

# Resumen:

# Resumen:

- El VO proporciona nuevos modos de descubrir, acceder y analizar datos provenientes de centros de datos de todo el mundo.
- Gran parte de los centros de datos ya proporcionan una interface compatible con el VO
- Se trata de un modo nuevo y en ocasiones mas eficiente de hacer ciencia

# Programa:

1. El Observatorio Virtual. Una visión general.
2. Datos teóricos en el Observatorio Virtual
3. Herramientas I: descubrimiento de datos (Aladín)
4. Herramientas II: manejo de catálogos / tablas (TOPCAT)

# Datos teóricos en el VO:

- 📌 Bases de datos difíciles de mantener cuando el PI cambia de afiliación
- 📌 Cada colección de modelos tiene un formato distinto
- 📌 Y formatos distintos que los datos observacionales: un modelo teórico no se describe por coordenadas sino por conjuntos de parámetros

# Ejemplo: atmósferas de Kurucz


Google


Buscar en:  la Web  páginas en español  páginas de España


---

La Web Resultado

Sugerencia: [Buscar sólo resultados en español](#). Puede especificar el idioma de búsqueda en [Preferencias](#)

**[Kurucz 1993 Models](#)**  - [ [Traducir esta página](#) ]  
A list of solar metallicity stars of different spectral types and luminosity classes together with their closest **Kurucz model** spectrum is presented in Table ...  
[www.stsci.edu/hst/observatory/.../k93models.html](http://www.stsci.edu/hst/observatory/.../k93models.html) - [En caché](#) - [Similares](#)

**[Robert L. Kurucz](#)**  - [ [Traducir esta página](#) ]  
Some files taken from **Kurucz** CD-ROMs 1-26 are given for historical checks although many ...  
Molecules · Linelists · Opacities · Grids of **model** atmospheres ...  
[kurucz.harvard.edu/](http://kurucz.harvard.edu/) - [En caché](#) - [Similares](#)

**[Kurucz/Grids](#)**  - [ [Traducir esta página](#) ]  
CASTELLI: 2004 New grids of ATLAS9 **model** atmospheres (Castelli and **Kurucz**) \*\*THESE ARE THE PREFERRED **MODELS**\*\* \*\*\* 4 Nov 2008 ALL A\*ODFNEW. ...  
[kurucz.harvard.edu/grids.html](http://kurucz.harvard.edu/grids.html) - [En caché](#) - [Similares](#)

## Robert L. Kurucz

Harvard-Smithsonian Center for Astrophysics  
60 Garden Street  
Cambridge, MA 02138, USA

Telephone 617-495-7429

Fax 617-495-7049

Email [RKURUCZ@CFA.HARVARD.EDU](mailto:RKURUCZ@CFA.HARVARD.EDU)

This is a combined Web/outgoing-FTP site, [KURUCZ.HARVARD.EDU](http://KURUCZ.HARVARD.EDU) or [CFAKU5.CFA.HARVARD.EDU](http://CFAKU5.CFA.HARVARD.EDU). It provides up-to-date public access to my data and programs. These are the same programs and files that I use in my research. Many bugs and problems have been corrected but there are still many more errors remaining to be found. Programs and data that I would not use myself because they are still under development are not on this computer. Many of the files are large and are also available on CDs or DVDs, and I am willing to write DVDs on demand. Some files taken from Kurucz CD-ROMs 1-26 are given for historical checks although many have been replaced by new versions. Binary versions will eventually be replaced by (much larger) ASCII versions. I am willing to rewrite them in ASCII on demand. Neither the programs nor data are "black boxes". You should not be using them if you do not have some understanding of the physics and of the programming in the source code.

Table of Contents

Robert L. ...

Harvard-Smithsonian  
60 Garden Street  
Cambridge, MA 02138, USA

Telephone 617-495-7100  
Fax 617-495-7101  
Email RKUR@alum.mit.edu

This is a copy of the  
CEFAKU5.CFA.II file  
my data and  
I use in my  
but there are  
Programs and  
under develop  
large and are  
write DVDs of  
given for his  
versions. E  
larger) ASCII  
demand. Nei  
should not be  
of the physi

<sup>1</sup> Available via anonymous FTP from <ftp://calvin.physast.uga.edu/pub/NextGen> or via the WWW URL <http://dilbert.physast.uga.edu/~yeti>.



## Servidor no encontrado

Firefox no puede encontrar el servidor en dilbert.physast.uga.edi.

- Compruebe que no ha cometido errores al escribir la dirección, como **ww**.example.com en lugar de **www**.example.com
- Si no puede cargar ninguna página, compruebe la conexión de red de su ordenador.
- Si su ordenador o su red están protegidos por un cortafuegos o un proxy, cerciórese de que se le permite acceder a la Web con Firefox.

Reintentar

Table of Contents

# Ejemplo: atmósferas de Kurucz

```
SDSC GRID [+0.0] VTURB 2.0 KM/S L/H 1.25
PROGRAM READFLUX
C SAMPLE PROGRAM READS THIS FILE ON UNIT 1
  DIMENSION Hnu(1221), HnuCONT(1221), WAVE(1221)
  CHARACTER*80 TITLE
  DO 11 ISKIP=1,22
11 READ(1,1)
C   wavelength in nm
  READ(1,1) WAVE
  1 FORMAT(10F10.2)
  DO 8 MODEL=1,500
C   ergs/cm**2/s/hz/ster
  READ(1,2,END=9) TITLE
  2 FORMAT(A80)
  PRINT 3,MODEL,TITLE
  3 FORMAT(I5,1X,A80)
  READ(1,4) Hnu
  READ(1,4) HnuCONT
  4 FORMAT(8E10.4)
  8 CONTINUE
  9 CALL EXIT
  END
  9.09      9.35      9.61      9.77      9.96      10.20      10.38      10.56
  10.77     11.04     11.40     11.78     12.13     12.48     12.71     12.84
  13.05     13.24     13.39     13.66     13.98     14.33     14.72     15.10
  15.52     15.88     16.20     16.60     17.03     17.34     17.68     18.02
  18.17     18.61     19.10     19.39     19.84     20.18     20.50     21.05
  21.62     21.98     22.30     22.68     23.00     23.40     24.00     24.65
```



**Ejemplo: ahora con VO**

Ej

VOSpec

CesavO  
Virtual Observatory

File Edit View Operations Plastic SAMP Help

Wave Unit: micron, Log:   
Flux Unit: Jy, Log:   
RedShift: 0.00,   
De-reddening:   
 $\lambda V$ : 0.00,

Graphic Mode

Target: vega, Ra: 79.23473500, Dec: 38.78369194, Size: 1, Query

Spectra List

View

RETRIEVE Unmark All Reset

Copyright ESAC - Villafranca del Castillo - Madrid, Spain

Ej

The screenshot shows the VOSpec Server Selector application. The main window is titled "Server Selector" and contains two main panels: "Query by Service" and "Query by params".

**Query by Service:** This panel displays a tree view of services. The "Kurucz ODFNEW /NOVER models" service is selected, indicated by a checkmark. Other services listed include SSA Services, Theoretical Spectra Services, Allard models, Coelho Synthetic stellar library, Dalessio disk models, PGos3 models, POLLUX Database, and Synthetic photometry models.

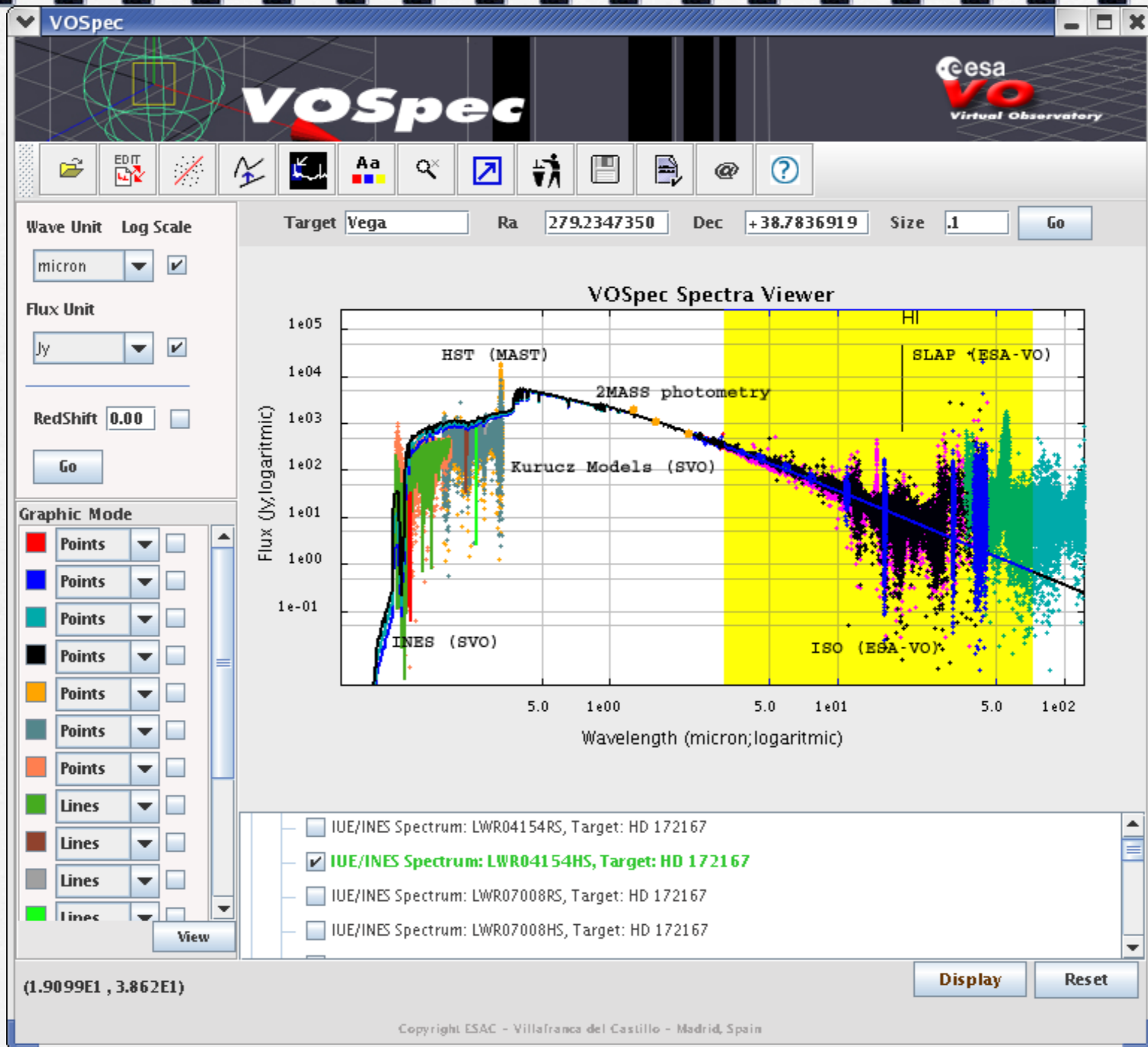
**Query by params:** This panel shows a tree view of query parameters. The "Service Specific Query" is selected, and the "Kurucz ODFNEW /NOVER models" sub-query is expanded. The parameters are:

- TARGET.NAME vega
- Simple Query
  - POS 279.234735,38.78369194
  - SIZE 1
- Advanced Query
- Service Specific Query
  - Kurucz ODFNEW /NOVER models
    - teff\_min 3500
    - teff\_max 3500
    - logg\_min 0.00
    - logg\_max 0.00
    - meta\_min -2.50
    - meta\_max -2.50

**Query Outlook:** This panel at the bottom left contains a "Refresh" button, an "Add SSA/TSA" button, and a "Select All SSA" checkbox. Below these is a text area containing the URL: <http://www.laeff.inta.es/projects/svo/theory/db2vo2/html>.

**Insert Param Value:** This panel at the bottom right allows for adding custom parameters. It includes a "Text Param" input field, an "Add" button, and "Query" and "Reset" buttons at the bottom.

Ej



# Más modelos teóricos:



Theoretical model services Documents Models Services

**SVO**  
Spanish Virtual Observatory

**Theoretical spectra**  
Available theoretical spectra models

Funded by INTA  
MINISTERIO DE CIENCIA E INNOVACIÓN

Models: Spectra Isochrones Astroseismology

Email:  Pass:  Login Register

## Theoretical Models Web Server

- ▶ **D'Alessio disk models:**  
Models of irradiated accretion disks around pre-main sequence stars by D'Alessio et al. (1998,1999,2001).
- ▶ **Coelho Synthetic stellar library:**  
Synthetic stellar library by P. Coelho, fully described in Coelho et al. (2005) (*Astron.and.Astroph., in press*)
- ▶ **Allard, NextGen:**  
The NextGen Model grid of theoretical spectra; Hauschildt, P.H., Allard, F., Baron, E., Schweitzer, A., ApJ 312, 377, 1999
- ▶ **Allard, COND 2000:**  
The COND00 Model grid of theoretical spectra. (*Chabrier et al. 2000, ApJ, 542,464*)
- ▶ **Allard, DUSTY 2000:**  
The DUSTY00 Model grid of theoretical spectra (*Allard et al. 2001, ApJ, 556, 357*)
- ▶ **Kurucz ODFNEW /NOVER models:**  
ODFNEW /NOVER models. Newly computed ODFs with better opacities and better abundances have been used. (*The convective treatment is described in Castelli et al. 1997, AA 318, 841*)

# Aplicaciones posibles:

Theoretical model services

Documents Models Services



## S3 interface

An interface to test S3 services



Services: VOSA Filters TSAP S3if

esm@laeff.inta.es Uploads Logout

## S3 interface

ODFNEW /NOVER models. Newly computed ODFs with better opacities and better abundances have been used.

teff:	7000	-	7250	More info
logg:	4.00	-	4.00	More info
meta:	0.00	-	0.00	More info
UFI:	2MASS_H 2MASS_J 2MASS_Ks Astralux_R			More info

Search

See VOTable

# Aplicaciones posibles:

Theoretical model services

Documents Models Services



## S3 interface

An interface to test S3 services



Services: [VOSA](#) [Filters](#) [TSAP](#) [S3if](#)

[esm@laeff.inta.es](mailto:esm@laeff.inta.es) [Uploads](#) [Logout](#)

Theoretical model services

Documents Models Services



## S3 interface

An interface to test S3 services



Services: [VOSA](#) [Filters](#) [TSAP](#) [S3if](#)

[esm@laeff.inta.es](mailto:esm@laeff.inta.es) [Uploads](#) [Logout](#)

## S3 interface

Synthetic photometry for Kurucz ODFNEW /NOVER models. Newly computed ODFs with better opacities and better abundances have been used.

teff	logg	meta	UFI	phot
7000	4.00	0.00	2MASS_H	4.37419395128e-14
7000	4.00	0.00	2MASS_J	1.03457729814e-13
7250	4.00	0.00	2MASS_H	4.53716880914e-14
7250	4.00	0.00	2MASS_J	1.10263082081e-13

See VOTable

# Programa:

1. El Observatorio Virtual. Una visión general.
2. Datos teóricos en el Observatorio Virtual
3. Herramientas I: descubrimiento de datos (Aladín)
4. Herramientas II: manejo de catálogos / tablas (TOPCAT)



# Herramientas I: descubrimiento de datos (Aladin):



The screenshot shows the Aladin website interface. At the top, there is a navigation bar with logos for CDS (Centre de Données Astronomiques de Strasbourg), Simbad, VizieR, Aladin, Catalogs, Dictionary, Biblio, Tutorials, and Developers. Below this is a banner for "The Aladin Sky Atlas". The main content area features three columns: "Download Aladin on your machine" with a screenshot of the software, "Start Aladin applet (Fr - US - Jp - In - UK - Ca)\*" with a screenshot of the applet interface, and "Jump to Aladin previewer" with a screenshot of the previewer. A link for "en français" is also visible. Below the banner, there is a section for a new user manual: "New: [Le manuel de l'utilisateur](#) - July 2008" with the subtitle "The new user manual dedicated for the Aladin Beta release - in French, and soon in English...". The "Description" section states that Aladin is an interactive software sky atlas for visualizing digitized astronomical images and accessing related data from Simbad, VizieR, and other archives. It mentions that Aladin was created in 1999 and is a widely-used VO portal. The "Documentation" section lists links for "The Aladin FAQ", "Le manuel de l'utilisateur (2Mb)", "Provide my data in Aladin (help form)", "The Aladin science case tutorial", and "The Aladin filter manual". The "Plugins" section notes that Aladin can be extended by user-defined Java plugins and provides a link to the "Aladin plugin repository". A large "ALADIN" logo is positioned in the bottom right corner of the screenshot.

**Server selector**

Others  File  all VO  FOV  Sextractor

**Image servers**

- Aladin images
- SkyView
- Sloan
- MAST
- CADC
- DSS...
- VLA...
- Others...

**Catalog servers**

- All VizieR
- Surveys
- Missions
- IMBAD
- NED
- SkyBot
- Others..

Aladin image server ?

>>> Step 1: Specify a target/radius and press SUBMIT

Target.....

Search cone.....

Step 2: load one or several images  by list or  tree

Default image format:  JPEG  FITS

select

pan

zoom

dist

draw

tag

text

filter

cross

rgb

assoc

Zoom 1x

cont

mgls

pixel

prop

del

Search

**Server selector**

Others  File  all VO  FOV  SExtractor

**Image servers**

- Aladin images
- SkyView
- Sloan
- MAST
- CADZ
- DSS...
- VLA...
- Others...

**Catalog servers**

- All VizieR
- Surveys
- Missions
- SIMBAD
- NED
- SkyBot
- Others..

**Aladin image server** ?

Step 1: Specify a target/radius and press SUBMIT

Target..... M31

Search cone..... 0 arcmin

>>> Step 2: load one or several images  by list or  tree

SURVEY	COLOR	SIZE	OBS ID	RES
<input type="checkbox"/> 2MASS	H(IR H)	8.6' x 17.1'	971024N_HI0080033	1.1
<input type="checkbox"/> 2MASS	K(IR K)	8.6' x 17.1'	971024N_KI0080033	1.1
<input type="checkbox"/> 2MASS	J(IR J)	8.6' x 17.1'	971024N_JI0080033	1.1
<input type="checkbox"/> POSSI	0-DSS2(0.645um)	13.0' x 13.0'	193	1.1
<input type="checkbox"/> POSSII	F-DSS2(0.658um)	13.0' x 13.0'	295	1.1
<input type="checkbox"/> POSSII	M-DSS2(0.84um)	13.0' x 13.0'	295	1.1
<input type="checkbox"/> POSSII	J-DSS2(0.491um)	13.1' x 13.1'	295	1.1
<input type="checkbox"/> POSSI	E-DSS1(0.41um)	14.2' x 14.2'	193	1.7
<input type="checkbox"/> POSSI	E-DSS1(0.41um)	1.7° x 1.7°	193-LOW	6.8
<input type="checkbox"/> POSSI	0-DSS2(0.645um)	6.5° x 6.5°	193-PLATE	24.
<input type="checkbox"/> POSSII	F-DSS2(0.658um)	6.5° x 6.5°	295-PLATE	24.

Default image format:  JPEG  FITS

select

pan

zoom

dist

draw

tag

text

filter

cross

rgb

assoc

Zoom 1x

cont

mgls

pixel

prop

del

Search

# Aladin sky atlas

File Edit Image Catalog Overlay Tool View Interop Help

Install



Location

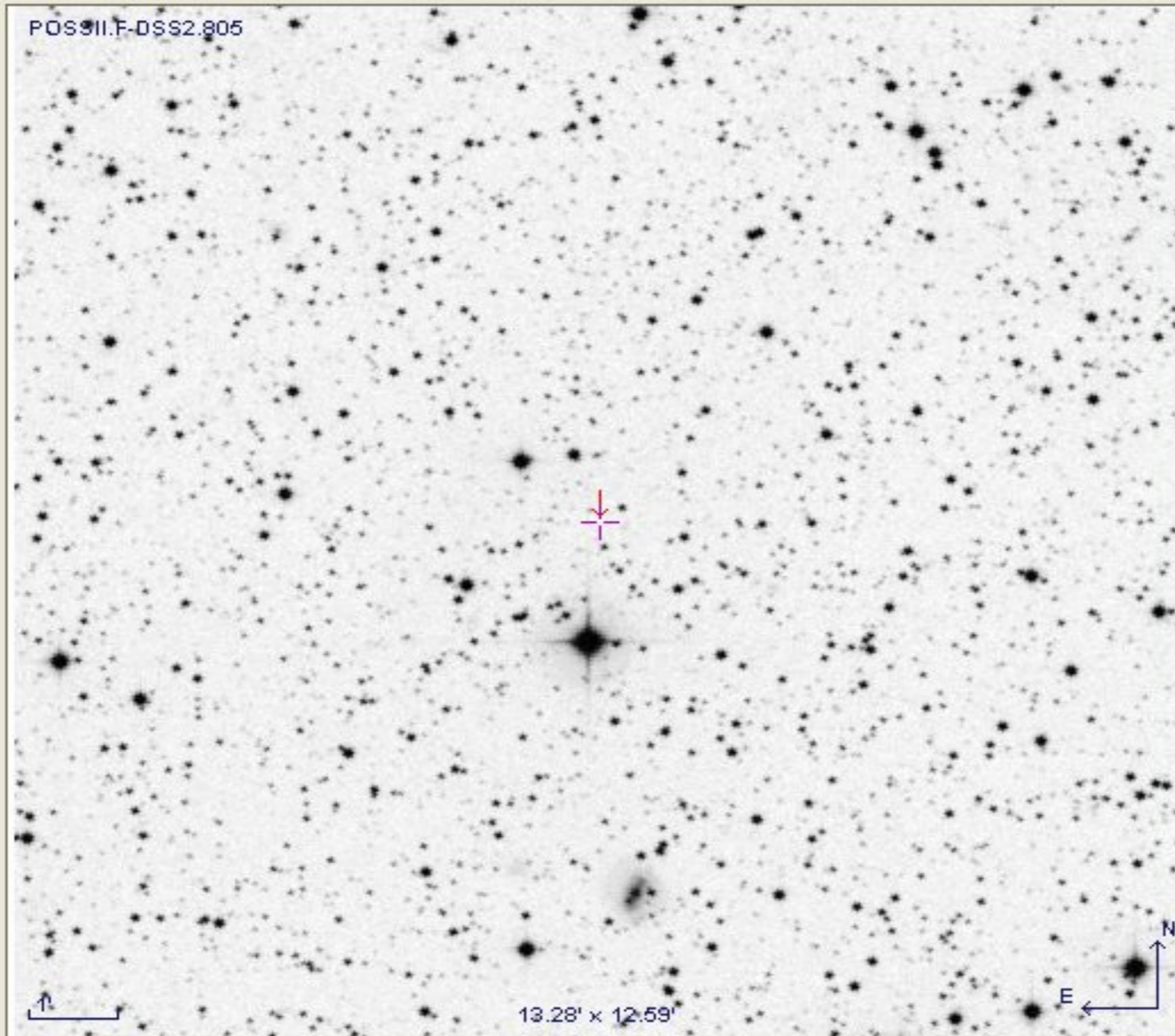
ICRS

Pixel

full



POSSII.F-DSS2.805



select

pan

zoom

dist

draw

tag

text

filter

cross

rgb

assoc

cont

mgls

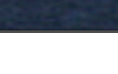
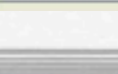
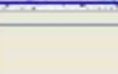
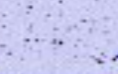
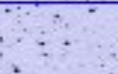
pixel

prop

del



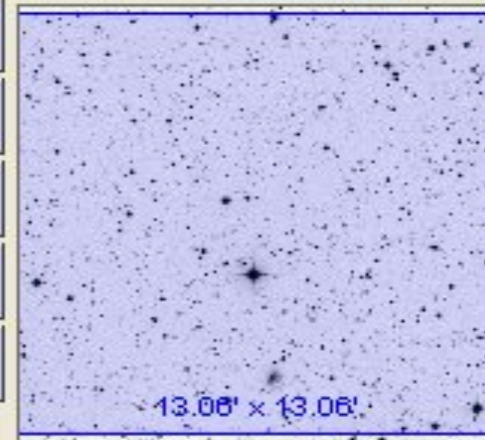
barnard star



POSSII.J-DSS2.8

POSSII.F-DSS2.8

Zoom 2/3x



grid

multiview

match

Search



# Aladin sky atlas

File Edit Image Catalog Overlay Tool View Interop Help

Install

Location  ICRS

Pixel **unknown** full



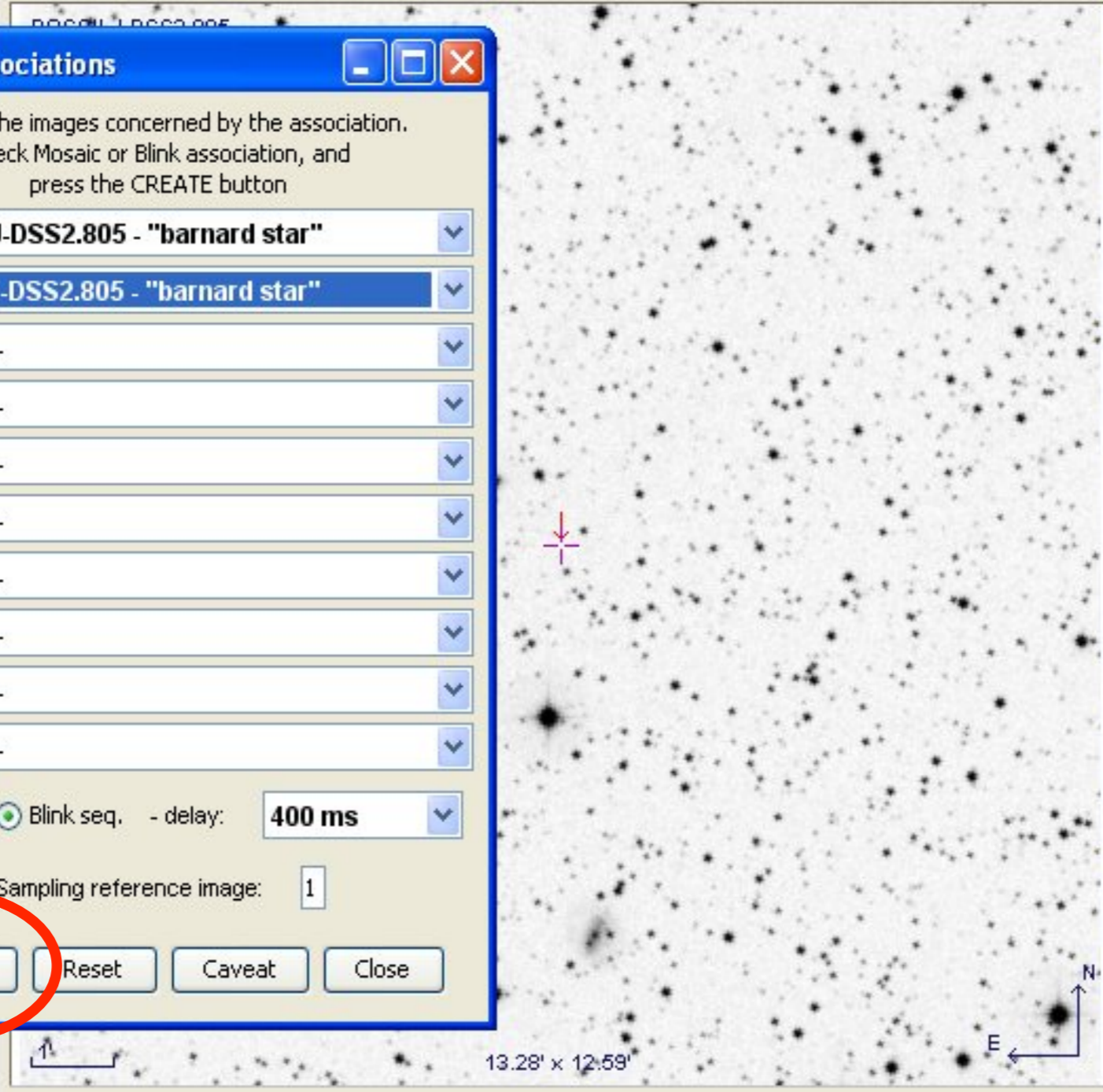
### Image associations

Specify the images concerned by the association.  
Check Mosaic or Blink association, and press the CREATE button

- 1) POSSII.J-DSS2.805 - "barnard star"
- 2) **POSSII.F-DSS2.805 - "barnard star"**
- 3) -- none --
- 4) -- none --
- 5) -- none --
- 6) -- none --
- 7) -- none --
- 8) -- none --
- 9) -- none --
- 10) -- none --

Mosaic  Blink seq. - delay:

Sampling reference image:



- select
- pan
- zoom
- dist
- draw
- tag
- text
- filter
- cross
- rgb
- asso c
- cont
- mgls
- pixel
- prop
- del

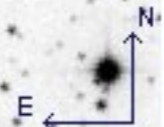
### barnard star

- POSSII.J-DSS2.8
- POSSII.F-DSS2.8

Zoom

13.05' x 13.05'

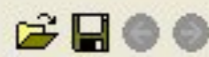
13.28' x 12.59'



# Aladin sky atlas

File Edit Image Catalog Overlay Tool View Interop Help

Install



Location

ICRS

Pixel 84

full



POSS1.J-DSS2.805

001

**RGB image generator**

Specify two or three images as color components, choose the reference image for the re-sampling and press the CREATE button to create a RGB image plane.

1) Red **POSS1.F-DSS2.805 - "barnard star"**

2) Green **-- none --**

3) Blue **POSS1.J-DSS2.805 - "barnard star"**

Sampling reference image:  R  G  B  best resolution

images subtraction

**CREATE** Reset Caveat Close

**barnard star**

select

pan

zoom

dist

draw

tag

text

filter

cross

**rgb**

assoc

cont

mgls

pixel

prop

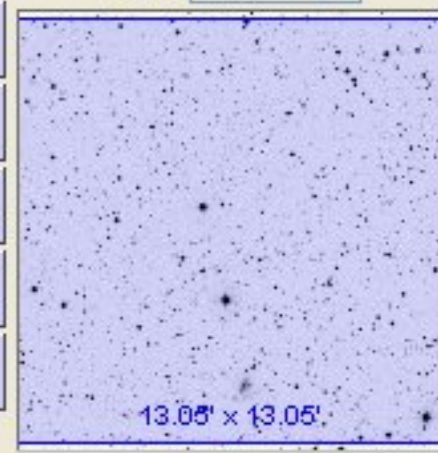
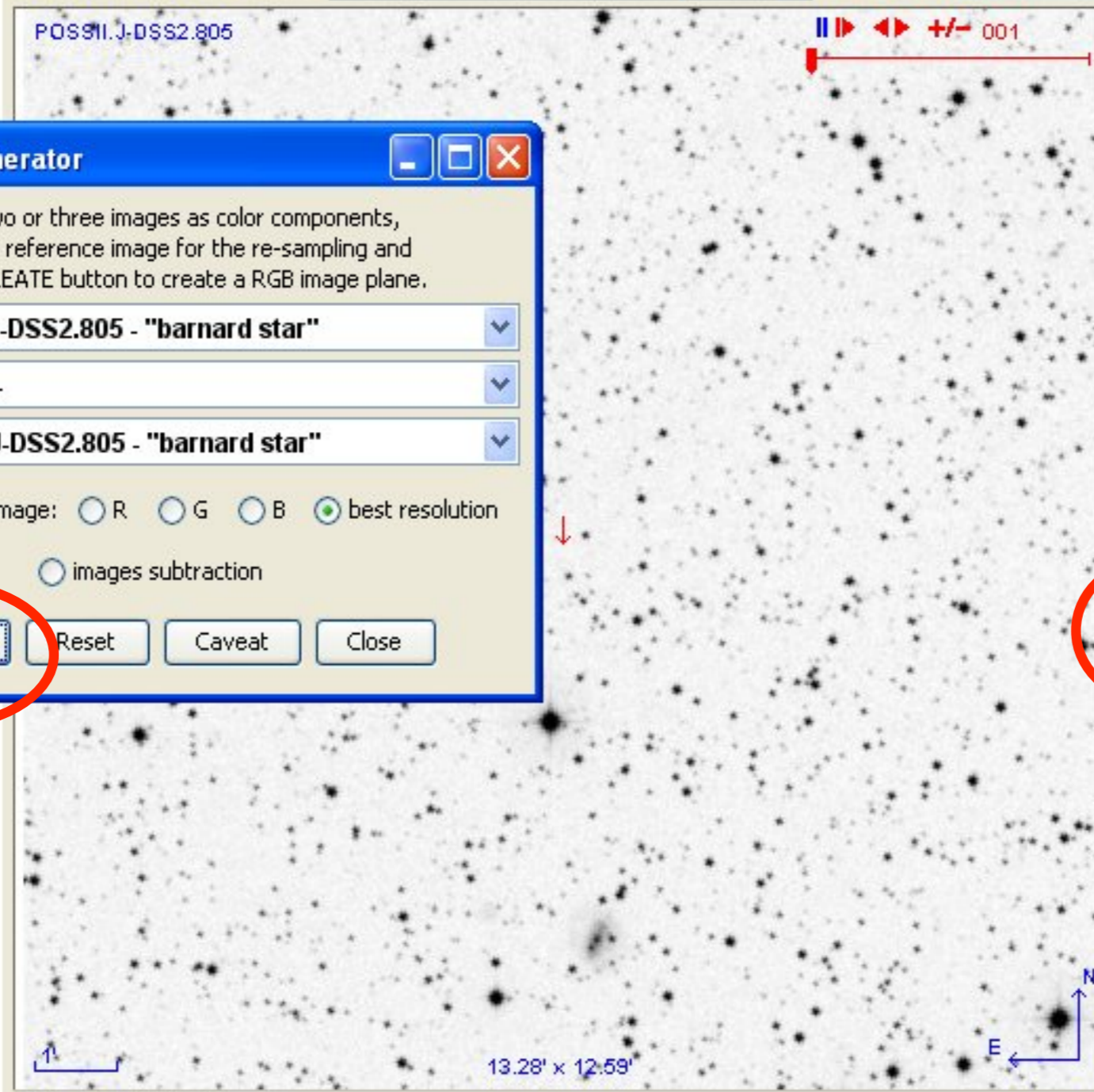
del

Blk img

POSS1.J-DSS2.8

POSS1.F-DSS2.8

Zoom 2/3x



arid multiview match

Search

### Aladin sky atlas

File Edit Image Catalog Overlay Tool View Interop Help Install

Location  ICRS Pixel  full

RGB img

32.18"

4.427 x 4.197

select

pan

zoom

dist

draw

tag

text

filter

cross

rgb

assoc

cont

mgls

pixel

prop

del

↕

barnard star

Drawing 3

RGB img

Blk img

POSSII.J-DSS2.8

POSSII.J-DSS2.8

Zoom 2x

grid multiview match Search

**Server selector**

Others  File  all VO  FOV  SExtractor

Image servers: Aladin images, SkyView, Sloan, MAST, CADC, DSS..., VLA..., Others...

Catalog servers: All VizieR, Surveys, Missions, SIMBAD, NED, SkyBot, Others..

**Surveys in VizieR ?**

Specify a target and a survey name.

Target..... M31   All columns

Survey.....  Radius... 14'

You can pick up a survey name from the list below

Name	Description	Nb of KRows
2MASS-PSC	The 2MASS Point Source Catalogue (2003)	470993
2MASX	The 2MASS Extended Source Catalogue (2003)	1648
CMC14	The Carlsberg Meridian Catalog 14 (-30<Dec<+50)	95858
GSC2.3	The GSC-II Catalog, Version 2.3.2 (2006)	945592
PPMX	Positions and Proper Motions eXtended (2008)	18089
UCAC3	The USNaval CCD Astrograph Catalog (2009)	100765
USNO-A2	The USNO-A2.0 Catalog	526281
USNO-B1	The USNO-B1.0 Catalog	1045913
ASCC-2.5	All-Sky Compiled Catalog of 2.5M* (2003)	2501
Tycho-2	The Tycho-2 Catalog (08-Feb-2000)	2540
B/DENIS	The DENIS database (3rd Release 2005 version)	355220
SDSS-DR7	The SDSS Photometric Catalog, Release 7 (2009)	357175
IRAS	IRAS catalogs	500



Aladin v5.0

File Edit Image Catalog Overlay Tool Help

Location  ICRS Pixel  full

2MASS-PSC

59.7' x 40.66'

28.0' x 28.0'

grid multiview matc

(c)1999-2008 ULP/CNRS - Centre de Donnees astronomiques de Strasbourg

0 sel / 10538 src 22Mb

Catalog Cross-match tool

Positional cross-match: Cross-ID Ellipses

**Positional cross-match**

Only positional offset is used to find the matches.

2MASS-PSC RA RAJ2000 DEC DEJ2000

SDSS-DR7 RA RAJ2000 DEC DEJ2000

Threshold is the source separation in arcsec

0 <= threshold <= 4

**Choose match method**

Best matches

All matches

Sources without match

Advanced options Perform cross-match Close

rgb

assoc

cont

mgls

pixel

prop

del

SDSS-DR7

2MASS-PSC

Zoom 1x

Search

2MASS-PSC

### Properties of the filter "cl=6"

A filter allows you to customize and constrain the display of catalogue planes in Aladin

Properties of the filter

Beginner mode **Advanced mode**

**Choose a predefined filter**

Predefined filters:

**Or enter your own filter definition**

eg:  $\${Bmag} < 10$  {draw red square}

Pick:

$\${cl\_tab2} = 6$  {draw black}

Create a new plane with all filtered sources

### Available columns

**XMatch**

dist	RAJ2000_tab1	DEJ2000_tab1	2MASS_tab1
Jmag_tab1	e_Jmag_tab1	Hmag_tab1	e_Hmag_tab1
Kmag_tab1	e_Kmag_tab1	Qflg_tab1	Rflg_tab1
Bflg_tab1	Cflg_tab1	Xflg_tab1	Aflg_tab1
mode_tab2	cl_tab2	SDSS_tab2	m_SDSS_tab2
zsp_tab2	umag_tab2	gmag_tab2	rmag_tab2
imag_tab2	zmag_tab2	RAJ2000_tab2	DEJ2000_tab2
ObsDate_tab2	Q_tab2		

**SDSS-DR7**

mode	cl	SDSS	m_SDSS
zsp	umag	gmag	rmag
imag	zmag	RAJ2000	DEJ2000
ObsDate	Q		

**2MASS-PSC**

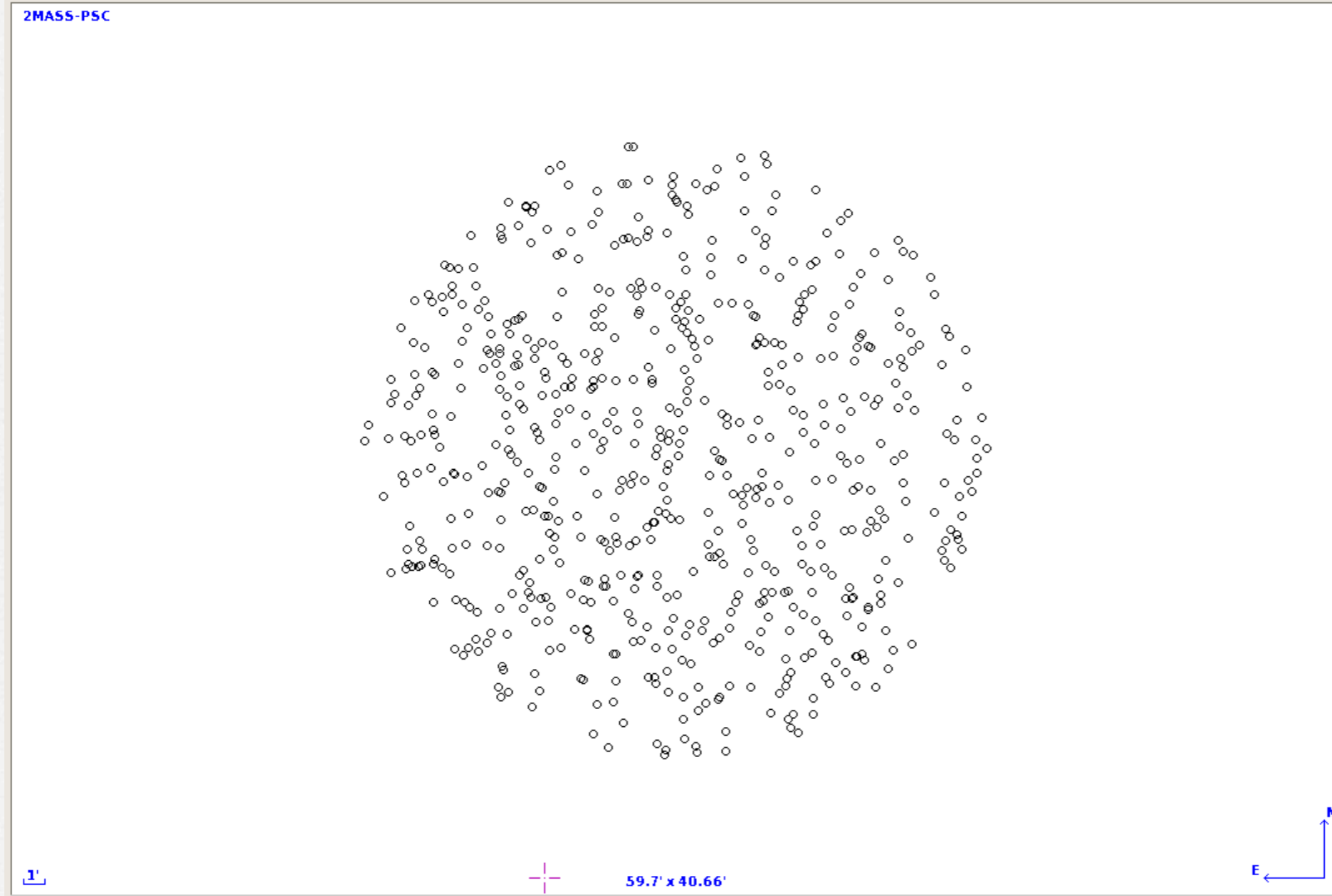
RAJ2000	DEJ2000	2MASS	Jmag
e_Jmag	Hmag	e_Hmag	Kmag
e_Kmag	Qflg	Rflg	Bflg
Cflg	Xflg	Aflg	

select

Eye icon

- 
- 
- 
- 
- 
- 
- 
- 
- 
- 
- 
- 
- 
- 
- 
- 
- cl=6
- XMatch
- SDSS-DR7
- 2MASS-PSC

Zoom 1x



select  
pan  
zoom  
dist  
draw  
tag  
text  
filter  
cross  
rgb  
assoc  
cont  
mlss  
pixel  
prop  
del

cl=6  
 XMatch  
 SDSS-DR7  
 2MASS-PSC

Zoom 1x

**Server selector**

Others File all VO FOV Sextractor

Image servers: Aladin images, SkyView, Sloan, MAST, CADC, DSS..., VLA..., Others...

Catalog servers: All VizieR, Surveys, Missions, SIMBAD, NED, SkyBot, Others..

VO discovery tool

Target..... M31

Radius..... 14'

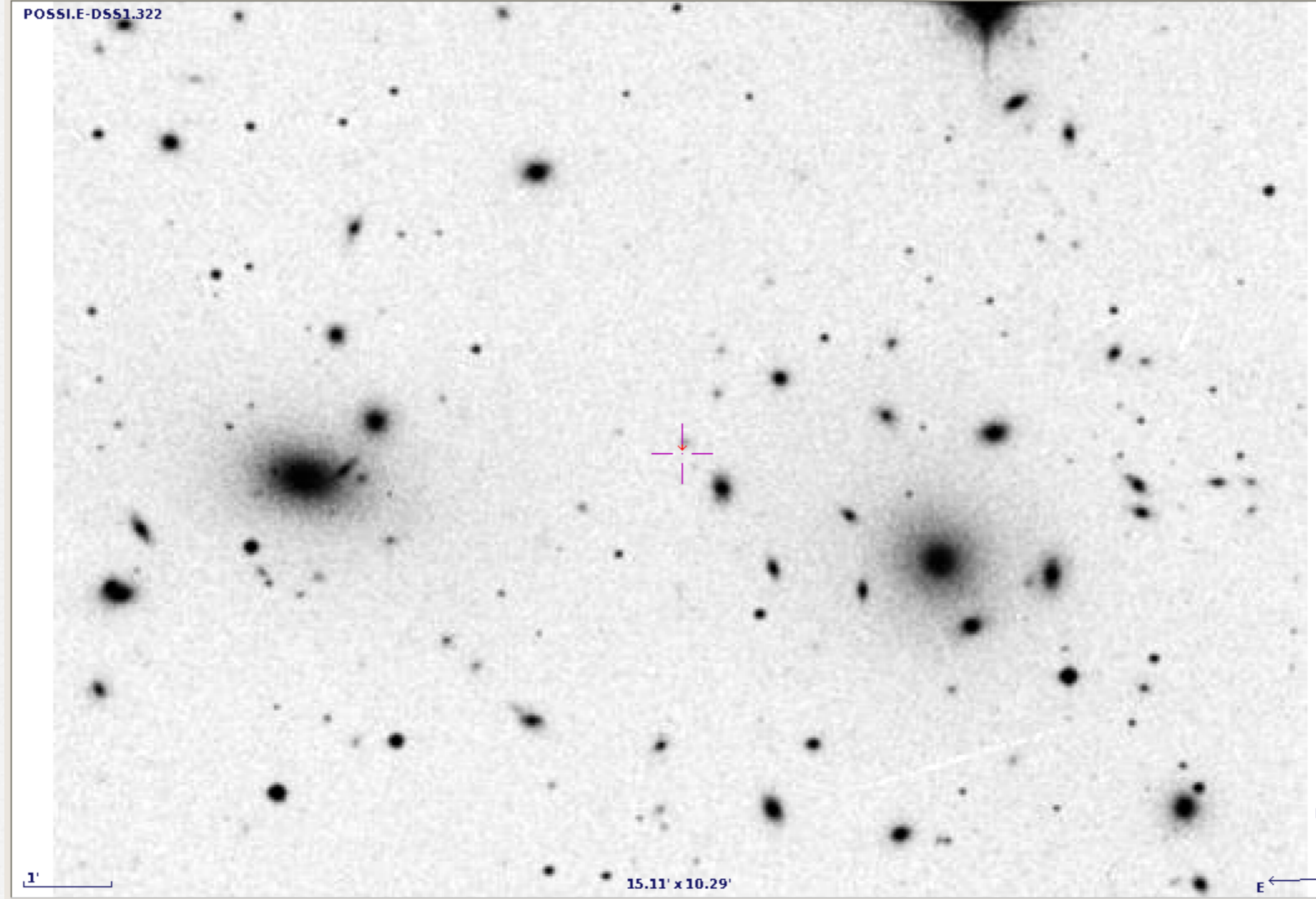
Servers  Images  Catalogs  Spectra

Press it to stop the processing =>

select pan zoom dist draw tag text filter cross rgb assoc

Zoom 1x

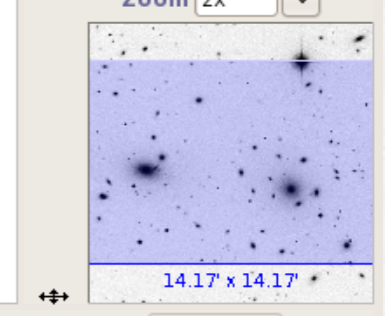
cont mgls pixel prop del



com

- select
- pan
- zoom
- dist
- draw
- tag
- text
- filter
- cross
- rgb
- assoc
- cont
- malss
- pixel
- prop
- POSSI.E-DSS1

Zoom 2x



Aladin v5.0

File Edit Image Catalog Overlay Tool Help

Location  ICRS Pixel  full

POSSIE-DSS1.322

**Server selector**

Others File all VO FOV **SExtractor**

**Image servers**

- Aladin images
- SkyView
- Sloan
- MAST
- CADC
- DSS...
- VLA...
- Others...

**Catalog servers**

- All VizieR
- Surveys
- Missions
- IMBBD
- NED
- SkyBot
- Others..

**S-extractor facility (v2.5.0)** ?

Fill in all these fields and press the SUBMIT button

Image reference ..... POSSIE-DSS1.322

Threshold (x RMS) .... 2.0

Mag Zero point .....

Saturation (ADU) .....

stellar FWHM (arcs... 1.2

Display filter..... Object elongation

INFO on this server

Reset Clear Help **SUBMIT** Close

**coma**

select pan zoom dist draw tag text filter cross rgb assoc cont mlss pixel prop del

Zoom 2x

14.17' x 14.17'

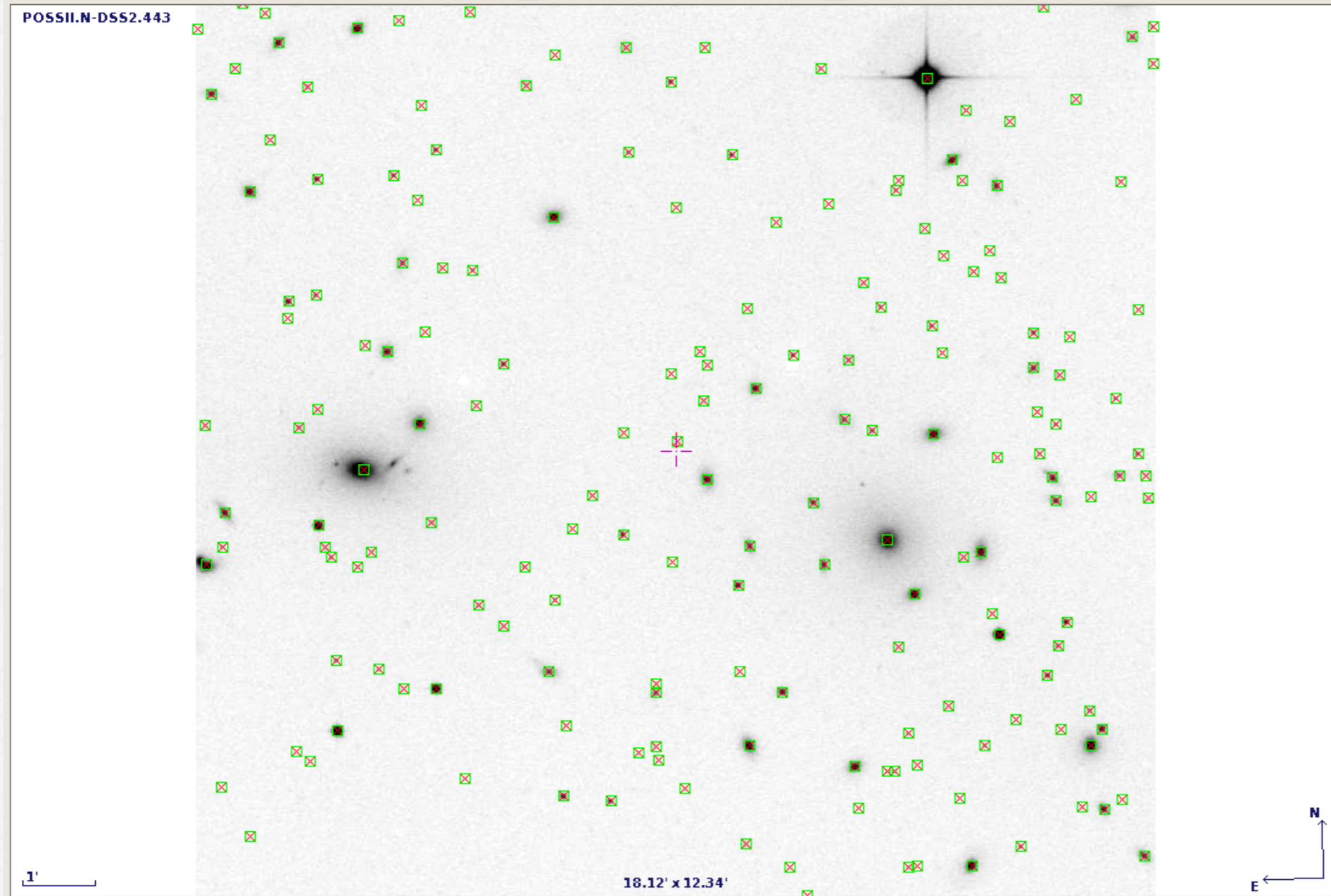
1' 15.11' x 10.29'

grid multiview matc

Search

(c)1999-2008 ULP/CNRS - Centre de Donnees astronomiques de Strasbourg

0 sel / 0 src 17Mb



com

- select
- pan
- zoom
- dist
- draw
- tag
- text
- filter
- cross
- rgb
- assoc
- cont
- mlss
- pixel
- prop
- S-ex POSSII.N
- POSSII.N-DSS

Zoom 1x

NUMBER	MAG ISO	MAGERR ISO	X IMAGE	Y IMAGE	ALPHA J2...	DELTA J2...	A WORLD	B WORLD	THETA WO...	FLAGS	CLASS	STAR
<input type="checkbox"/> 185	-11.3250	0.0453	570.585	45.061	194.8946...	+27.8841...	0.000296...	0.000281...	81.9	0	0.02	
<input type="checkbox"/> 186	-10.3409	0.0901	475.686	45.147	194.9250...	+27.8845...	0.000279...	0.000209...	16.3	0	0.00	
<input type="checkbox"/> 187	-10.1964	0.0931	577.021	45.967	194.8926...	+27.8844...	0.000216...	0.000216...	-22.1	0	0.02	
<input type="checkbox"/> 188	-10.7205	0.0717	489.428	22.379	194.9207...	+27.8780...	0.000357...	0.000213...	35.3	0	0.00	
<input type="checkbox"/> 189	-11.6559	0.0380	292.066	762.681	194.9810...	+28.0883...	0.000331...	0.000298...	48.5	0	0.02	
<input type="checkbox"/> 190	-11.0700	0.0572	673.167	762.504	194.8587...	+28.0869...	0.000326...	0.000264...	-6.0	0	0.01	