.88	20.889	-44.684	0 4774
56.830613	24.139113	VizieR 1800-1607-1			66715273197982848	56.830694692	0.312	24.1389324034	0.164	7.64	17.879	-43.463	0 821

# □ Gaia customized TAP interface

Aladin v9.0 \*\*\* BETA VERSION (based on v9.039) \*\*\*

File Edit Image Catalog Overlay Coverage Tool View Interop Help

Location 03:47:29.48 +24:17:17.3

DSS SDSS 2MASS WISE GALEX PLANCK AKARI XMM Fermi Gaia Simbad NED +

Server selector

Others File Watch Tools...

Image servers

- Aladin images
- SkyView
- UKIDSS
- Sloan
- DSS...
- VLA...
- Archives...
- Others...

Catalog servers

- All VizieR
- Surveys
- Missions
- AMEAD
- NED
- MOC
- TAP
- Others..

Target (ICRS, name) 03 46 32.06 +24 00 59.0

Radius 1.97°

Table "I/337/tgasptyc" - TGAS supplemented with BT and...

Plx [mas] (ex: >50)

Gmag (ex: 10..11)

pm limit [mas/yr] 50

Max records - Default server limit

Generated SQL

```
SELECT *
FROM I/337/tgasptyc
WHERE 1=CONTAINS(POINT(ICRS; ra dec), CIRCLE(ICRS;
56 85308333333333, 24 0443888888888893, 3 441)) AND
SQRT(POWER(pmRA,2)+POWER(pmDec,2))>50
```

Reset Clear

GaiaGluTap-7 - astrometric\_n\_good\_obs\_ac - Number of good observations

astromet...	astromet...	astromet...	astromet...	astromet...	astrometric_n_good_obs_ac	astromet...	astromet...	astromet...	astromet...	astromet...
0.31	144.0	2	2		92	95	95	95	1	5
0.56	229.0	3	0						5	5.51
12.06	0.84	377.0	3	0					3	8.16

UCD: meta.number

# □ Gaia : interface dédié

The screenshot shows the Gaia interface with a star field and a 'Server selector' dialog box. The dialog box is titled 'Server selector' and has a toolbar with icons for 'Others', 'HIPS', 'File', 'all VO', 'Watch', 'FoV...', and 'Tools...'. The main area of the dialog box is titled 'Gaia via TAP Vizier (Gaia Collaboration, 2016)' and has a 'Change...' button. The fields are:

- Target (ICRS, name): 03 46 32.06 +24 00 59.0 (Grab coord)
- Radius: 1.97°
- Table: "/I/337/tgasptyc" - TGAS supplemented with BT and...
- Plx [mas](ex: >50):
- Gmag (ex: 10.11):
- pm limit [mas/yr]: 50 (Complex constraint)
- Max records: - Default server limit

Buttons: Write.. Check.. SYNC ▾

SQL query:

```
SELECT *
FROM "/I/337/tgasptyc"
WHERE 1=CONTAINS(POINT('ICRS', ra, dec), CIRCLE('ICRS',
56.85308333333333, 24.04438888888889, 3.441)) AND
SQRT(POWER(pmRA,2)+POWER(pmdec,2))>50
```

Buttons: Reset Clear SUBMIT Close ?

At the bottom of the dialog box, there is a table with columns: astromet..., astrometric n good obs, astromet..., astromet..., astromet..., astromet..., astromet..., astromet... The table has 3 rows of data.

astromet...	astrometric n good obs	astromet...	astromet...	astromet...	astromet...	astromet...	astromet...
2	2	1	5	3.14	2.5E-5		
3	0	1	5	5.51	1.39E-5		
3	0	92	95	95	95	1	3

# interface dédié: Comment ça marche ?

```
#GLU record for Gaia DR1 from ARI
#Catalog Identifier : Gaia-DR1.cat
%A GaiaGluTAPARI
%D Gaia DR1 (Gaia Collaboration, 2016)
%O CDS'aladin
%Z ALADIN
%Aladin.Protocol TAPv1
%N 1475571165 2016/10/04 10:52:35
%U http://gaia.ari.uni-heidelberg.de/tap

%P.D $1=Target
%P.K $1=Target(RAd,gaiadr1.gaia_source,gaiadr1.tgas_source)
%P.D $2=Declination
%P.K $2=Target(DEd,gaiadr1.gaia_source,gaiadr1.tgas_source)
%P.D $3=Radius
%P.K $3=Field(RADIUSd,gaiadr1.gaia_source,gaiadr1.tgas_source)
%ADQL.Where $1=1=CONTAINS(POINT('ICRS', ra, dec), CIRCLE('ICRS', $1, $2, $3))
%P.V 3:0.17

%P.D 4:Table
%P.K $4=Tables(gaiadr1.gaia_source,gaiadr1.tgas_source)
%P.V 4:gaiadr1.gaia_source - Gaia Source data
%P.V 4:gaiadr1.tgas_source - TGAS supplemented with BT and VT magnitudes
%ADQL.TAPTables gaiadr1.gaia_source gaiadr1.tgas_source
%ADQL.From $4=$4
```

```
%P.D 6:Gmag (ex: 10..11)
%P.K 6=char(OP,gaiadr1.gaia_source,gaiadr1.tgas_source)
%ADQL.Where 6=phot_g_mean_mag $6

%P.D 7:pm limit [mas/yr]
%P.K 7=char(gaiadr1.gaia_source,gaiadr1.tgas_source)
%ADQL.Where 7= SQRT(POWER(pmRA,2)%2BPOWER(pmdec,2))>$7

%P.D $8=Max records
%P.V $8=TOP 10 - A few
%P.V $8=TOP 1000 - first 1000
%P.V $8=- Default server limit
%P.K $8=TOP(gaiadr1.gaia_source,gaiadr1.tgas_source)
%ADQL.Select $8=$8

%P.D 9:Output columns
%P.V 9:* - Default columns
%P.V 9:ra, dec, pmra, pmdec,
SQRT(POWER(pmRA,2)+POWER(pmdec,2)) as pm - Position and
proper motion
%P.V 9:source_id, phot_g_mean_mag+5*log10(parallax)-
10 as g_mag - Absolute magnitude MG
```

Enregistrements GLU ( définitions de menu en ASCII)

```
source_id,ref_epoch,pmRa,ra_dec_corr
.....
```

# interface dédié: Comment ça marche ?

```
#GLU record for Gaia DR1 from ARI
#Catalog Identifier : Gaia-DR1.cat
%A GaiaGluTAPARI
%D Gaia DR1 (Gaia Collaboration, 2016)
%O CDS'aladin
%Z ALADIN
%Aladin.Protocol TAPv1
%N 1475571165 2016/10/04 10:52:35
%U http://gaia.ari.uni-heidelberg.de/tap
```

```
%P.D $1=Target
%P.K $1=Target(RAd,gaiadr1.gaia_source,gaiadr1.tgas_source)
%P.D $2=Declination
%P.K $2=Target(DEd,gaiadr1.gaia_source,gaiadr1.tgas_source)
%P.D $3=Radius
%P.K $3=Field(RADIUSd,gaiadr1.gaia_source,gaiadr1.tgas_source)
%ADQL.Where $1=1=CONTAINS(POINT('ICRS', ra, dec), CIRCLE('ICRS', $1, $2, $3))
%P.V 3:0.17

%P.D 4:Table
%P.K $4=Tables(gaiadr1.gaia_source,gaiadr1.tgas_source)
%P.V 4:gaiadr1.gaia_source - Gaia Source data
%P.V 4:gaiadr1.tgas_source - TGAS supplemented with BT and VT magnitudes
%ADQL.TAPTables gaiadr1.gaia_source gaiadr1.tgas_source
%ADQL.From $4=$4
```

```
%P.D 6:Gmag (ex: 10..11)
%P.K 6=char(OP,gaiadr1.gaia_source,gaiadr1.tgas_source)
)
%ADQL.Where 6=phot_g_mean_mag $6
```

```
%P.D 7:pm limit [mas/yr]
%P.K 7=char(gaiadr1.gaia_source,gaiadr1.tgas_source)
%ADQL.Where 7=
SQRT(POWER(pmRA,2)%2BPOWER(pmdec,2))>$7
```

```
%P.D $8=Max records
%P.V $8=TOP 10 - A few
%P.V $8=TOP 1000 - first 1000
%P.V $8=- Default server limit
%P.K $8=TOP(gaiadr1.gaia_source,gaiadr1.tgas_source)
```

```
%P.V 9:ra, dec, pmra, pmdec,
SQRT(POWER(pmRA,2)+POWER(pmdec,2)) as pm - Position and
proper motion
%P.V 9:source_id, phot_g_mean_mag+5*log10(parallax)-
10 as g_mag - Absolute magnitude MG
```

**IMPLANTEZ VOUS MÊME VOTRE FORMULE PRÉFÉRÉE**



# Interface générique TAP (tables Simbad – M45 à nouveau)

Aladin v9.0 \*\*\* BETA VERSION (based on v9.039) \*\*\*

File Edit Image Catalog Overlay Coverage Tool View Interop Help

Location: DSS \* SDSS \* 2MASS \* WISE \* GALEX \* PLANCK \* AKARI \* XMM \* Fermi \* Gaia \* Simbad \* NED +

Server selector

Image servers: Aladin Images, SkyView, UKIDSS, Sloan, DSS..., VLA..., Archives..., Others...

Catalog servers: All, Vizier, Surveys, Missions, SIMBAD, NED, MOC, TAP, SkyBot, Gaia, Others...

Table: basic

Select: mesPM, mesXmm, ids, mesRot, pm\_qual, mesIRC, basic, plx\_val, allfluxes, plx\_err, mesVelocities, plx\_err\_prec, plx\_qual, plx\_bibcode

Construct your query, verify and execute.

Upload

Max rows: 100

03 42 49.75 +25 37 40.0

14'

CIRCLE

5.7072916666666666 Dec= 25.627777777777778 Radius= 0.23333333333333334

Write... Check... Set ra, dec

SELECT TOP 100 FROM basic WHERE CONTAINS(POINT('ICRS', ra, dec), CIRCLE('ICRS', 55 7072916666666666, 25 6277777777777778, 0.23333333333333334)) = 1

Reset Clear SUBMIT Close ?

Cone search constraint

astromet	astromet	astromet	astromet	astromet	astromet	astromet	astromet	astromet	astromet	astromet	astromet	astromet	astromet	astromet	ETaag	dec	dec error	dec para.	dec pade.	dec para.	duplicat.	e ETaag	ecl lat	ecl lon	e V
0.56	229.0	3	0	85	88	88	88	1	5	5.51	1.39E-5	3.020	8.765	23.99502...	0.190	0.142	-0.611	-0.103	1	0.022	3.964124	59.87585			
0.89	533.0	3	0	101	104	104	104	1	5	8.72	2.57E-5	1.219	6.302	24.11608	0.216	-0.600	-0.387	0.217	0	0.015	4.068282	59.96497			
0.62	482.0	3	3	120	120	123	123	1	5	6.07	1.7E-5	2.497	8.484	24.13893	0.164	-0.295	-0.612	0.273	0	0.019	4.091989	59.96366			

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3 sel / 482 src 3tps / 88Mb

# Interface générique TAP (Tables Simbad – M45 à nouveau)

Aladin v9.0 \*\*\* BETA VERSION (based on v9.039) \*\*\*

File Edit Image Catalog Overlay Coverage Tool View Interop Help

Location

DSS SDSS 2MASS WISE GALEX PLANCK

Server selector

Others: SIMBAD, File, allVO, Watch, Fov..., Tools...

Image servers: Aladin images, SkyView, UKIDSS, Sloan, DSS..., VLA..., Archives..., Others...

Table: basic

Select:  All

Constraints: Add new Max rows: 2000

Target: 03 47 05.71 +24 09 16.5

Radius: 2°

Ra= 56.77379166666667 Dec= 24.154583333333333 Radius= 2.0

plx\_value

pm\_err\_min\_prec

pm\_err\_angle

pm\_qual

pm\_bibcode

plx\_value

plx\_prec

plx\_err

plx\_err\_prec

Write... Check... Set ra, dec

SELECT TOP 2000 \* FROM basic WHERE CONTAINS(POINT(ICRS: ra, dec), CIRCLE(ICRS: 56.77379166666667, 24.154583333333333, 2.0)) = 1 AND plx\_value > 8

Reset Clear SUBMIT Close ?

contrainte de parallaxe

Generated SQL

dec	error	dec para.	dec para.	de duplicat.	e BTag	ecl lat.	ecl lon.	e v
0.180	0.142	-0.611	-0.103	1	0.022	3.964124...	59.87585...	
0.216	-0.600	-0.387	0.217	0	0.015	4.068282...	59.96497...	
0.164	-0.295	-0.612	0.273	0	0.019	4.091989...	59.96366...	

3 sel / 674 src Steps / 100Mb

FR 06:54 21/10/2016

# □ Interfaces SIAV2 et DataLink

- Menu GLU « classique »
- Interprétation de la sortie Obscore
- Interface DataLink
- Exemple CASDA (Radio astronomie Australie).  
Service avec authentification
- Exemple CALIFA opéré par GAVO. DataLink  
récuratif.

# SIAV2 : Liste d'observations CASDA autour de 344.72 -55.97

Aladin v9.0 \*\*\* BETA VERSION (based on v9.039) \*\*\*

File Edit Image Catalog Overlay Coverage Tool View Interop Help

Location 344.57835 -55.91674

DSS SDDS 2MASS WISE GALEX PLANCK AKARI XMM Fermi Gaia Simbad NED +

DSS colored

Server selector

Others: CASDA Tools...

Image servers: Aladin images, SkyView, UKIDSS, Sloan, DSS..., VLA..., Archives..., Others...

Catalog servers: All, Vizier, surveys, missions, SIMBAD, NED, MOC, TAP, SkyBot, Gaia, Others...

CASDA SIAV2 implementation

CIRCLE 340.4567 -64.4194 2

BAND 0.25 0.30

TIME

POL

SPATRES

EXPTIME

ID

COLLECTION

Reset Clear SUBMIT Close

9.707° x 4.352°

obs	publ	access	url	target	n	s ra	s dec	s fov	s region	t min	Observat	t max	Observat	t exptime	t resolu	em min	Spectral	em max	Spectral	em res p	o ucd	pol	status	dataprod	em ucd	em unit	em resol	s res
cube-24		https://				344.6289...	-55.9409...	153.5149...	FoV	0.0	1858-11...	0.0	1858-11...	0.0	0.319074	939,593...	0.347154	863,5912...	11.86275...	phot.flu...	/I/			ca.wi	n		0.016	
cube-25		https://				344.6230...	-55.9411...	158.5882...	FoV	0.0	1858-11...	0.0	1858-11...	0.0	0.347157...	863,5854...	0.380658...	787,5834...	10.86267...	phot.flu...	/I/			ca.wi	n		0.016	
cube-26		https://				344.6258...	-55.9394...	164.6950...	FoV	0.0	1858-11...	0.0	1858-11...	0.0	0.380660...	787,5776...	0.421318...	711,5757...	9.862602...	phot.flu...	/I/			ca.wi	n		0.016	

TIP: Point the cursor over the current image to Display Information.

74 out of 74 images - Size: 1.05 MB

# CASDA: Autorisation

Aladin v9.0 \*\*\* BETA VERSION (based on v9.039) \*\*\*

File Edit Image Catalog Overlay Coverage Tool View Interop Help

Location 344.62898 -55.94099

DSS + SDSS + 2MASS + WISE + GALEX + PLANCK + AKARI + XMM + Fermi + Gaia + Simbad + NED +

DSS colored

Authentication

Authentication required for accessing data [ATNF OPAL Login] on machine data.csiro.au :

User name: harel@astro.unistra.fr

Password: .....

Ok Cancel

This source at the reticle location (zoom on it via the mousewheel)

obs	publ.	access url	target n.	s ra	s dec	s fov	s region	t min	Observat.	t max	Observat.	t exptime	t resolu.	em min	Spectral	em max	Spectral	em res p.	o ucd	poi	states	dataprod	em ucd	em unit	em resolu.	s res
cube-24		https://		344.6289	-55.9409	153.5149	FoV	0.0	1858-11...	0.0	1858-11...	0.0	0.319074	939,5931...	0.347154	863,5912	11.86275	phot.flu...	/I/			em.wi	m		0.016	
cube-25		https://		344.6230	-55.9411	158.5882	FoV	0.0	1858-11...	0.0	1858-11...	0.0	0.347157	863,5854	0.380658	787,5834	10.86267	phot.flu...	/I/			em.wi	m		0.016	
cube-26		https://		344.6258	-55.9394	164.6950	FoV	0.0	1858-11...	0.0	1858-11...	0.0	0.380660	787,5776	0.421318	711,5757	9.862602	phot.flu...	/I/			em.wi	m		0.016	

21 sel / 31 src 169Mb

06:42 22/10/2016

# □ CASDA: « DataLinks » pour un cube

Aladin v9.0 \*\*\* BETA VERSION (based on v9.039) \*\*\*

File Edit Image Catalog Overlay Coverage Tool View Interop Help

Location 344.71990 -55.96630

Frame ICRS4

DSS colored

344.71990 -55.96630

9.701" x 4.349"

Search

obs	publ	access url	target n...	s ra	s dec	s fov	s region	t min	Observat...	t max	Observat...	t exptime	t resolu...	em min	Spectral...	em max	Spectral...	em res p...	o ucd	poi states	dataprod	em ucd	em unit	em resolu...	s res
cube-24		https://																				em.w1	n		0.016
cube-25		https://																				em.w1	n		0.016
cube-26		https://																				em.w1	n		0.016

(c) 2016 Unistra/CNRS - by CDS

21 sel / 31 arc 128 Mb

06:43  
22/10/2016

# CASDA: cube complet chargé

Aladin v9.0 \*\*\* BETA VERSION (based on v9.039) \*\*\*

File Edit Image Catalog Overlay Coverage Tool View Interop Help

Location: 22:58:31.71 -55:56:33.2

DSS + SDSS + 2MASS + WISE + GALEX + PLANCK + AKARI + XMM + Fermi + Gaia + Simbad + NED +

Stack controls:

- ☐ other icon: show/hide a plane
- size: change object size
- ◂ zoom: adjust field size
- ◂ Opacity: adjust transparency

The view is drawn according to the projection of a reference plane.

For changing the reference, click on its check box.

sync?id=zefkpluk CASDA SIAv2

10.39° x 14.70°

0.700" x 0.550"

results - access\_url - URL used to access (download) dataset

obs publ...	access url	target n...	s ra	s dec	s fov	s region	t min	Observat...	t max	Observat...	t expire	t resolu...	em min	Spectral...	em max
<input type="checkbox"/> cube-10	<a href="#">https://...</a>		104.629111	-55.942600	1.497475	200	0.0	1038-11	0.0	1038-11	0.0	0.29199	1.013583	0.319076	
<input type="checkbox"/> cube-11	<a href="#">https://...</a>														
<input type="checkbox"/> cube-12	<a href="#">https://...</a>														
<input type="checkbox"/> cube-13	<a href="#">https://...</a>														
<input type="checkbox"/> cube-3	<a href="#">https://...</a>														
<input type="checkbox"/> cube-4	<a href="#">https://...</a>														
<input type="checkbox"/> cube-5	<a href="#">https://...</a>														
<input type="checkbox"/> cube-6	<a href="#">https://...</a>														
<input type="checkbox"/> cube-7	<a href="#">https://...</a>														
<input type="checkbox"/> cube-8	<a href="#">https://...</a>														
<input type="checkbox"/> cube-9	<a href="#">https://...</a>														

TIP: Do you know that you can subtract, divide, ... images => Images>Operations

22 sel / 22 ste 74Mb

# CALIFA-GAVO : galaxies sur tout le ciel

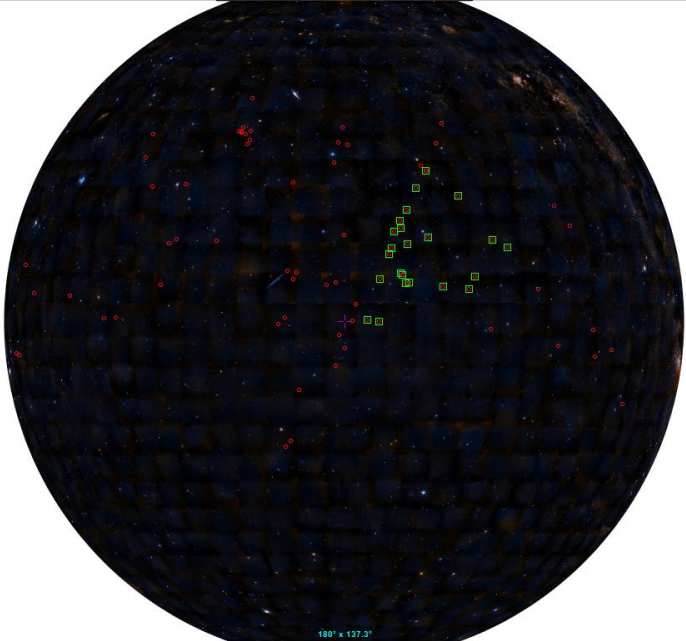
Aladin v9.0 \*\*\* BETA VERSION (based on v9.039) \*\*\*

File Edit Image Catalog Overlay Coverage Tool View Interop Help

Location  Frame: ICRS

DSS SDSS 2MASS WISE GALEX PLANCK AKARI XMM Fermi Gaia Simbad NED +

666 selected



Stack controls:

- o the icon: show/hide a plane
- o size: change object size
- o zoom: adjust field size
- o Opacity: adjust transparency

The view is drawn according to the projection of a reference plane.

For changing the reference, click on its check box.

select pan zoom zoom in zoom out dist phot draw tag filter crop cont pixel

prop **califa.xml** DSS colored

del epochs size limits opacity zoom

Frame: ICRS

23.59 02.40 +00 14.24.0  
180° x 137.3°

dataprod.	obs title	obs publ.	obs crea.	access url	target n.	target c.	s ra	s dec	s fov	s region	t min	Observat.	t max	Observat.	t exptime	t resolu.	em min	Spectral	em max	Spectral	em res p.	o ucd	poi states
	CALIFA V...	1702//ot...		https://d...	NGC7194	Galaxy	330.8789	12.636782	0.01	FoV	55396.01	2010-07...	55395.07	2010-07...	5400.0	0.0	0.0	1.0E-6	lum	2044.989	phot.fiu.		
	CALIFA V...	1702//ot...		https://d...	NGC7321	Galaxy	338.52832	5.570324	0.01	FoV	55804.96	2011-08...	55804.89	2011-08...	5400.0	0.0	0.0	1.0E-6	lum	2010.050	phot.fiu.		
	CALIFA V...	1702//ot...		https://d...	NGC7321	Galaxy	339.11676	21.621765	0.01	FoV	55801.98	2011-08...	55801.00	2011-08...	5400.0	0.0	0.0	1.0E-6	lum	2113.048	phot.fiu.		
	CALIFA V...	1702//ot...		https://d...	NGC7489	Galaxy	346.88623	22.998009	0.01	FoV	56161.98	2012-08...	56161.92	2012-08...	5400.0	0.0	0.0	1.0E-6	lum	2027.369	phot.fiu.		
	CALIFA V...	1702//ot...		https://d...	NGC7549	Galaxy	348.82196	19.041788	0.01	FoV	55396.11	2010-07...	55396.03	2010-07...	5400.0	0.0	0.0	1.0E-6	lum	1979.218	phot.fiu.		

Warning: Aladin is running in low memory configuration (90MB)

48 sel / 400 src 0tps / 128Mb

FR 06:56 22/10/2016



# CALIFA: Sélection d'une galaxie. »

## « DataLinks »

Aladin v9.0 \*\*\* BETA VERSION (based on v9.039) \*\*\*

File Edit Image Catalog Overlay Coverage Tool View Interop Help

Location 23:29:03.82 +11:26:42.6

DSS + SDSS + 2MASS + WISE + GALEX + PLANCK + AKARI + XMM + Fermi + Gaia + Simbad + NED +

obscore - access\_url - The URL at which to obtain the data set.

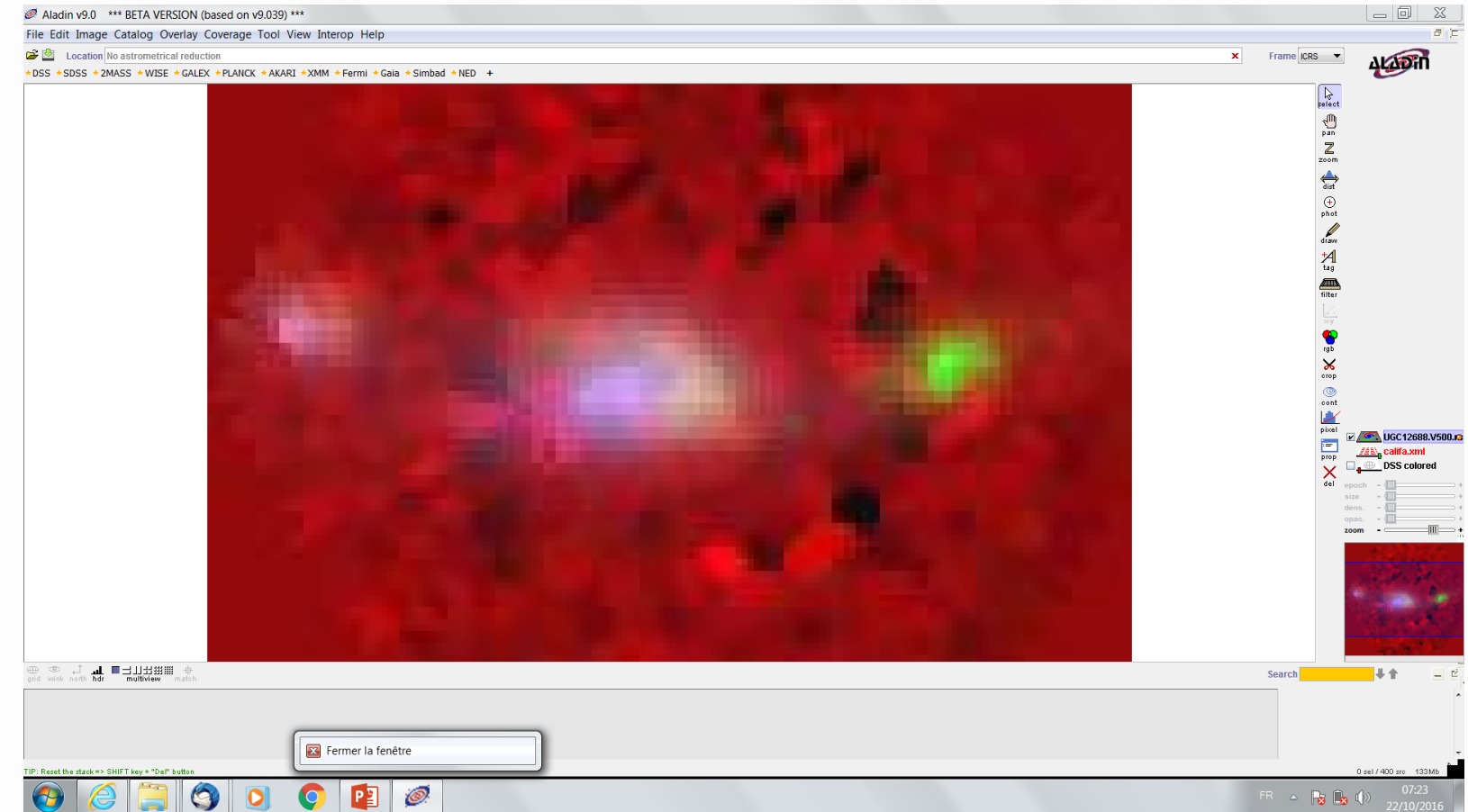
cube file	t min	Observat...	t max	Observat...	t exptime	t resolu...	em min	Spectral	em max	Spectral	em rc
15829.07	2012-07...	56132.06	2012-07...	2700.0	0.0	0.0	1.0E-6	1um	852.1		
55829.84	2011-09...	55829.84	2011-09...	2700.0	0.0	0.0	1.0E-6	1um	764.6		
55829.90	2011-09...	55829.88	2011-09...	2700.0	0.0	0.0	1.0E-6	1um	776.0		
56135.08	2012-07...	56135.06	2012-07...	2700.0	0.0	0.0	1.0E-6	1um	866.0		
56211.94	2012-10...	56211.91	2012-10...	2700.0	0.0	0.0	1.0E-6	1um	769.6		

Warning: Aladin is running in low memory configuration (37MB)

20 sel / 400 obs / Opts / 210Mb

07:01  
22/10/2016

# CALIFA: affichage du « Preview » sélectionné



# CALIFA: acces DataLink récursif et accès au cube complet

The screenshot displays the Aladin v9.0 software interface. The main window shows a grayscale image of a galaxy with a central dark region. The interface includes a menu bar (File, Edit, Image, Catalog, Overlay, Coverage, Tool, View, Interop, Help), a toolbar with various icons, and a right-hand panel with a list of objects and a search bar. A context menu is open over a table at the bottom, listing various data products and their sizes.

dataprod.	obs title	obs publ.	obs crea.	access url	target n.	target c.	s ra	s dec	s fov	s region	t min	Observat...	t max	Observat...	t exptime
	CALIFA V...	1702//02...		<a href="https://...">https://...</a>								2...		5400.0	
	CALIFA V...	1702//02...		<a href="https://...">https://...</a>								2...		2700.0	

The context menu contains the following items:

- This cube in Data Release 2 medium resolution (V1200) (size 10000 bytes)
- This cube in Data Release 2 low resolution (V500) (size 10000 bytes)
- This cube in Data Release 1 medium resolution (V1200) (size 10000 bytes)
- This cube in Data Release 1 low resolution (V500) (size 10000 bytes)
- Retrieve data from this cube using the califadr3.fluxposv500 and califadr3.fluxposv1200 tables (size -1 bytes)
- Metadata (size -1 bytes)
- Metadata (size -1 bytes)
- The full dataset. (size 147672000 bytes)
- A preview for the dataset. (size -1 bytes)

# Arbre de découverte de données (proto Aladin 10 /accès via HiPS, TAP, SIA, etc...)

Aladin v9.6 \*\*\* PROTOTYPE VERSION (based on v9.609) \*\*\*

File Edit Image Catalog Overlay Coverage Tool View Interop Help

Directory tree

- 2MASS → 7
  - 2MASS color J (1.23 microns), H
  - 2MASS J (1.23 microns)
  - 2MASS H (1.65 microns)
  - 2MASS K (2.16 microns)
  - 2MASS6x → 3
- UltraVista → 6
- WISE → 10
- ORBE → 20
- IRIS → 5
- Spitzer → 9
- AKARI-FIS → 9
- The ISOPHOT 170um Serendipity Sur
- IST → 6
- VISTA → 1
- HERSCHEL → 4
- ISO → 1
- Radio → 71
- Gas-lines → 37
- Data base → 2
- Catalog → 17092
- Cube → 6
  - CALIFA DR2 V500 (R~850, 3750-7500 Å)
  - CGFS data cubes HI (21cm)
  - GALFA-HI Narrow
  - MUSE map of the central Orion Nebula (M
  - BODEGA: Below 0 Degree GALaxies
  - AMIGA galaxies in the WHISP (Westerbork H
- Outreach → 1
- CONSTELLATIONS6
- Unsupervised → 2051
- Image by SIA → 230
- Sonaphoto → 1
- archive.stsci.edu → 5
- arvo → 1
- byurakan.oact.inaf.it → 1
- cdsc.nrc.ca → 1
- CADIC Image Search (SIA) (more...)**
  - no preview
  - Coverage unknown (no available MOC)
  - SIA
  - [cadc.nrc.ca/sia \(more...\)](#)
  - Load
  - Close
- cdsc.aladin → 1
- cdsc.vizier → 1
- cxc.harvard.edu → 1
- esavo → 6
- eso.org → 1
- Digitized Sky Sur
- ia2.inaf.it → 7
- idoc.ginco → 2
- irsa.ipac → 64
- ison.ct → 1
- jvo → 2
- mast.stsci → 37

select from --All contents

Warning: Aladin is running in low memory configuration (47MB)

14:13 15/03/2017

Découverte du service SIA du CADIC dans l'arbre Aladin