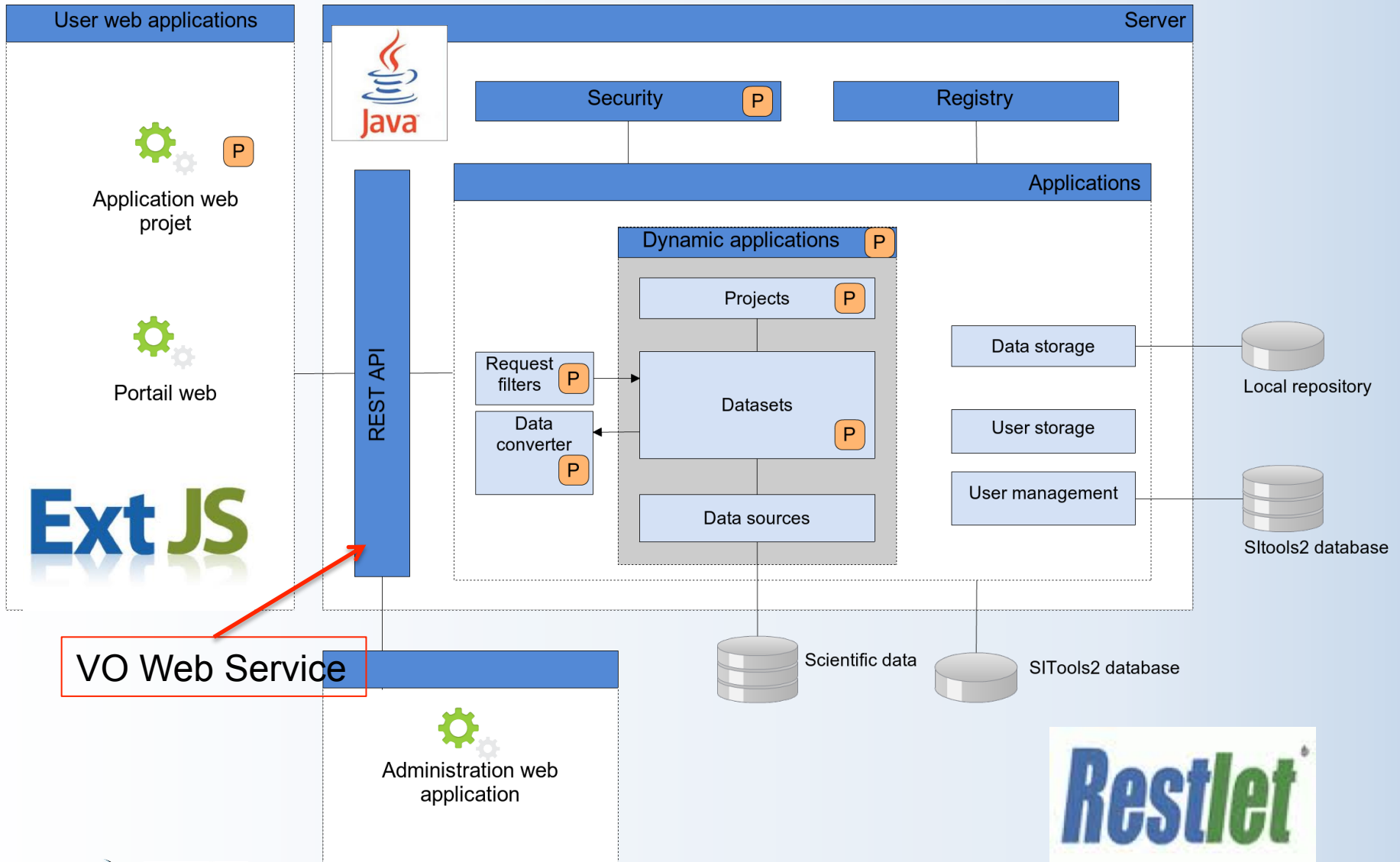




# SITools2 comme fournisseur de services OV: exemple avec HESIOD.

Integrated Data Operation Center  
Institut d'Astrophysique Spatiale

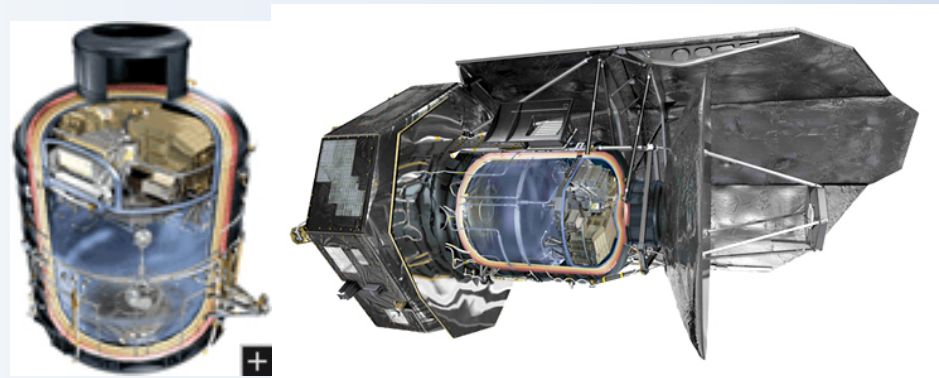
- Un outil générique du CNES issu d'une collaboration entre le CNES et plusieurs laboratoires spatiaux français.
- Il s'agit d'une application Client/Serveur sécurisée qui permet la gestion des droits utilisateurs et des données ainsi qu'un accès aux données à travers une interface Web 2.
- L'ajout de plugins permet d'ajouter des fonctionnalités aussi bien au niveau client qu'au niveau serveur (cas pour le web service VO).
- <https://github.com/SITools2>
- Contact: [jean-christophe.malapert@cnes.fr](mailto:jean-christophe.malapert@cnes.fr)



# Herschel

- Le satellite Herschel est un observatoire de l'Agence Spatiale Européenne ( 2009 – 2013)
- **Objectifs:** Formation et évolution des proto-étoiles au sein des nuages moléculaires, formation et évolution des galaxies dans un passé lointain (redshift: 1 à 5).
- **PACS** (photomètre et spectro-imageur), dans la gamme 60-210  $\mu\text{m}$ , **SPIRE** (photomètre et spectro-imageur), dans la gamme 200-650  $\mu\text{m}$ , et HIFI spectromètre haute résolution dans des gammes choisies du submillimétrique.

- <http://www.herschel.fr/>



# HESIOD (HERschel IDoc Database) Portail

IDOC = Integrated Data and Operation Center

<http://idoc-herschel.ias.u-psud.fr/>

The screenshot shows the HESIOD web portal interface. At the top, there are logos for CNES, IAS, CNRS, Université Paris Sud, and ESA. The main header area contains the text "IDOC HERschel IDoc Database" and "HESIOD". Below this, the page is divided into three main sections:

- Public Projects:** This section displays several project thumbnails with labels: OT1\_atielens, SAG-4, Lens\_Malhotra, Cluster-Low-Z, SAG-3, DDT\_MustDo\_4, and Herschel All public Archive.
- Private Projects:** This section displays several project thumbnails with labels: OT1\_lho, Planck-High-z, OT2\_ehabart, OT1\_mmville, SAG-1, and H-ATLAS.
- News:** This section contains several news items:
  - Release R1 Pacs Photo:** kann.dassas@ias.u-psud.fr, 11/22 4:29 pm. With Level2 products from HIPE (v11.1), calibration and from UNIMAP (v5.5). Combined obsids.
  - SUPREME Release R3 spire\_fts:** boualarn.hasnoun@ias.u-psud.fr, 11/14 10:52 am. New FTS cube processed with SUPREME Spectro plugin are available in the R3\_spire\_fts release.
  - New public project Clusters Low-z:** kann.dassas@ias.u-psud.fr, 8/13 3:41 pm. More than 2400 maps in the Level2 dataset.
  - Release R4 spire\_photo:** kann.dassas@ias.u-psud.fr, 8/13 3:32 pm. All SAG-4 public data have been reprocessed with the last HIPE version (v11.0) with SPIRE\_CAL\_11\_0 Combined and destripped maps available. R4\_spire\_photo also available for SAG-3, Cluster Low-z, OT1\_mmville, and Planck High-z.
  - Release R3 spire\_fts:** kann.dassas@ias.u-psud.fr, 8/13 3:26 pm. All SPIRE FTS data from SAG-4 (IAS) reprocessed with v11.0 and caltree.

# Temps Garanti Milieu Interstellaire (SAG-4) d'HESIOD Photométrie

The screenshot displays the HESIOD web interface. At the top, the logo 'IDOC' and 'HESIOD' are visible, along with logos for IAS, Université Paris Sud, CNRS, ESA, and CNES. The main content area is divided into several sections:

- Navigation:** Home, Project Description, Projects Feeds, SAG-4 Related Publications.
- Data Table:** A table listing various photometric levels and their associated data. The 'Level 2.5' row is highlighted in green.
- Preview Window:** A large window titled 'preview' showing a grayscale astronomical image with a red overlay. The zoom level is set to 102%.
- Table:** A table with columns for object ID, name, and other parameters. The visible rows are:
 

8.84	Header	S3	SAG-3	HIPE	500.0	11.0.2934	R4_spire_c
46.6	Header	S3	SAG-3	HIPE	250.0	11.0.2934	R4_spire_c
- Query forms:** A section for searching data, with fields for 'ObjectName...' and 'ConeSearch...'.

At the bottom of the interface, there is a footer with the text 'IAS/IDOC Copyright 2013 - Build by SITools2 framework' and links for 'Contacts', 'Help', and 'Acknowledgements'.

# Temps Garanti Milieu Interstellaire (SAG-4) d'HESIOD Spectrométrie

The screenshot displays the HESIOD web interface. At the top, the logo 'IDOC HESIOD' is visible, along with logos for IAS, Université Paris Sud, CNRS, CNES, ESA, and Herschel. The navigation bar includes 'Project Description', 'Projects Feeds', and 'SAG-4 Related Publications'. The main content area is titled 'Cube Explorer - Ced 201-2 - 1342225576' and features a 'Cube Explorer' tab and a 'Header(s)' tab.

On the left, a table lists data levels for various instruments:

	Rec	Desc	Data	Cut Fits
Pacs Photometer				
+ Level 1	72			
+ Level 2	82			
Pacs Spectrometer				
+ Level 1	599			
+ Level 2	28			
Spire Photometer				
+ Level 1	86			
+ Level 2	426			
+ Level 2.5	264			
Spire FTS				
+ Level 1	2466			
+ Level 2	666			
Previous Releases				

Below the table is a 'Query forms' section with a 'View Form' button and a table of search forms:

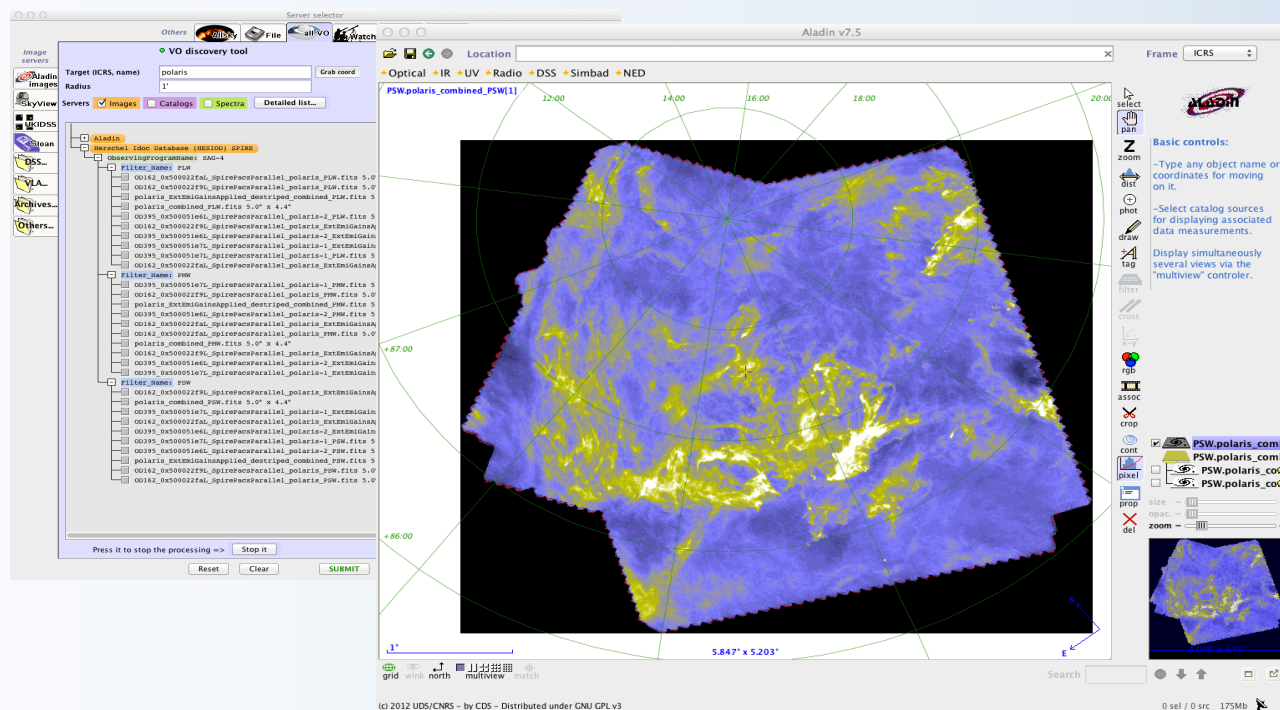
Name	Description
ObjectNameSe...	Form to search by object's name
ConeSearchForm	Cone Search with resolver name

The main visualization area shows a heatmap of the spectral cube and a plot of flux spectra. The heatmap is titled 'Cube Explorer - Ced 201-2 - 1342225576' and shows a bright region in the center. The plot is titled 'Flux (Jy/pixel) for each selected pixel(s)' and shows multiple spectra with a prominent peak at approximately 157.7 micrometers. The x-axis is 'Wavelength (micrometer)' ranging from 157.00 to 158.50, and the y-axis is 'Flux (Jy/pixel)' ranging from -0.50 to 1.00.

At the bottom, there are navigation controls and a footer with the text 'SI TOOLS 2' and 'IAS/IDOC Copyright 2013 - Build by SITools2 framework'.

# Temps Garanti Milieu Interstellaire (SAG-4) d'HESIOD interfacé avec le VO : photométrie

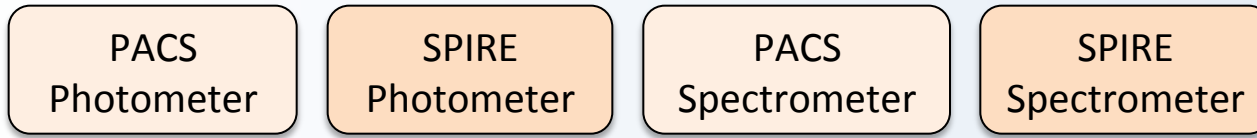
- L2.5 PACS (60 or 100 170  $\mu\text{m}$ ) et SPIRE (250, 350, 500  $\mu\text{m}$ )
- Données retraitées à l'IAS avec la dernière version du pipeline de l'ESA ainsi qu'avec des pipelines maison (SANEPIC, SUPREME à venir), combinaison des obsids quand plusieurs obsids pour un même champ.



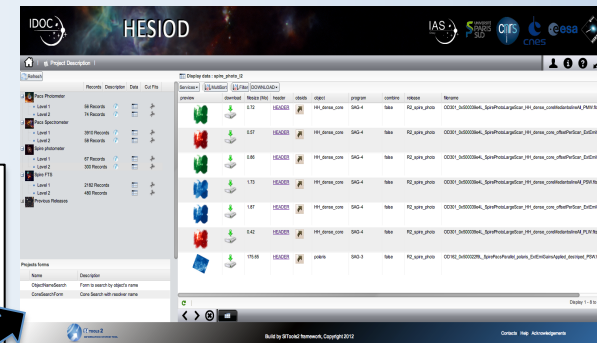
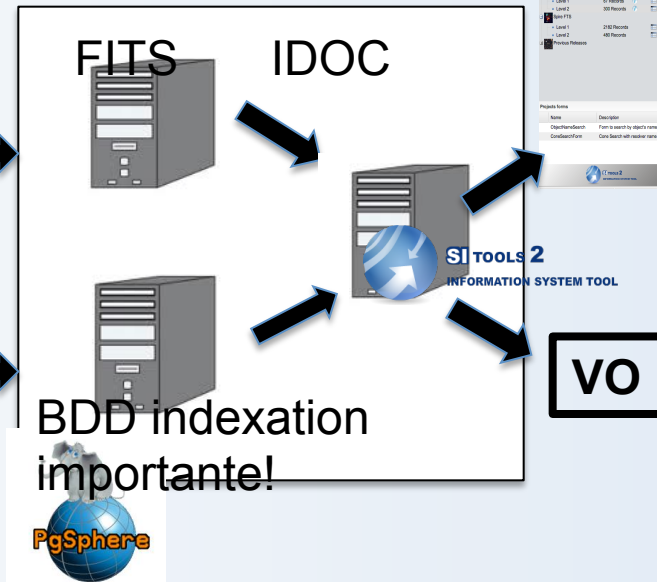
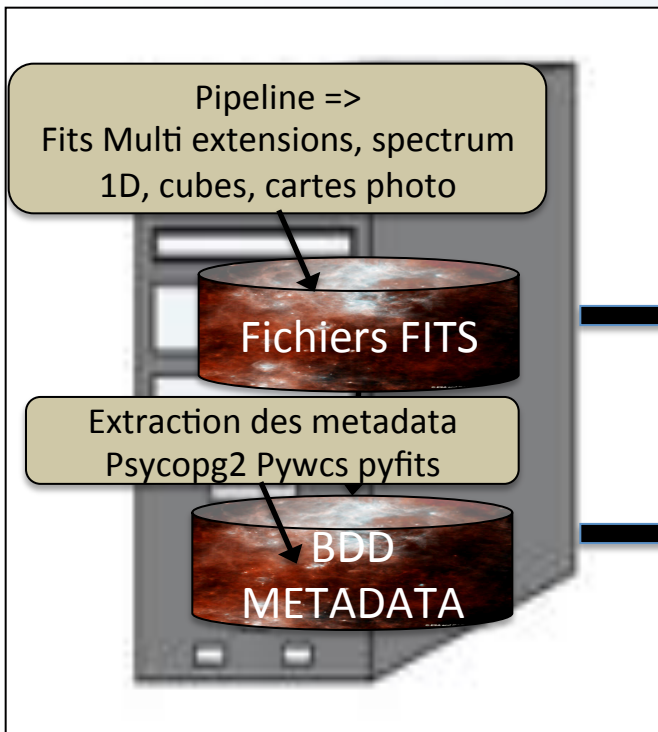


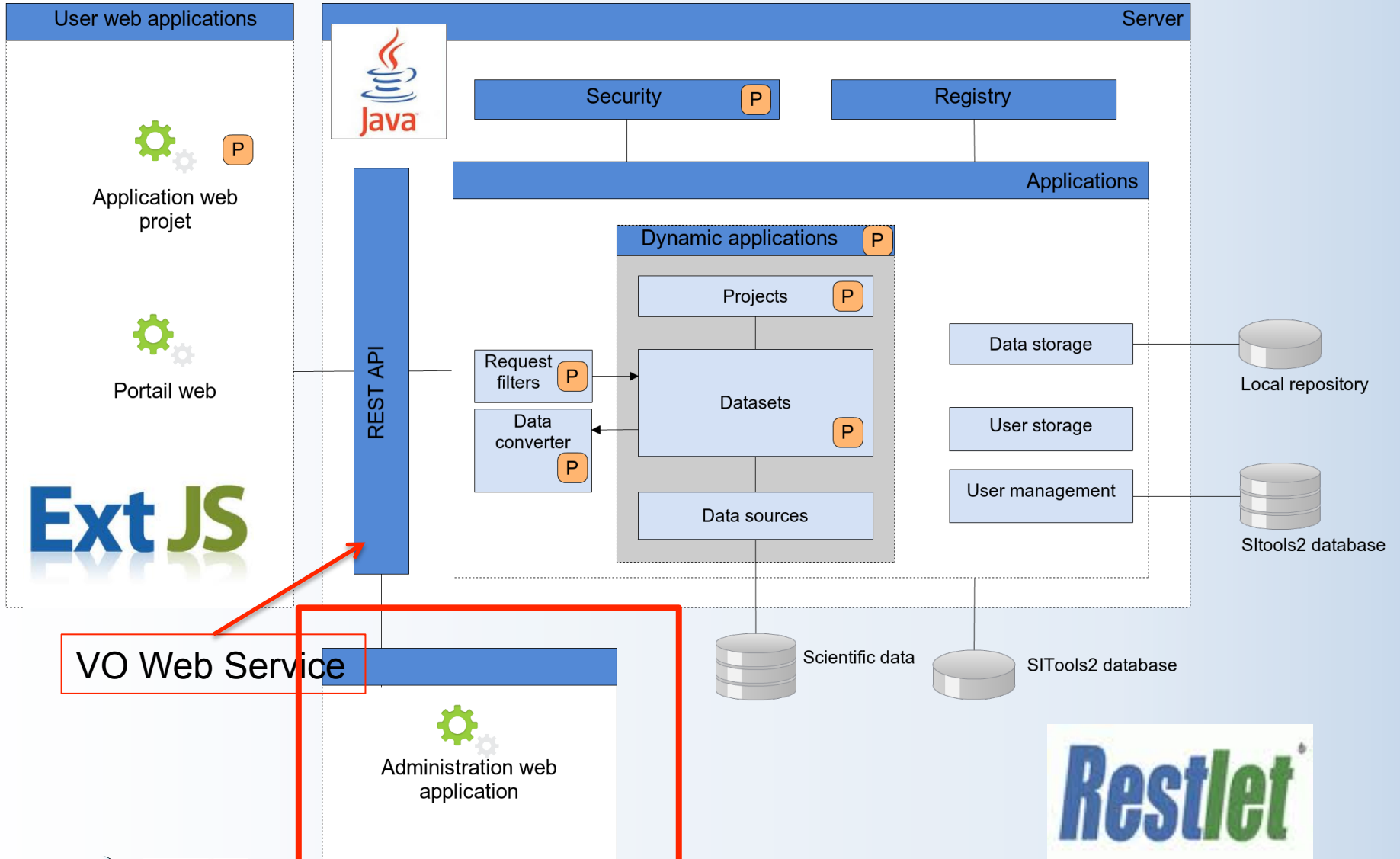


# HESIOD Pipeline



## Portail Web 2.0





# SITools2 Dataset Services Admin



idoc-herschel.ias.u-psud.fr/sitools/client-admin/

Choix du dataset: spire\_photo\_l25

Type	Name	Description	Label	Category	Position	Icon	Visible
GUI	Columns Definition	retrieve the columns definition for a dataset	label.definitionTitle				<input checked="" type="checkbox"/>
GUI	Sorter Tool	a GUI service to sort	label.multiSort				<input checked="" type="checkbox"/>
GUI	Record details Service	Display the details of a selected record	label.details				<input checked="" type="checkbox"/>
GUI	Download Service	a GUI Service to download a selection of data	label.downloadFileService				<input checked="" type="checkbox"/>
GUI	Filter Tool	a filter tool for dataset	label.filter				<input checked="" type="checkbox"/>
GUI	Plot service	display a plot of the data displayed	label.plot				<input checked="" type="checkbox"/>
SERVER	Simple Image Access Protocol	This plugin provides an access to your data through the Simple Image Access ...					<input checked="" type="checkbox"/>

Web Service SIAP appliqué au dataset

Sitools allows you to add dataset resources as plugins

**Add a new instance of dataset resources**

1. Select a dataset in the dataset list
2. Click on the Add Button
3. In new Window Select a plugin class in the list
4. In the next panel "Field mapping", sets the value of the required application parameters.

**Edit a dataset resource**

1. Select a dataset in the dataset list
2. Select an existing dataset resource
3. Click on the Edit Button
4. In new Window update the Field mapping
5. Click on Ok to validate.

**Delete a dataset resource**

1. Select a dataset in the dataset list
2. Select a dataset resource in the list
3. Click on Delete

# SITools2 SIA Module



<http://idoc-herschel.ias.u-psud.fr/ds/pub/spirephoto2/services/sia?>

<http://voparis-validator.obspm.fr>

Edit service

Field mapping

Name: Simple Image Access Protocol


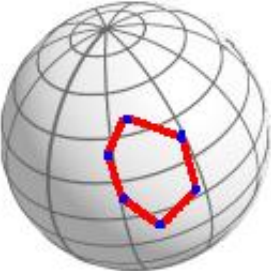
Purpose:

Behavior: DISPLAY\_IN\_NEW\_TAB

Parameters Mapping

Name	Type	Value
uri	PARAMETER_ATTACHMENT	/services/sia
methods	PARAMETER_INTERN	GET
fileName	PARAMETER_USER_INPUT	
image	PARAMETER_INTERN	
PARAM_Dictionary	PARAMETER_INTERN	SIADico
Description : Dictionary name that sets up the service		
INTERSECT	PARAMETER_INTERN	OVERLAPS
Description : how matched images should intersect the region of interest		
geoAttribut	PARAMETER_INTERN	spoly
Description : Geographical attribut for OVERLAPS mode. The geographical attribut must be spoly datatype from pgsphere		
VERB	PARAMETER_INTERN	1
Responsible party	PARAMETER_INTERN	
Image service	PARAMETER_INTERN	Pointed Image Archive
Description	PARAMETER_INTERN	Herschel Spire SIA protocol
Instrument	PARAMETER_INTERN	Spire
Waveband Coverage	PARAMETER_INTERN	infrared
Description : The waveband of the observations		
Spatial Coverage	PARAMETER_INTERN	
Temporal Coverage	PARAMETER_INTERN	
Max query size	PARAMETER_INTERN	64800
Max image size	PARAMETER_INTERN	

SIADico



# SITools2 SIA Module – dictionnaire

Dataset's semantic / dictionary mapping

SIADico  Default dictionary

Dataset's columns	Dictionary's concepts									
Column alias	Name	Description	ID	ucd	utype	ref	datatype	width	precision	
z	Title	Short description of the image		VOX:image_Title	Observ...	Acces...	char			
filesize_bytes	RA	ICRS right-ascension of the center of the image		POS_EQ_RA_MAIN			double			
filesize	DEC	ICRS declination of the center of the image		POS_EQ_DEC_MAIN			double			
release	NAXES	Number of image axes		VOX:image_Naxes			int			
last	NAXIS	Array value giving the length in pixels of each ima...		VOX:image_naxis			int			
download	Scale	Array value giving the scale in degrees per pixel ...		VOX:image_Scale			double			
naxes	Format	MIME-type of the object associated with the imag...		VOX:image_Format			char			
naxis	AccessRef	URL to be used to access or retrieve the image		VOX:image_AccessReference			char			
crpix	InstID	Instrument or instruments used to make the obser...		INST_ID			char			
crval	JulianDate	Mean modified Julian date of the observation		VOX:image_MJDateObs			double			
scale	CoordRefFrame	Coordinate system reference frame, selected fro...		VOX:STC_CoordRefFrame			char			

Mapping column/concept

Name	Description	ID	ucd	utype	ref	datatype	width	precision	unit	type	xtype	arraysize
ImageFile...	Actual or estimated size of the encoded image in bytes (not pixels!)		VOX:image_FileSize			int						
Column alias: format (1 Item)												
Format	MIME-type of the object associated with the image acref		VOX:image_Format			char						*
Column alias: instid (1 Item)												
InstID	Instrument or instruments used to make the observation		INST_ID			char						*
Column alias: naxes (1 Item)												
NAXES	Number of image axes		VOX:image_Naxes			int						
Column alias: naxis (1 Item)												
NAXIS	Array value giving the length in pixels of each image axis		VOX:image_Naxis			int						*
Column alias: observingprogramname (1 Item)												

Save and Close

# SITools2 SIA VOTable Résultat

<http://idoc-herschel.ias.u-psud.fr/ds/pub/spirephotol2/services/sia?POS=177,-77&SIZE=10>

```
<VOTABLE xmlns="http://www.ivoa.net/xml/VOTable/v1.2" version="1.2">
  <RESOURCE type="results">
    <PARAM datatype="char" name="Instrument" value="Spire"/>
    <PARAM datatype="char" name="Image service" value="Pointed Image Archive"/>
    <PARAM datatype="char" name="Waveband Coverage" value="infrared"/>
    <PARAM datatype="int" name="Max records" value="-1"/>
    <PARAM datatype="char" name="Max query size" value="64800"/>
    <PARAM datatype="boolean" name="VERB" value="1"/>
  <TABLE>
    <FIELD name="CdMatrix" ucd="VOX:WCS_CdMatrix" datatype="double" arraysize="*">
      <DESCRIPTION>Array (matrix) value specifying the WCS CD matrix</DESCRIPTION>
    </FIELD>
    <FIELD name="CoordRefFrame" ucd="VOX:STC_CoordRefFrame" datatype="char" arraysize="*">
      <DESCRIPTION>
        Coordinate system reference frame, selected from "ICRS", "FK5", "FK4", "ECL", "GAL", and "SGAL"
      </DESCRIPTION>
    </FIELD>
    <FIELD name="Crpix" ucd="VOX:WCS_CoordRefPixel" datatype="double" arraysize="*">
      <DESCRIPTION>
        Array value specifying the image pixel coordinates of the WCS reference pixel
      </DESCRIPTION>
    </FIELD>
    <FIELD name="Crval" ucd="VOX:WCS_CoordRefValue" datatype="double" arraysize="*">
      <DESCRIPTION>
        Array value specifying the world coordinates of the WCS reference pixel
      </DESCRIPTION>
    </FIELD>
    <FIELD name="RA" ucd="VOX:STC_CoordEquinox" datatype="double" arraysize="*">
      <DESCRIPTION>ICRS Right Ascension (J2000) in degrees</DESCRIPTION>
    </FIELD>
    <FIELD name="DEC" ucd="VOX:STC_CoordEquinox" datatype="double" arraysize="*">
      <DESCRIPTION>ICRS Declination (J2000) in degrees</DESCRIPTION>
    </FIELD>
    <FIELD name="AccessURL" ucd="VOX:Image_AccessReference" datatype="char" arraysize="*">
      <DESCRIPTION>URL to be used to access or retrieve the image</DESCRIPTION>
    </FIELD>
    <FIELD name="CoordEquinox" ucd="VOX:STC_CoordEquinox" datatype="double">
      <DESCRIPTION>
        Equinox (not required for ICRS) of the coordinate system used for the image world coordinate system (WCS)
      </DESCRIPTION>
    </FIELD>
    <FIELD name="Title" ucd="VOX:Image_Title" utype="Observation/Identifier" ref="AccesModes" datatype="char" arraysize="*">
      <DESCRIPTION>Short description of the image</DESCRIPTION>
    </FIELD>
  </TABLE>
  <TR>
    <TD>-0.003888889 0 0 0.003888889</TD>
    <TD>ICRS</TD>
    <TD>322 282</TD>
    <TD>178.50967 -79.392967</TD>
    <TD>178.50967</TD>
    <TD>-79.39297</TD>
    <TD>
      http://idoc-herschel.ias.u-psud.fr/sitools/datastorage/user/storageRelease/R4_spire_photo/HIPE_Fits/MAPS_SPIRE/SAG-4/DC300-17/DC300-17_combined_PLW.fits
    </TD>
    <TD></TD>
    <TD>DC300-17_combined_PLW.fits</TD>
    <TD></TD>
    <TD>PLW</TD>
    <TD>image/fits</TD>
    <TD>Herschel Spire</TD>
    <TD>2</TD>
    <TD>554 569</TD>
    <TD>SAG-4</TD>
    <TD>TAN</TD>
    <TD>-0.003888889 0.003888889</TD>
  </TR>
</VOTABLE>
```

Usage de VOX ?

```
<FIELD name="NAXES" ucd="VOX:Image_Naxes" datatype="int">
  <DESCRIPTION>Number of image axes</DESCRIPTION>
</FIELD>
```

```
<TR>
  <TD>-0.003888889 0 0 0.003888889</TD>
  <TD>ICRS</TD>
  <TD>322 282</TD>
  <TD>178.50967 -79.392967</TD>
  <TD>178.50967</TD>
  <TD>-79.39297</TD>
  <TD>
    http://idoc-herschel.ias.u-psud.fr/sitools/datastorage/user/storageRelease/R4_spire_photo/HIPE_Fits/MAPS_SPIRE/SAG-4/DC300-17/DC300-17_combined_PLW.fits
  </TD>
  <TD></TD>
  <TD>DC300-17_combined_PLW.fits</TD>
  <TD></TD>
  <TD>PLW</TD>
  <TD>image/fits</TD>
  <TD>Herschel Spire</TD>
  <TD>2</TD>
  <TD>554 569</TD>
  <TD>SAG-4</TD>
  <TD>TAN</TD>
  <TD>-0.003888889 0.003888889</TD>
</TR>
```

# SIA EuroVO registry

## **Herschel Idoc Database (HESIOD) SPIRE [HESIOD]**

[ CHECK | XML | EDIT | CLONE ]

IVOA identifier: <ivo://idoc.ginco/herschel/spire> [CatalogService] [SimpleImageAccess]

All data for the Herschel SPIRE guaranteed time program on *Interstellar Medium (SAG-4)* and other public data processed at IDOC. All data have been reprocessed at IDOC using advanced reprocessing pipeline.

Published by: IDOC GINCO on the 2013-01-25T14:53:47Z and last updated on the 2013-04-03T07:23:07Z

## **Herschel Idoc Database (HESIOD) PACS [HESIOD]**

[ CHECK | XML | EDIT | CLONE ]

IVOA identifier: <ivo://idoc.ginco/herschel/pacs> [CatalogService] [SimpleImageAccess]

All data for the Herschel SPIRE guaranteed time program on *Interstellar Medium (SAG-4)* and other public data processed at IDOC. All data have been reprocessed at IDOC using advanced reprocessing pipeline.

Published by: IDOC GINCO on the 2013-04-02T11:59:44Z and last updated on the 2013-04-03T07:23:39Z

<http://idoc-herschel.ias.u-psud.fr/ds/pub/spirephoto12/services/sia?>

## Sitools 2 VO: SCS, SIA to SSA

- Pour Sitools, création d'un DicoSSA, avec la liste des UCDs mandatory pour être « minimally compliant »
- Spectres 1D et cubes spectraux à générer avec les metadata correctes.



# Collection de spectres 1D

fv: Summary of 1342192173\_spectrum\_HD37041\_SPIRE-FTS\_11.0.2934\_HR\_aNB\_15\_0\_0.fits in /data/glx-hersc...

File Edit Tools Help

Index	Extension	Type	Dimension	View
<input type="checkbox"/> 0	Primary	Image	0	Header Image Table
<input type="checkbox"/> 1	0000	Image	0	Header Image Table
<input type="checkbox"/> 2	SLWA1	Binary	4 cols X 1810 rows	Header Hist Plot All Select
<input type="checkbox"/> 3	SLWA2	Binary	4 cols X 1810 rows	Header Hist Plot All Select
<input type="checkbox"/> 4	SLWA3	Binary	4 cols X 1810 rows	Header Hist Plot All Select
<input type="checkbox"/> 5	SLWB1	Binary	4 cols X 1810 rows	Header Hist Plot All Select
<input type="checkbox"/> 6	SLWB2	Binary	4 cols X 1810 rows	Header Hist Plot All Select
<input type="checkbox"/> 7	SLWB3	Binary	4 cols X 1810 rows	Header Hist Plot All Select
<input type="checkbox"/> 8	SLWB4	Binary	4 cols X 1810 rows	Header Hist Plot All Select
<input type="checkbox"/> 9	SLWC1	Binary	4 cols X 1810 rows	Header Hist Plot All Select

fv: Binary Table of 1342192173\_spectrum\_HD37041\_SPIRE-FTS\_11.0.2934\_HR\_aNB\_15\_0\_0.fits...

File Edit Tools Help

	<input type="checkbox"/> wave	<input type="checkbox"/> flux	<input type="checkbox"/> error	<input type="checkbox"/> mask
Select	1D	1D	1D	1J
All	GHz	W m-2 Hz-1 sr-1	W m-2 Hz-1 sr-1	1
Invert	Modify	Modify	Modify	Modify
1	4.469905548800E+02	9.343983603568E-19	0.000000000000E+00	0
2	4.472903473400E+02	1.081247166118E-18	0.000000000000E+00	0
3	4.475901397900E+02	1.170841700975E-18	0.000000000000E+00	0

# Cubes spectraux 1/2

## Exemple sans CRVAL3 CRPIX3

fv: Summary of 1342204919\_HD37041\_SPIRE-FTS\_11.0.2934\_HR\_SSW\_unapod\_nearest\_cube.fits in /data/...

Index	Extension	Type	Dimension	View
<input type="checkbox"/> 0	NoName	Image	0	Header Image Table
<input type="checkbox"/> 1	image	Image	18 X 20 X 1951	Header Image Table
<input type="checkbox"/> 2	error	Image	18 X 20 X 1951	Header Image Table
<input type="checkbox"/> 3	flag	Image	18 X 20 X 1951	Header Image Table
<input type="checkbox"/> 4	ImageIndex	Binary	2 cols X 1951 rows	Header Hist Plot All Select
<input type="checkbox"/> 5	History	Image	0	Header Image Table
<input type="checkbox"/> 6	HistoryScript	Binary	1 cols X 88 rows	Header Hist Plot All Select
<input type="checkbox"/> 7	HistoryTasks	Binary	4 cols X 54 rows	Header Hist Plot All Select
<input type="checkbox"/> 8	HistoryParameters	Binary	10 cols X 221 rows	Header Hist Plot All Select

# Cubes spectraux 2/2

Cube Explorer - m83 - 1342212345

Cube Explorer Header(s)

Primary -

Image - IMAGE

Key	Value	Description
CDELTA1	-0.00486111111111111	[] WCS: Pixel scale axis 1, unit=Angle
CDELTA2	0.00486111111111111	[] WCS: Pixel scale axis 2, unit=Angle
CRPIX1	5.0	[] WCS: Reference pixel position axis 1, unit=Scalar
CRPIX2	6.0	[] WCS: Reference pixel position axis 2, unit=Scalar
CRVAL1	204.253833333333335	[] WCS: First coordinate of reference pixel
CRVAL2	-29.8657500000000002	[] WCS: Second coordinate of reference pixel
CTYPE1	RA---TAN	WCS: Projection type axis 1, default="LINEAR"
CTYPE2	DEC--TAN	WCS: Projection type axis 2, default="LINEAR"
CUNIT1	deg	WCS: Unit axis 1, default=""
CUNIT2	deg	WCS: Unit axis 2, default=""
CROTA2	0.0	[] The Rotation angle
EPOCH	2000.0	[] WCS: Epoch, unit=Duration
EQUINOX	2000.0	[] WCS: Equinox, unit=Duration
HIERARCH 'radesvs'	Equatorial	WCS: Reference frame, default="ICRS"
CRPIX3	905.0	[] WCS: Reference layer index, unit=Scalar
CRVAL3	718.30272937	[] WCS: Wavelength, time, ... of reference layer; unit=length,time,...
CUNIT3	GHz	WCS: Unit axis 3
CDELTA3	0.2997924579988944	[] WCS: Scale in 3rd dimension, unit=Length,~Duration, ...
CTYPE3	Frequency	WCS: Description of what the 3rd axis represent

Flag - IMAGE

Error - IMAGE

History - IMAGE

Historyscript - BINTABLE

Historytasks - BINTABLE

Historyparameters - BINTABLE

# VO SSA Input

*Simple Spectral Access Protocol Version 1.1*  
IVOA Recommendation, February 10 2012

## 4.1.1 Mandatory Query Parameters

The following parameters **must** be implemented by a compliant service:

<i>Parameter</i>	<i>Sample value</i>	<i>Physical unit</i>	<i>Datatype</i>
<b>POS</b>	52, -27.8	degrees; defaults to ICRS	string
<b>SIZE</b>	0.05	degrees	double
<b>BAND</b>	2.7E-7/0.13	meters	string
<b>TIME</b>	1998-05-21/1999	ISO 8601 UTC	string
<b>FORMAT</b>	votable	-	string

Mais que POS et SIZE dans l'exemple: <http://www.myvo.org/ssa?REQUEST=queryData&POS=22.438,-17.2&SIZE=0.02>

# VO SSP Output

- Liste des UCD obligatoires : PR-SpectralDM-2.0-20130425.pdf  
Annexe A ?
- <http://voparis-validator.obspm.fr/>
  - Version de Spectral Spectral Access 1.03
- Creation / Service Type: archival trop gros? spectralExtraction  
ou cutout (région ou bande spectrale) pour les cubes?
- Rajout des metadata dans les fits directement
- Exemple dans C.2.1 Basic Spectrum Instance: ok
- Exemple pour un cube?

# VO @ IDOC

- extension du SIAP aux autres programmes disponibles dans HESIOD.
- SIA Cutout Image Service en cours de développement
- mise en place et enregistrement du service Simple Cone Search pour la base SZ-Cluster actuelle et extension au futur catalogue de sources Herschel de la base HESIOD (en cours)
- réflexion sur l'utilisation du protocole TAP pour l'accès aux catalogues de sources, notamment pour SZ Cluster
- SSAP (cubes?)
- Contacts IDOC VO: scientifique [alexandre.beelen@ias.u-psud.fr](mailto:alexandre.beelen@ias.u-psud.fr), ingénieur [karin.dassas@ias.u-psud.fr](mailto:karin.dassas@ias.u-psud.fr)

Merci de votre attention!

# ANNEXES

# HESIOD through Aladin

Aladin v7.5

Location  Frame ICRS

Optical IR UV Radio DSS Simbad NED

PLANCK-HFI 857GHz PSW.polaris\_combined\_PSW[1]

maBurstv denseCore denseCore denseCore denseCore denseCore denseCore denseCore denseCore denseCore denseCore

1.506° x 1.61° 1.506° x 1.61°

[View A1] - PLANCK-HFI 857GHz

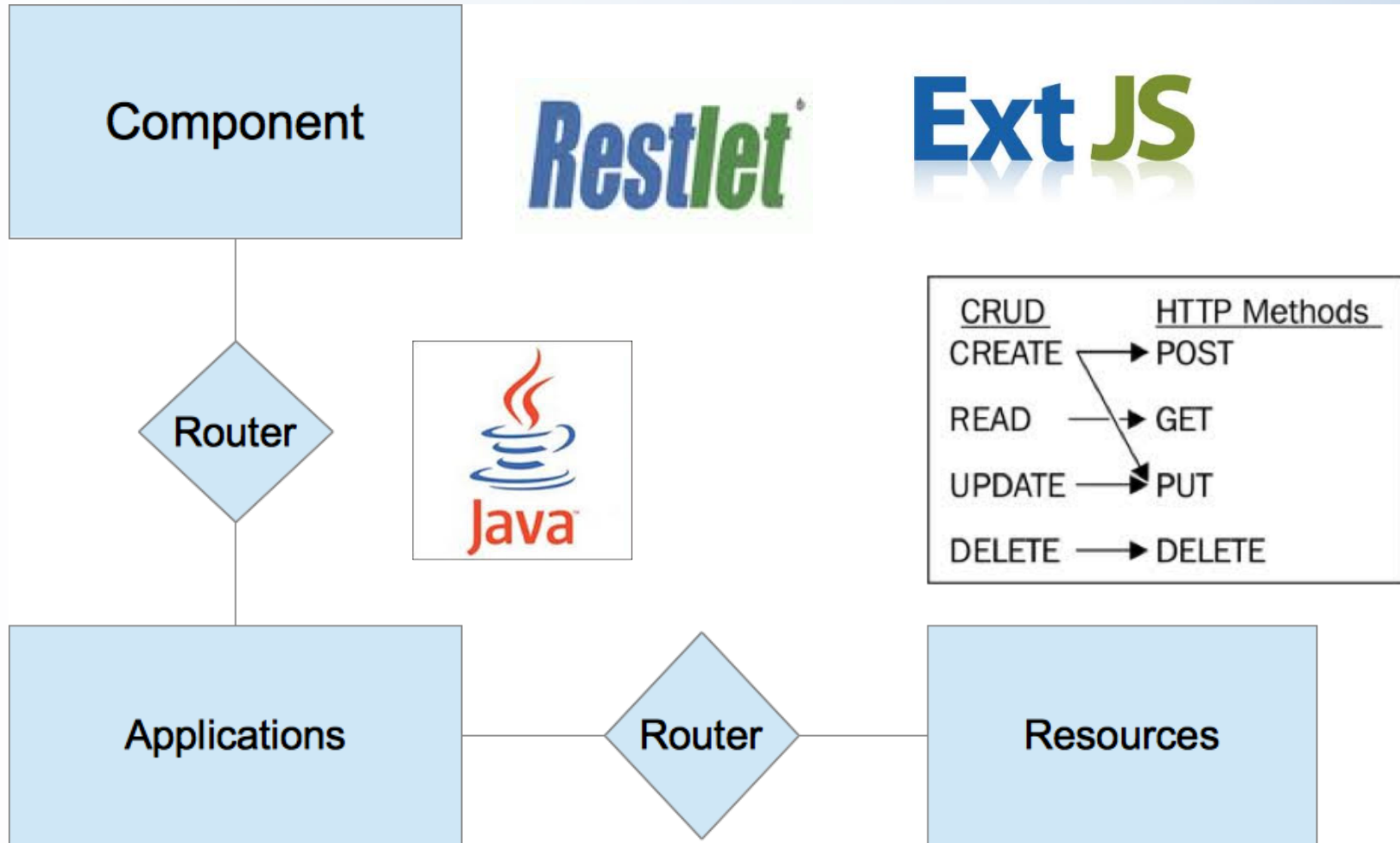
Search

0 sel / 1395 src 143fps / 102Mb

TIP: Define the object size and shape rules (filter button)



# SITools2 General Architecture: REST



# SITools2 SIA Module spoly



```
def calculateSpoly(filepath=""):
    hdulist=pyfits.open(filepath)
    try:
        Image = hdulist['Image']
        wcs = pywcs.WCS(Image.header)
        hdr1=hdulist[1].header
    except:
        try:
            ##### for SCANAMORPHOS fits files
            Image=hdulist['PrimaryImage']
            PrimaryHeader=hdulist['Primary'].header
            wcs = pywcs.WCS(PrimaryHeader)
            hdr1=Image.header
            print wcs
            print hdr1
        except KeyError:
            print "EE - No 'Image' extension in "+os.path.basename(inputImage)
            return 2
    poly1=wcs.wcs_pix2sky([[0.5,0.5]],0)
    print poly1
    poly2=wcs.wcs_pix2sky([[0.5+hdr1['NAXIS1'],0.5]],0)
    print poly2
    poly3=wcs.wcs_pix2sky([[0.5+hdr1['NAXIS1'],0.5+hdr1['NAXIS2']]],0)
    print poly3
    poly4=wcs.wcs_pix2sky([[0.5,0.5+hdr1['NAXIS2']]],0)
    print poly4
    poly1="("+str(poly1[0,0])+"d,"+str(poly1[0,1])+"d)"
    poly2="("+str(poly2[0,0])+"d,"+str(poly2[0,1])+"d)"
    poly3="("+str(poly3[0,0])+"d,"+str(poly3[0,1])+"d)"
    poly4="("+str(poly4[0,0])+"d,"+str(poly4[0,1])+"d)"
    poly="{ "+poly4+", "+poly3+", "+poly2+", "+poly1+"}"
    #poly="("+poly1+", "+poly3+")"
    return poly
```

# SIA EuroVO registry

## [VO Integrated Data Operation Center \[IDOC\]](#)

[ XML | EDIT | CLONE ]

IVOA identifier: [ivo://idoc](#) [Authority]

This naming authority is the root of the naming of the resources from IDOC

Published by: IDOC on the 2013-01-25T09:21:30Z and last updated on the 2013-01-25T10:31:24Z

## [GINCO: Galaxy, Interstellar matter and Cosmology \[GINCO\]](#)

[ XML | EDIT | CLONE ]

IVOA identifier: [ivo://idoc.ginco](#) [Authority]

GINCO is a center for expertise for several space, balloon and ground mission. It has an important role in data processing, distribution and interpretation, for several astronomy missions at long wavelength. In this matter, GINCO : develops and maintains high level analysis pipelines develops and maintains data archives & access develops, maintains and distribute high level software for data analysis offers scientific expertise for mission using long wavelength detectors plays an important role in education and outreach to the general public

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## [HErSchel IdOc Database \(HESIOD\) \[HESIOD\]](#)

[ XML | EDIT | CLONE ]

IVOA identifier: [ivo://idoc.ginco/herschel](#) [Organisation]

HErSchel IdOc Database (HESIOD)

Published by: IDOC GINCO on the 2013-01-25T11:01:53Z and last updated on the 2013-03-29T10:57:43Z

# SITools2 SIA Module – dataset columns

**Edit dataset**

Dataset information | Properties | Select tables | Select fields | **Fields setup** | Criteria | View Configuration

Create Edit Delete Action

SQL definition	Table name	Table alias	Column alias	Format	Unit	Label	W
z	spire_phot...		z			z	
filesize_bytes	spire_phot...		filesize_bytes			filesize_bytes	
release	spire_phot...		release			release	
combine	spire_phot...		combine			combine	
last	spire_phot...		last			last	
spoly	spire_phot...		spoly			spoly	
filename	spire_phot...		filename			filename	
level25	spire_phot...		level25			level25	
'http://doc-herschel...			thumbnail			thumbnail	
'2'			naxes			naxes	
naxis1  ' '  naxis2			naxis			naxis	
crpix1  ' '  crpix2			crpix			crpix	
crval1  ' '  crval2			crval			crval	
odelt1  ' '  odelt2			scale			scale	
odelt1  ' '  crota2  ' '...			odmatrix			odmatrix	
'Herschel Spire'			insid			insid	
'ICRS'			coordref			coordref	
'TAN'			projection			projection	
'image/fits'			format			format	
crval1			crval1			crval1_sia	
crval2			crval2			crval2_sia	
SUBSTR(filename,...			filename			filename	
program			observingprogramname			observingpr...	

OK Cancel

associate a concept of a dictionary to a field.