

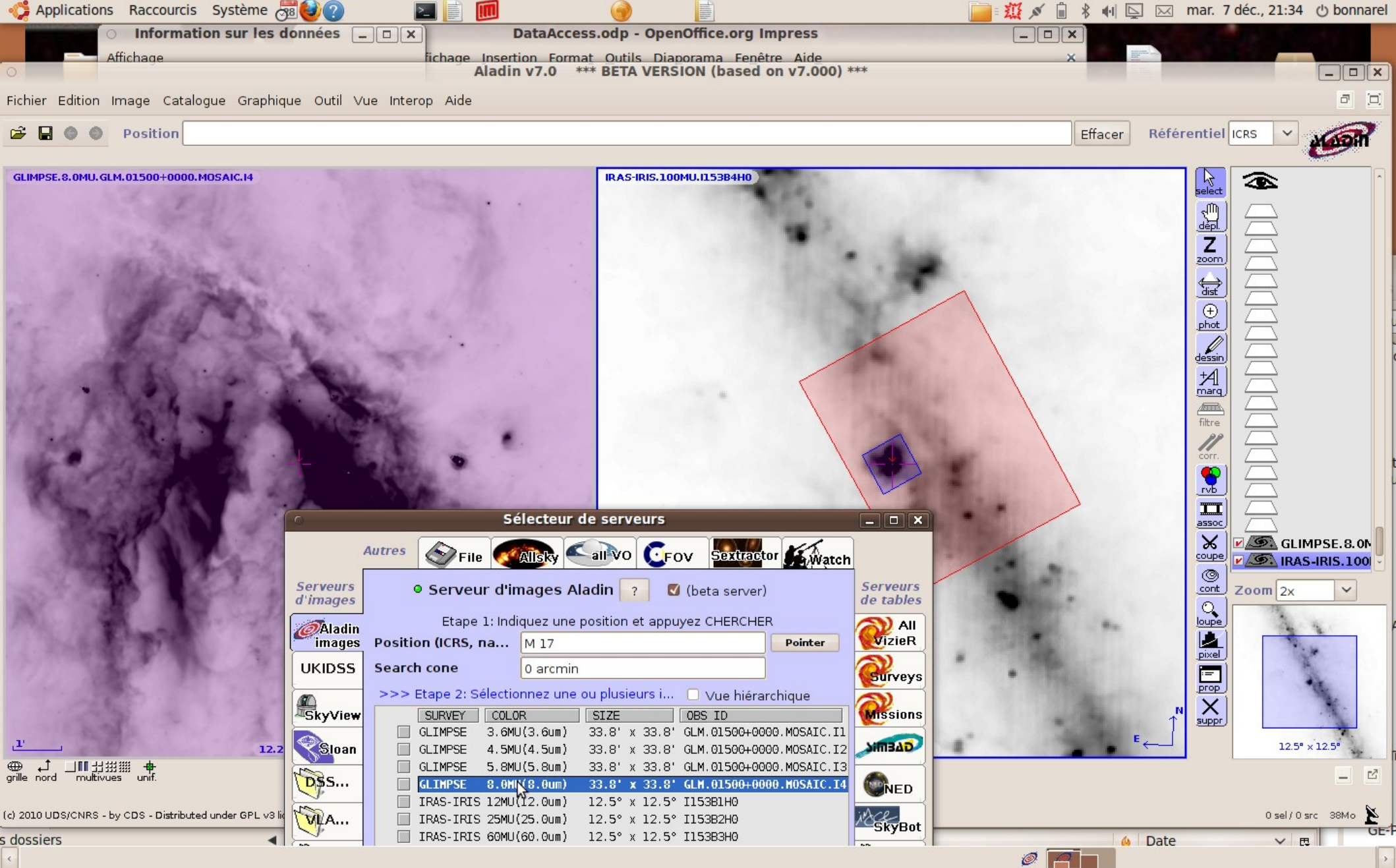
Data Link and Data Access

F.Bonnarel (CDS)

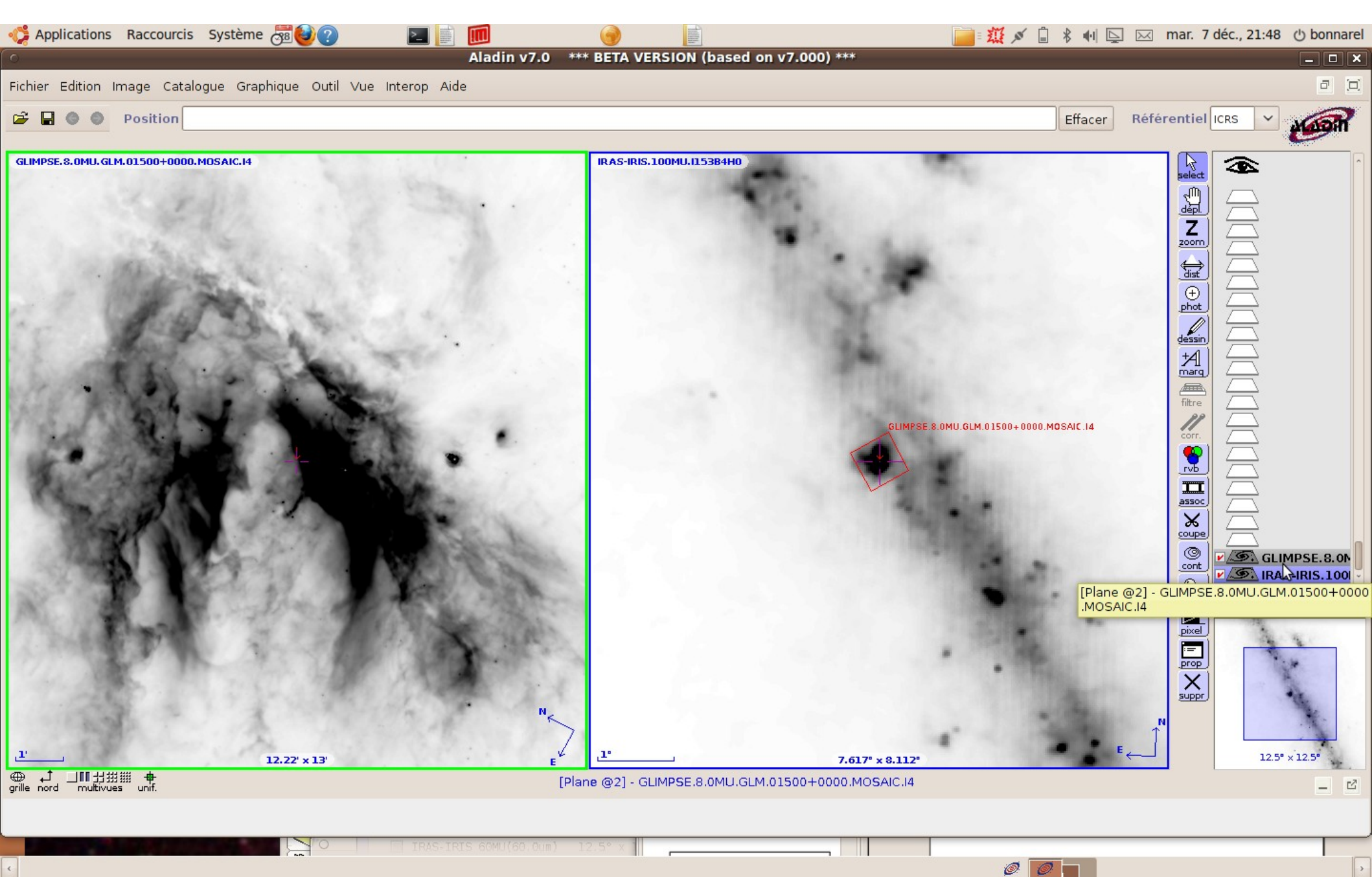


DAL and Data Access: beyond discovery

- DAL is not just about data discovery but also about accessing data.
- Accessing data is NOT JUST retrieving a full dataset... Need for
 - Filtering
 - Cutouts
 - Creation of virtual data (resampling/combining/etc...)
 - Spectral issues addressed by Peter
- ON LINE Access to images and cubes is both necessary
 - For discovery fine tuning.
 - For processing in some cases :multi wavelength correlation (color composition), on line SED extraction, etc...
 - Science is also on the desktop (see science requirements for image display)



FOV (red) of a GLIMPSE/Spitzer plate(250 to 500 megabytes) on top of IRAS 100 micron image. In blue default cutout contour



FOV (red) of the GLIMPSE/Spitzer cutout on top of IRAS 100 micron image.

DAL and Data Access

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- Accessing data is NOT JUST retrieving a full dataset... Need for
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- **ON LINE Access to images and cubes is both necessary**
 - For discovery fine tuning.
 - For processing in some cases: multi wavelength correlation (color composition), on line SED extraction (SED plugin), etc...
 - Science is also on the desktop (see science requirements for image display)

Applications Raccourcis Système ?

Aladin v7.0 *** BETA VERSION (based on v7.000) ***

Fichier Edition Image Catalogue Graphique Outil Vue Interop Aide

Position 17:50:02.04 -28:58:13.1 Effacer Référentiel ICRS

S.E.D. Plugin - v1.2 Beta

Plugin Spectrum Tools Help

Interacts with Aladin ?

Abscissa: Wavelength (λ) μm Log

Ordinate: Intensity (I_v) MJy/sr Log

Intensity (I_v) [MJy/sr]

Wavelength (λ) [μm]

39.81 430.9 821.99 1 213.08 1 604.17

10 28 46 64 82

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SED Plugin: computes region fluxes from calibrated image

DAL and Data Access: Obstap and others

- **Obstap helps** to standardize data discovery but don't tell us how to access images, cubes, spectra, time series
- Some SIA1 « solutions » work for data access .
2D Cutouts and mosaic/resampling ..
- SSA provides some filtering facility (but see Peter's talk)
- **Lesson learnt** : keep Old SIA1/SSA services beside Obstap until they are replaced by new generation ones

Applications Raccourcis Système mar. 7 déc., 05:23 bonnarel

Aladin v7.0 *** BETA VERSION (based on v7.000) ***

Fichier Edition Image Catalogue Graphique Outil Vue Interop Aide

Position [] Effacer Référentiel ICRS

GLIMPSE.8.0MU.GLM.01500+0000.MOSAIC.I4 IRAS-IRIS.100MU.I15384H0

Sélecteur de serveurs

Autres File Allsky all VO **FOV** Sextractor Watch

Serveurs d'images: Aladin images, UKIDSS, SkyView, Sloan, DSS..., VLA..., Archives., Others...

g. MP9401

- 853054 1.1° x 45.1'
- 853051 58.6' x 45.3'
- 859639 58.7' x 45.2'
- 853053 58.7' x 45.2'
- 853266 58.7' x 45.2'
- 853050 1.1° x 45.1'
- 853046 58.6' x 45.3'
- 853264 58.6' x 45.2'
- 853267 58.7' x 45.3'
- 853265 58.7' x 45.2'

INFO serveur

Réinit. Effacer **CHERCHER** Fermer ?

Position (ICRS, na... M 17 Pointer

Rayon 14'

Collection CFHT - The Canada-France-Hawaii Telescope

Serveurs de tables: All VizieR, Surveys, Missions, SIMBAD, NED, SkyBot, Others..

1° 12.22° x 13.42° 1° 7.617° x 8.374°

[Vue A1] - GLIMPSE.8.0MU.GLM.01500+0000.MOSAIC.I4

0 sel / 0 src 50Mo

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TAP / PQL service for Full MEF discovery: choosing the dataset (700 mega bytes)

Applications Raccourcis Système Aladin v7.0 *** BETA VERSION (based on v7.000) *** bonnarel@obsfb: ...

Fichier Edition Image Catalogue Graphique Outil Vue Interop Aide

Position 18:23:02.90 -16:44:26.9 Effacer Réfèrentiel ICRS

GLIMPSE.8.0MU.GLM.01500+0000.MOSAIC.14 IRAS-IRIS.100MU.I153B4H0 371.7

Sélecteur de serveurs

Autres File Allsky all VO FOV SExtractor Watch

Serveurs d'images Aladin images UKIDSS SkyView Sloan DSS... VLA... archives... Others...

Serveurs de tables All VizieR Surveys Missions SIMBAD NED SkyBot Others..

Canadian Astronomical Data Center (CADC) ?

Position (ICRS, na... M 17

Rayon 14'

Collection CFHT - The Canada-France-Hawaii Telescope

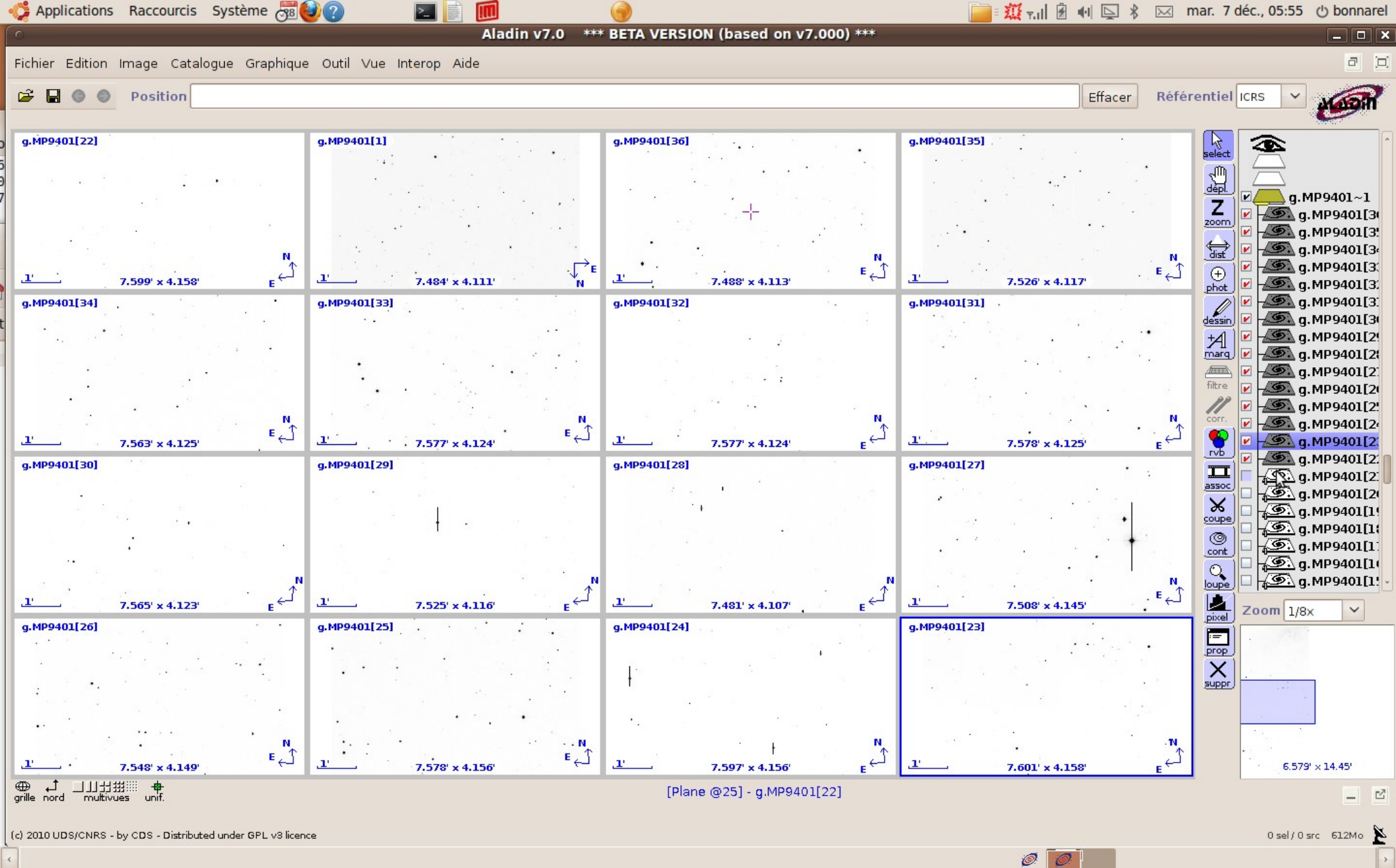
- g. MP9401
 - 853054 1.1° x 45.1'
 - 853051 58.6' x 45.3'
 - 859639 58.7' x 45.2'
 - 853053 58.7' x 45.2'
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 - 853265 58.7' x 45.2'

[Vue B1] - IRAS-IRIS.100MU.I153B4H0

0 sel / 0 src 125Mo

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TAP / PQL service for Full MEF discovery:loading start of the MEFt



TAP / PQL service for Full MEF discovery: after 15 minutes/ not that convenient.

DAL and Data Access: Obstap and others

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- Lesson learnt : keep Old SIA1/SSA services beside Obstap until they are replaced by new generation ones

Applications Raccourcis Système NX - bonnarel@paladin:1000 - paladin (GPL Edition) Aladin v7.0 *** BETA VERSION (based on v7.000) ***

Fichier Edition Image Catalogue Graphique Outil Vue Interop Aide

Position [] Effacer Référéntiel ICRS

CFHT_831281

Sélecteur de serveurs

Autres File Allsky all-VO FOV Sextractor Watch

Serveurs d'images

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

Accès aux données utilisateurs (image/table/script/dir)

Indiquez un nom de fichier ou une URL puis appuyez sur CHE...

/home/bonnarel/Bureau/resultCADC.xml

Serveurs de tables

All VizieR Surveys Missions SIMBAD NED SkyBot Others..

energy_bandpassName: i.MP9701

- datasetID: CFHT_831281
 - 831281_1 58.6' x 59.9'
 - 831281_2 58.6' x 59.9'
 - 831281_3 58.6' x 59.9'
 - 831281_4 58.6' x 59.9'
- datasetID: CFHT_831282
 - 831282_1 58.6' x 59.9'

Réinit. Effacer

Information sur les données

Affichage

831281_1

Nom du champ	Valeur
datasetID	CFHT_831281
collectionID	831281_1
instrument_name	MegaPrime
position_center_ra	02:26:00.96
position_center_dec	-04:29:23.7
position_naxes	2
position_naxis	18879,19313
position_scale	5.1689840392229E-...
position_bounds	UNION ICRS GEOCEN...
energy_bounds_center	0.001m
energy_bounds_cval1	0.001m
enerav_bounds_cval2	0.001m

autres actions

select dépl. zoom dist. phot. dessin. marq. filtre corr. rvb assoc. coupe cont. loupe pixel prop. suppr.

Zoom 1/2x

6.475' x 14.3'

Classical SIA service: Individual CCDs (around 20 Mbytes).
 Belonging to the same Dataset allows Associations and gathering under the same node in the tree

AccessData

- What is it?
 - Knowing that a dataset of some specific type exist: this method allows retrieving or generating « virtual » Data for a specific scientific purpose (may include easy display)
- For Spectra, and images in SIA1, some parameters drive generation of virtual data but there is no explicit AccessData method.
- SIAV2 introduces the concept of AccessData method, via new parameters.
 - « Filetring » cubes on bands , polarization states
 - Spatial and spectral « cutouts »
 - General resampling methods
- Other specific data (Time Series, etc ...) need other parameters

Applications Raccourcis Système ven. 10 déc., 04:43 bonnarel

Aladin v6.9 *** BETA VERSION (based on v6.911) ***

Fichier Edition Image Catalogue Graphique Outil Vue Interop Aide

Position [] Effacer Référentiel XY i...

GLIMPSE.3.6MU.GLM.00000+0000.MOSAIC.I1

GLIMPSE.3.6MU.NORTHTOP

Sélecteur de serveurs

Autres File Allsky all VO FOV SExtractor Watch

Serveurs d'images

○ SIA2 AccessData Aladin Server

Position (XY image...) 17 45 40.04 -29 00 28.1

SIZE 1.0

COLLECTION ALL

BAND ALL

MODE resample

CRVAL 266.40 -29.00

CRPIX 845 845

CDMATRIX 0.00033 0.00 0.00 0.0033

PROJ TAN

Serveurs de tables

[Vue B1] - GLIMPSE.3.6MU.NORTHTOP

10.15' x 11.08'

8.533' x 17.07'

Zoom 1x

0 sel / 0 src 116Mo

SIA2 prototype AccesData method for resampling: put the North on top

Data Link

- How does that fit together?
 - Obstep cannot have `AccessData` method because it's generic. Datasets with complex content are not covered.
 - Obstep Could have additional optional column with URL to a specific data service `AccessData` method
 - One single possibility per dataset (or duplicate → bad)
 - Modification of the Obstep service definition
- Propose a new service instead: `DataLink`

Data Link

- A new service with one mandatory parameter creatorDID. (can be a list)
- May have other parameters to be defined
- The response is a votable with following columns:
 - CreatorDid
 - Relation name between two sides of the link (full metadata, spectra in the field, cutout, individual CCD in a mosaic, resampled spectrum, calibration files, etc...)
 - URL type: Retrieval, S*A response, S*A AccesData (using creatorDID),
 - Access columns (like in Char 2) : format, size, url, extraction parameters (extension, column, cutout, etc ...)
- This service may be implemented in TAP
- This service may be called after S*A sessions
- PQL queries to Obstap could drive classical and

Applications Raccourcis Système ven. 10 déc., 03:30 bonnarel

Aladin v6.9 *** BETA VERSION (based on v6.911) ***

Information sur les données

Nom du champ	Valeur
collection	CFHT_831281
collectionID	831281
instrument_name	MegaPrime
position_center_ra	02:26:00.96
position_center_dec	-04:29:23.7
position_naxes	2
position_naxis	18879,19313
position_scale	5.1689840392229E-...
position_bounds	UNION ICRS GEOCEN...
energy_bounds_center	0.001m
energy_bounds_cval1	0.001m
energy_bounds_cval2	0.001m
energy_units	m

SkyView

- energy_bandpassName: i.MP9701
 - + 831281
 - + 831282

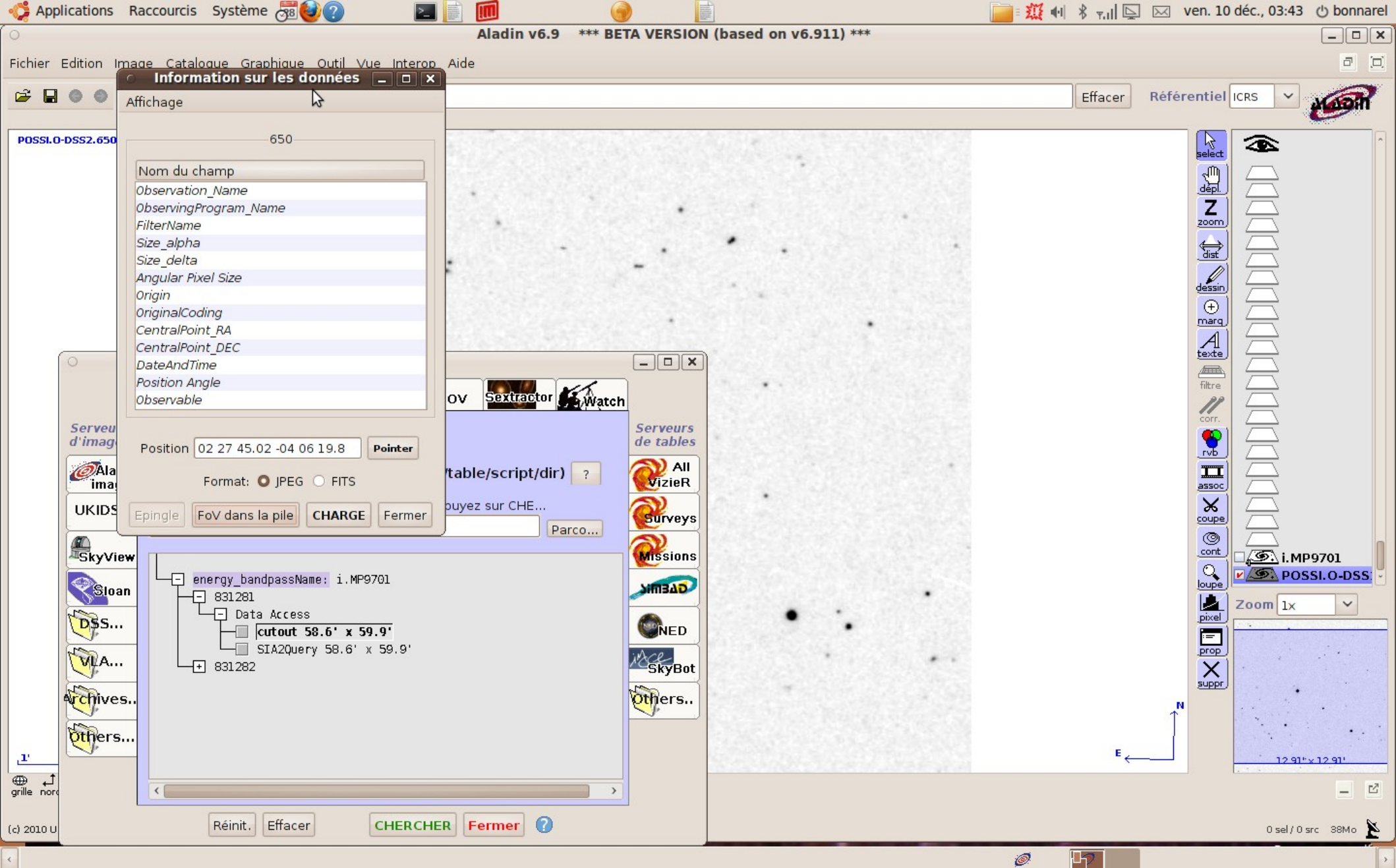
20.47° x 11.18°

grille nord multivues unit.

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0 sel / 0 src 44Mo

Discovery of datasets with PQL/Obstap



Opening the data link node : Cutout interface

Applications Raccourcis Système ven. 10 déc., 03:49 bonnarel

Aladin v6.9 *** BETA VERSION (based on v6.911) ***

Position [] Effacer Référentiel ICRS

1.1

Information sur les données

Affichage

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Nom du champ	Valeur
datasetID	CFHT_831281
collectionID	831281_1
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position_scale	5.1689840392229E-...
position_bounds	UNION ICRS GEOCEN...
energy_bounds_center	0.001m
energy_bounds_cval1	0.001m
energy_bounds_cval2	0.001m
energy_units	m

Epingle FoV dans la pile **CHARGE** Fermer

energy_bandpassName: i.MP9701

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Réinit. Effacer **CHERCHER** Fermer ?

select dépl. Z zoom dist dessin marq. texte filtre corr. rvb assoc. coupe cont. loupe pixel prop. suppr.

831281_1 POSSI.O-DSS

Zoom 1/2x

6.475' x 14.3'

0 sel / 0 src 86Mo

From second node: sia query response, then CCD image retrieval