

Les activités OV du GEPI

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Développements centrés autour des projets: données, expertise

■ CAI – MAMA

- plaques scannées par la MAMA
- traitement astrométrique

■ Instrumentation spectroscopique

- GIRAFFE, Gaia, 4MOST, ...
- réduction de données
- simulation de spectres et d'instruments
- analyse spectroscopique

⇒ collaborations VO-Paris

⇒ mise en place de :

- bases de données
- webservices

La base des grandes images

■ Contexte

- numérisation et mise à disposition après calibration d'atlas de référence produits par divers télescopes de Schmidt.
- résolution des images numérisées de $0''.6$ avec le microdensitomètre MAMA.

■ Personnel impliqué:

- Jean Guibert, Jacques Vétois, Régis Haigron, Françoise Tajahmady

■ Contenu

- 606 champs ESO-R (bande R)
- 894 champs SRC-J (bande B)
- 352 champs Palomar1-E, partie australe (bande R)

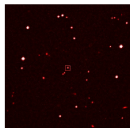
■ Mise en ligne

<http://www.cai-mama.obspm.fr/mama/>

VOPSAT (VO-Paris Southern ATlas)

Virtual Observatory services
Centre d'Analyse des Images

CAI

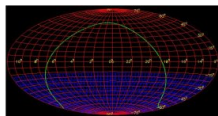
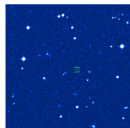


VOPSAT (V.O. Paris Southern Atlas) is a set of southern sky digital surveys based on ESO-R, SRC-J and POSS1-E atlases.

The plates have been digitized with the MAMA microdensitometer with a resolution of 0.7 arc-sec.

Pixel resampling will allow mosaicing neighbouring Schmidt fields up to hundreds of square degrees.

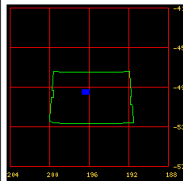
A forthcoming catalog (**VOPCAT**) will contain detected objects with positional accuracies as good as 0.07 arc-sec.



ESO, La Silla, Chile

Corr. Lens Diameter	1.0m
Sky Coverage	-17.5° -90°
Field Of View	300x300(mm) 5.5°x5.5°
Scale (arcsec/mm)	67.2
Emulsion	IIIaF
Filter	RG630
Colour_band	RED_R
$\lambda\lambda$	6300-6900
Plate epochs	1978.9-1990.8

Atlas	<input type="text" value="ESO-R"/> <input type="text" value="SRC-J"/> <input type="text" value="POSS1-E"/>
Equinox	<input checked="" type="radio"/> J2000 <input type="radio"/> B1950
Object name	<input type="text" value="ngc4945"/> <input type="button" value="Find"/>
Position	<input type="radio"/> α (*) <input type="text" value="196.3636625"/> δ (*) <input type="text" value="-49.4679"/>
Size	α (*) <input type="text" value="0.5"/> δ (*) <input type="text" value="0.5"/>
Intersect	<input type="text" value="COVERS"/> <input type="text" value="CENTER"/> <input type="text" value="OVERLAPS"/> <input type="text" value="ENCLOSED"/> <input type="button" value="Submit"/>



VOPSAT (VO-Paris Southern ATlas)

■ Implémentation dans l'OV

- services SIA hébergés sur le portail VO-Paris
- 3 différents services pour chacun des surveys
- interrogeables via les registry depuis un client VO-compatible

VOPSAT (VO-Paris Southern ATlas)

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The screenshot shows the VO Portal interface for the VOPSAT survey. At the top, there are navigation tabs: "Autres", "File", "Allsky", "all VO", "FOV", "SExtractor", and "Watch". The main content area is titled "Exploration de l'Observatoire Virtuel" and contains a search form with the following fields:

- Position (ICRS, na...): nqc 1232
- Rayon: 14'
- Buttons: "Pointer", "Liste détaillée..."
- Filters: Images, Catalogues, Spectres

Below the search form, it says "En attente de 1 réponse...". The search results are displayed in a tree view:

- VO-Paris MAMA Atlas
 - R (IIIa-F/RG630)
 - ivo://vopdc.obspm.gepi/vopsat/esor/547 14.1' x 14.1'
 - Bj (IIIa-J/GG395)
 - ivo://vopdc.obspm.gepi/vopsat/srcj/547 14.1' x 14.1'
 - R (103a-E/Red-Plex-24)
 - ivo://vopdc.obspm.gepi/vopsat/posse/897 14.1' x 14.1'
 - ivo://vopdc.obspm.gepi/vopsat/posse/947 14.2' x 10.8'
- Multimission Archive at STScI (MAST)
 - + CLEAR1 F220W CLEAR3 CLEAR4
 - + Info frame
 - + FLU

VOPSAT (VO-Paris Southern ATlas)

The screenshot displays the VOPSAT software interface. The top menu bar includes: Fichier, Edition, Image, Catalogue, Graphique, Outil, Vue, Interop, Aide. Below the menu is a toolbar with icons for Position, Effacer, Référentiel, and ICRS. A navigation bar shows: Allsky opt, Allsky IR, DSS, Simbad, NED, PPMX, 2MASS.

The main view area is divided into four panels:

- Top-left: R (I03a-E/Red-Plax-24).ivoz/vopdc.obspm. Dimensions: 13.79' x 7.104'. Shows a grayscale image of a spiral galaxy with a red crosshair at the center.
- Top-right: R (Illa-F/RG630).ivoz/vopdc.obspm. Dimensions: 13.81' x 7.19'. Shows a grayscale image of the same galaxy with a red crosshair at the center.
- Bottom-left: Bj (Illa-J/GG395).ivoz/vopdc.obspm. Dimensions: 13.74' x 7.117'. Shows a grayscale image of the same galaxy with a red crosshair at the center.
- Bottom-right: [Vue B2]. A large empty white area with a mouse cursor, possibly representing a zoomed-in view or a blank canvas.

On the right side, there is a control panel with various icons and a list of objects:

- select, depl, zoom, dist, plot, dessin, marg, ltra, corr, rnb, assoc, coupe, cont, loupe, pixel, crop, supr.
- Object list:
 - R (I03a-E/Red-Plax-24)
 - R (Illa-F/RG630)
 - Bj (Illa-J/GG395)
- Zoom: 1/2x
- Thumbnail: 14.04' x 14.04'
- Buttons: Chercher, 0 sel / 0 arc 5940

At the bottom left, there is a copyright notice: (c) 2010 UDS/CNRS - by CDS - Distributed under GNU GPL v3.

ASTOOL (AStrometric TOOLbox)

■ Contexte

- réduction astrométrique (calibration, contrôle qualité, reprojection, ...)

■ Personnel impliqué:

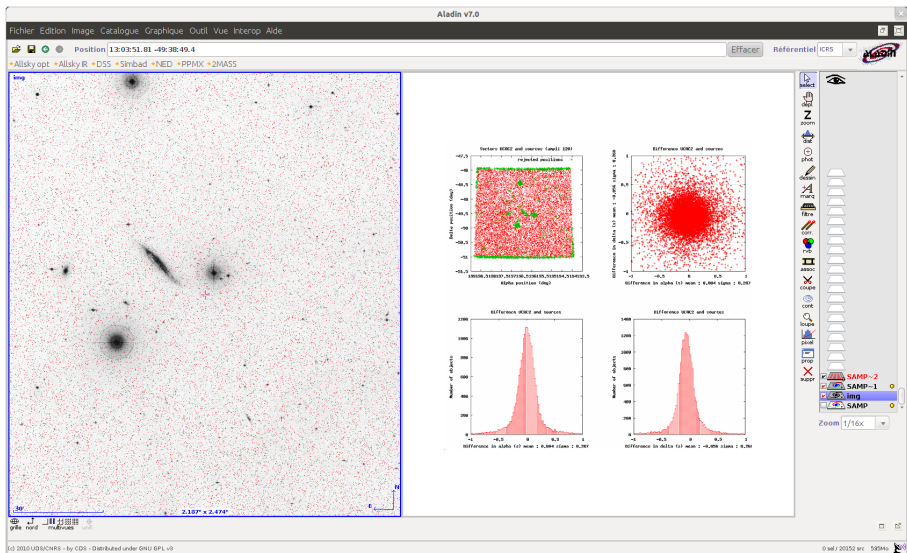
- Régis Haigron, Jean Guibert, Jacques Vétois

■ Implémentation dans l'OV

- client JAVA ou sur le portail VO-Paris
- jobs asynchrones et utilisation du cluster de VO-Paris (UWS)
- résultats affichés via SAMP

The screenshot displays the 'Astrometry Service Tool' web interface. The main window is titled 'Configuration Services'. On the left, there is a table with two columns: 'Job' and 'Status'. One job is listed with ID 'e5a622c0-68dc-eb54-1d73-9ecccd6621e8' and a status of 'COMPLETE'. Below the table are 'Delete' and 'Infos' buttons. On the right, the details for the selected job are shown. The 'Service' is 'Full astrometry'. The 'Id' is 'e5a622c0-68dc-eb54-1d73-9ecccd6621e8'. The 'Destruction Time' is '2011-11-01T14:50:45Z', 'Start Time' is '2011-10-25T14:50:45Z', and 'End Time' is '2011-10-25T14:51:48Z'. The 'Phase' is 'COMPLETED'. Under 'Parameters', the 'Image' URL is 'http://voparis-uws.obspm.fr/uws-v1.1/astrometry/e5a622c0-68dc-eb54-1d73-9ecccd6621e8/parameters/image', 'cat' is '2', and 'order' is '3'. Under 'Results', there are two entries: '0' with a simple URL 'http://voparis-uws.obspm.fr/data/uwsdata/2226270.siolino.obspm.fr/results/astrometrynet.fits' and '1' with a simple URL 'http://voparis-uws.obspm.fr/data/uwsdata/2226270.siolino.obspm.fr/results/coadd.fits'. At the bottom of the interface are 'Delete', 'Infos', and 'Samp' buttons.

ASTOOL (AStrometric TOOLbox)



ASTOOL (AStrometric TOOLbox)

The screenshot displays the Aladin v7.0 software interface. At the top, the title bar reads "Aladin v7.0". Below it, a menu bar includes "Fichier", "Edition", "Image", "Catalogue", "Graphique", "Outil", "Vue", "Interop", and "Aide". The main window is divided into several sections:

- Position:** 12:59:46.72 +01:07:07.7
- Effacer** and **Référéntiel** buttons.
- ICRS** dropdown menu.
- Aladin** logo.
- Filters:** A list of filters including "Allsky opt", "Allsky IR", "DSS", "Simbad", "NED", "PPMX", and "2MASS".
- Left Panel:** A raw astronomical image showing a field of stars.
- Right Panel:** A processed image labeled "SAMP" with a red crosshair. The coordinates are -66.31. The image size is indicated as 8.984' x 10.02'.
- Bottom Left:** "[Vue B1] - SAMP" and "Chercher" text.
- Right Panel (Tools):** A vertical toolbar with icons for "pan", "zoom", "fit", "phot", "dessin", "marq", "filtre", "niv", "astroc", "coupe", "cont", "loupe", "pivot", "prop", and "suppr".
- Bottom Right:** "Zoom 1/2x" and a small thumbnail image.

At the bottom of the window, there is a copyright notice: "(c) 2010 UDS/CNRS - by CDS - Distributed under GNU GPL v3" and a status bar: "0 sel / 12002 src 57Mo".



■ Contexte

- Conception de l'instrument et du logiciel de réduction
- Mise à disposition des spectres réduits, accessibles par coordonnées individuelles

■ Personnel impliqué:

- Frédéric Royer, Isabelle Jégouzo, Françoise Tajahmady, Pierre Toupet

■ Contenu

- Données scientifiques publiques, réduites avec le pipeline ESO
- En progression : 55% des données 2003–2008 (~ 300 000 objets)
- Accès par spectre individuel (1D) ou par observation totale (3D)

■ Mise en ligne

<http://giraffe-archive.obspm.fr>



Archive GIRAFFE

Interface de recherche:

- **Field** : observation totale (3D)
- **Button**: spectre individuel (1D)

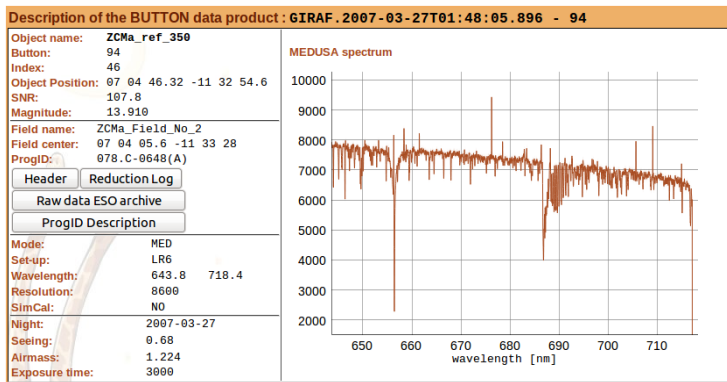
Search for data products • Field • Button

Target :	<input type="text"/>	Night:	<input type="text"/>	...	<input type="text"/>
Radius:	<input type="text" value="10"/> [']	Seeing:	<input type="text"/>	...	<input type="text"/>
Progid:	<input type="text"/>	Airmass:	<input type="text"/>	...	<input type="text"/>
Magnitude:	<input type="text"/>	...	<input type="text"/>	ExpTime:	<input type="text"/>

Grating:	SimCal:	Mode:	ArgScale:	Resolution:	<input type="text"/>	...	<input type="text"/>
<input type="radio"/> High	<input type="radio"/> Yes	<input checked="" type="checkbox"/> Medusa	<input type="radio"/> 1:1	Wavelength:	<input type="text"/>	...	<input type="text"/>
<input type="radio"/> Low	<input type="radio"/> No	<input checked="" type="checkbox"/> IFU	<input type="radio"/> 1:1.67	SNR:	<input type="text"/>	...	<input type="text"/>
<input checked="" type="radio"/> Any	<input checked="" type="radio"/> Any	<input checked="" type="checkbox"/> Argus	<input checked="" type="radio"/> Any				

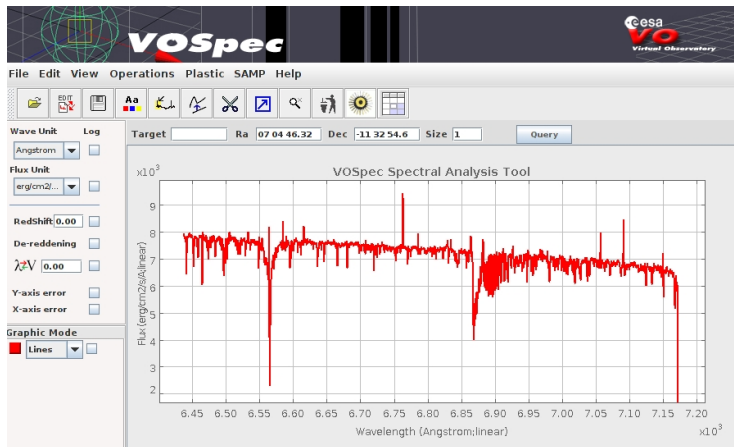
Reset

Submit



■ Téléchargement

- format FITS natif (possibilité de téléchargement multiple),
- format Euro3D,
- format FITS datacube (IFU, Argus)



■ Implémentation dans l'OV

- services SSA hébergés sur le portail VO-Paris
- collections 1D et 3D (en cours de changement)
- interrogeables via les registry depuis un client VO-compatible

ASPOS (Automatic SPectroscopic Observation Simulator)

■ Contexte

- Simulation de spectres dans le cadre de développements instrumentaux (GAIA, GYES, 4MOST)
- Ajout sur un spectre synthétique de signature instrumentale (PSF, échantillonnage, réponse), et de paramètres observationnels (masse d'air, magnitude, temps de pose, vitesse radiale, ...)

■ Personnel impliqué

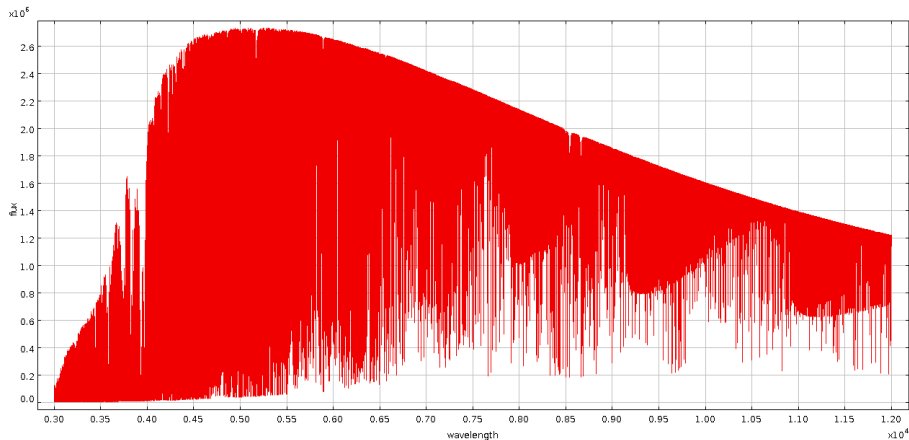
- Paola Sartoretti, Carine Babusiaux, Nicolas Leclerc

■ Mise en place d'une interface

ASPOS (Automatic SPectroscopic Observation Simulator)

Entrée :

■ spectre synthétique à résolution $R = 200\,000$

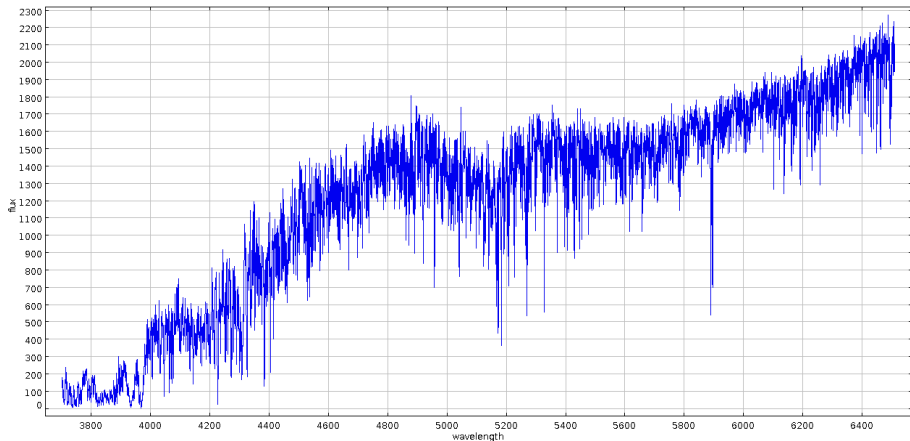


■ paramètres instrumentaux et observationnels

ASPOS (Automatic SPectroscopic Observation Simulator)

⇒ Sortie pour 4MOST (LR, Blue)

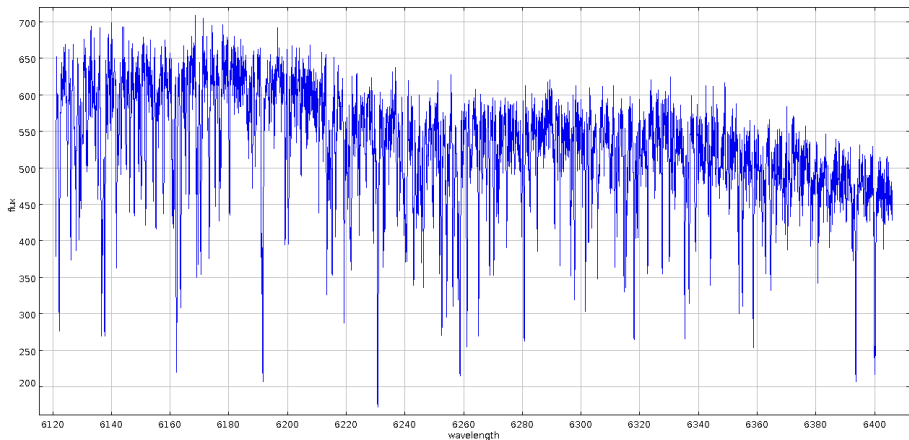
- $V = 14$
- airmass= 1, moon: 3j



ASPOS (Automatic SPectroscopic Observation Simulator)

⇒ Sortie pour GIRAFFE (HR13, Medusa)

- $V = 14$
- airmass= 1, moon: 3j



ASPOS (Automatic SPectroscopic Observation Simulator)

■ Implémentation dans l'OV

- interactions avec la base de données POLLUX,
<http://pollux.graal.univ-montp2.fr>, déjà intégré dans le OV

■ Développements immédiats:

- Archive GIRAFFE:
 - ◇ format FITS de la collection 1D
 - ◇ collaboration Igor Chiligarian: client VO Paris Euro3D
<http://voplus.obspm.fr/~chil/Euro3D/>
- ASTOOL:
 - ◇ stade de prototype (consolidation du code)
 - ◇ pensé de manière générique (services UWS, sorties SAMP)
 - ◇ ajout de services
- ASPOS:
 - ◇ collaboration VO Paris: mise en place du service VO

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■ À venir:

- Base de données de spectres de galaxies hôtes de GRBs (X-shooter):
Susanna Vergani
- Données GAIA: CU9 (Coordination Unit for archive access), Frédéric Arenou, Paola Di Matteo