

CONFIRMATION OF AN APPARENT SUPERNOVA IN THE HOST GALAXY *ngc6946*

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Summary

Check the apparent supernova (sn2008s) in ngc6946 comparing the image with POSS red, blue and IR

Astrometrical calibration of the image

Coordinates and offset of the supernova

Display the other supernovae in the same galaxy

Display information and bibliographic references of the other supernovae in the same galaxy

Aladin

To load a local image download the “stand alone” version of Aladin from

<http://aladin.u-strasbg.fr/java/nph-aladin.pl?frame=downloading>

Description To run Aladin as an application, you will have to download and install the Aladin java code as it is explained below. Otherwise, to run the applet directly into a browser such as FireFox, Mozilla or Explorer, just use the URL: <http://aladin.u-strasbg.fr/java/nph-aladin.pl> You will find here a [short description of the JAVA concept](#)

Download official Aladin v5.018

Windows: 1) Download it on your desktop
2) That's all

Mac: 1) Download it
2) Open it
3) Copy Aladin.app in your Application folder

Generic: 1) Click on it
2) Follows the instructions...

Web Start: 1) Click on it
2) Follows the instructions...

or Piece by piece:

Aladin.jar	The software
FAQ.html	Frequently Asked Questions
aladin.pdf	User manual

Quick update **Especially for Linux Aladin previous installation:**
Just download the "Aladin.jar" file above and replace it manually in your previous installation.
(not possible with "Aladin.exe" Windows distribution nor with Web Start)

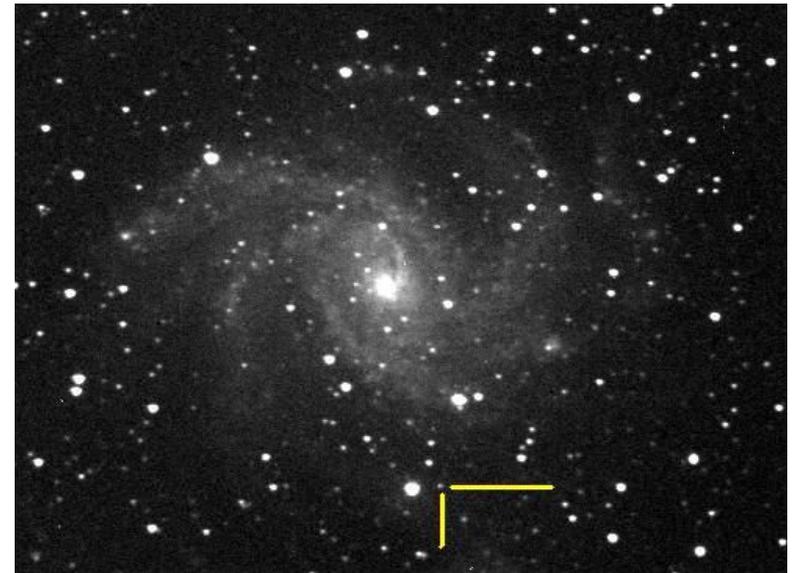
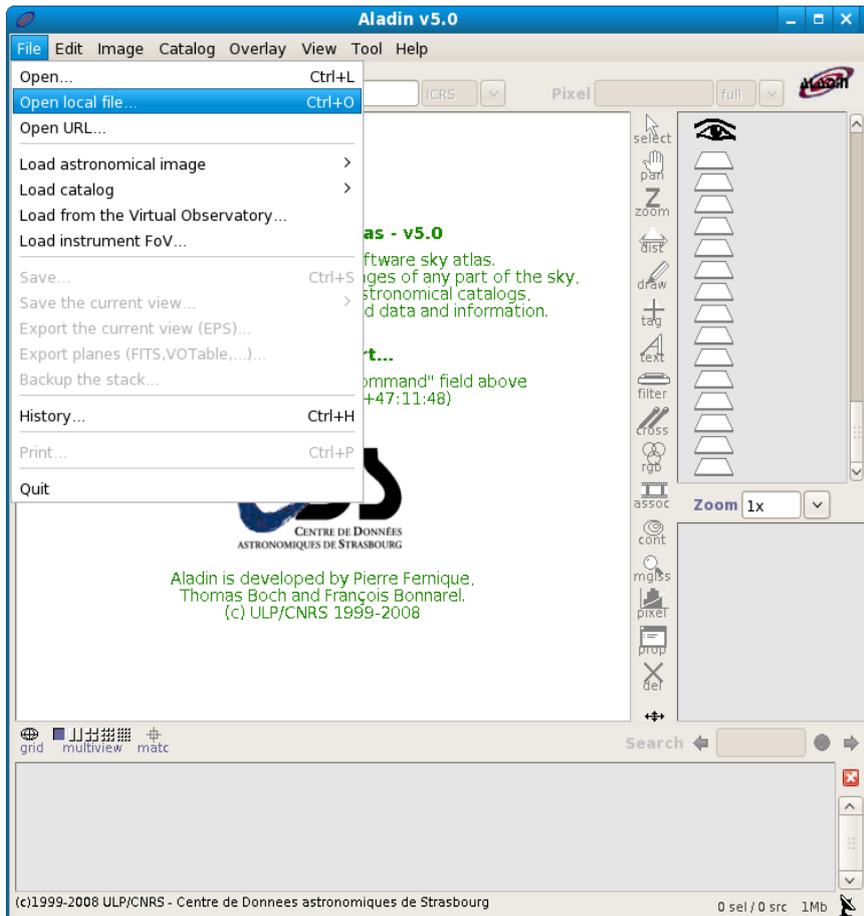
Other Aladin versions [\(Description...\)](#)

Beta version v5.026	AladinBeta.jar
Prototype version based on v5.026	AladinProto.jar + Proto.jar (or via Web Start Aladin-proto.jnlp)
version 4.0 (last AWT GUI)	Aladin4.0.jar
Version 3.6 (JVM 1.2 compatible)	Aladin3.6.jar

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The above copyright notice shall be included.

Load the image to verify

Open in Aladin the image `ngc6946.fits`¹ with the apparent supernova (yellow pointers)



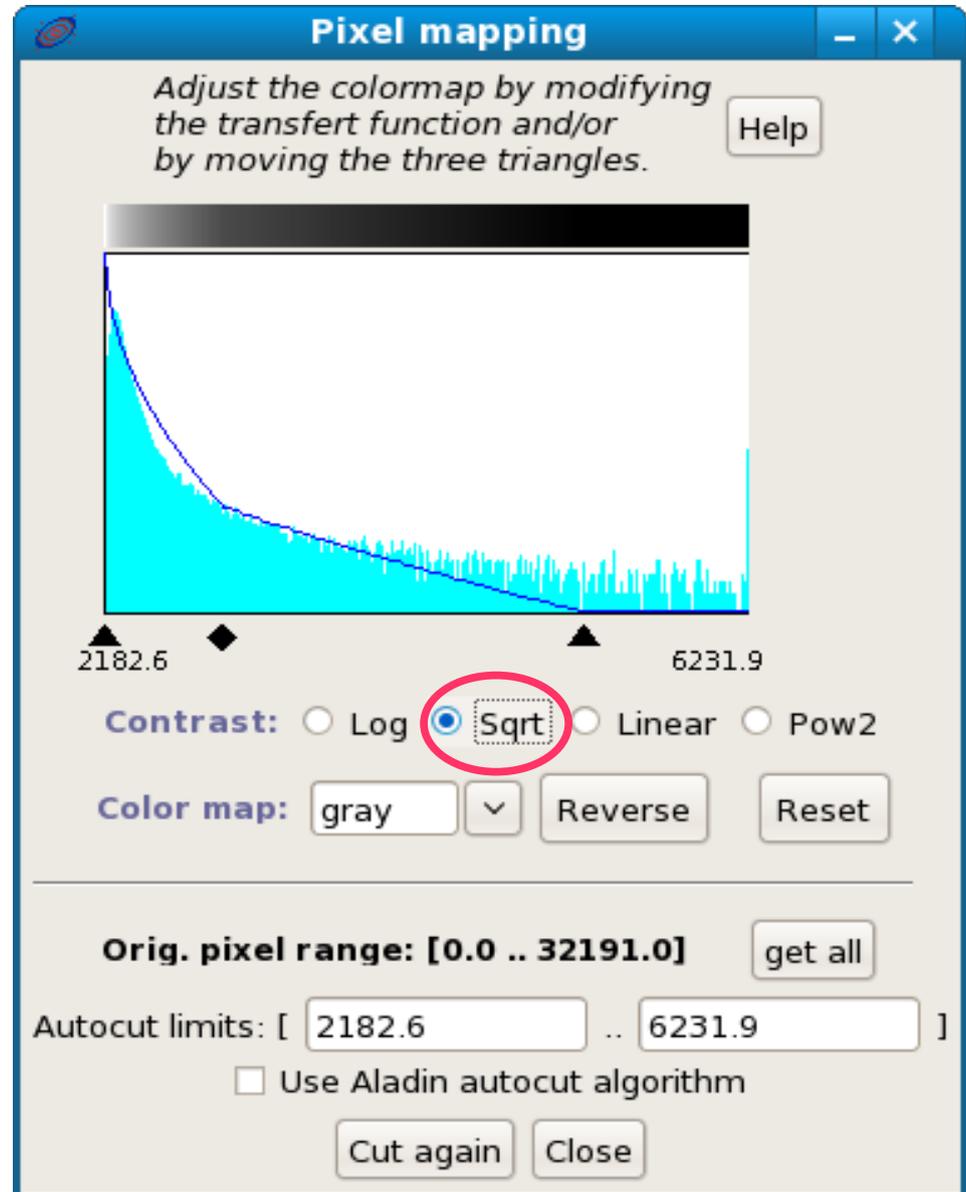
CROSS image – Col drusciè Remote Observatory Supernovae Search – with the apparent supernova

¹ <http://cds.ustrasbg.fr/twikiAIDA/pub/EuroVOAIDA/WP5WorkProgramme/Usecases/ngc6946.fit>

Load the image to verify

In the pixel mapping window (button “*pixel*”) select contrast --> sqrt

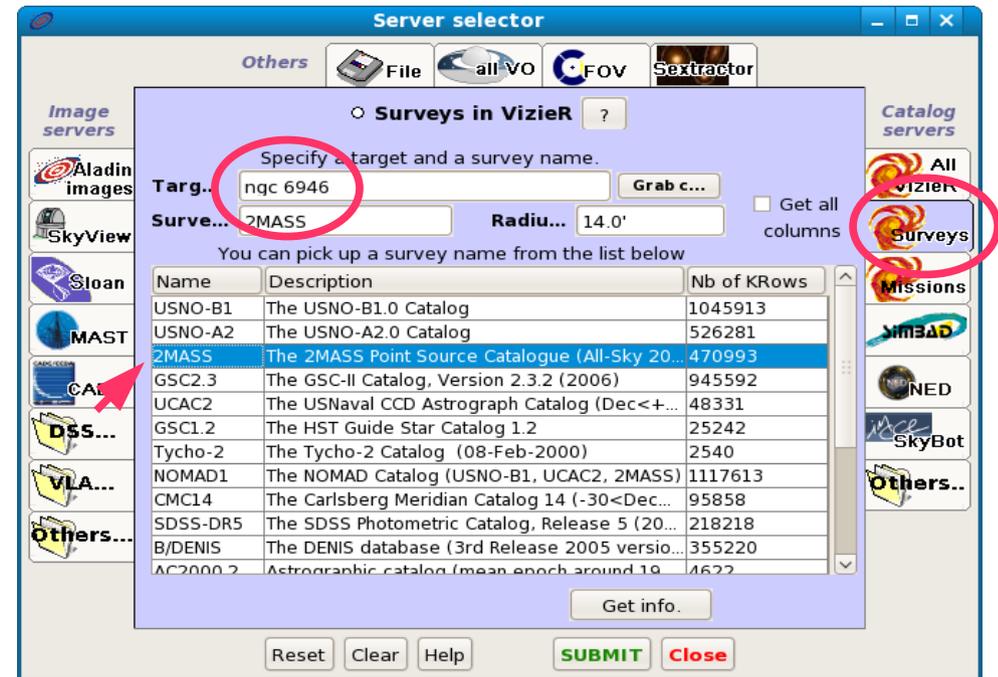
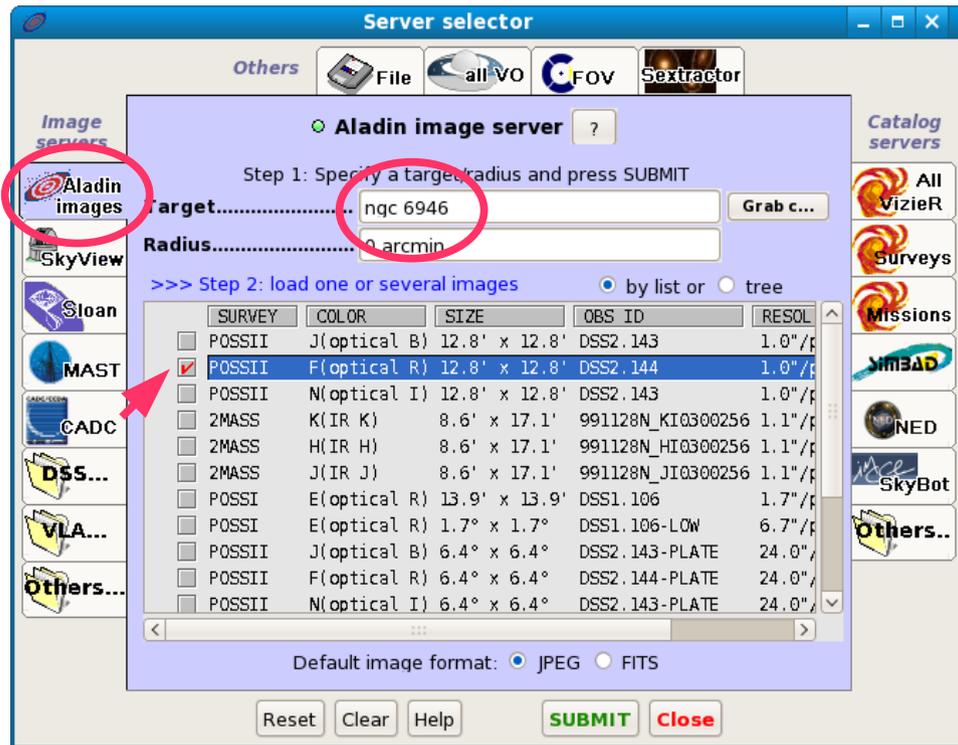
Modify the stretch to obtain a better view of the image



Astrometrical calibration

Load a calibrated image (e.g. POSS red)

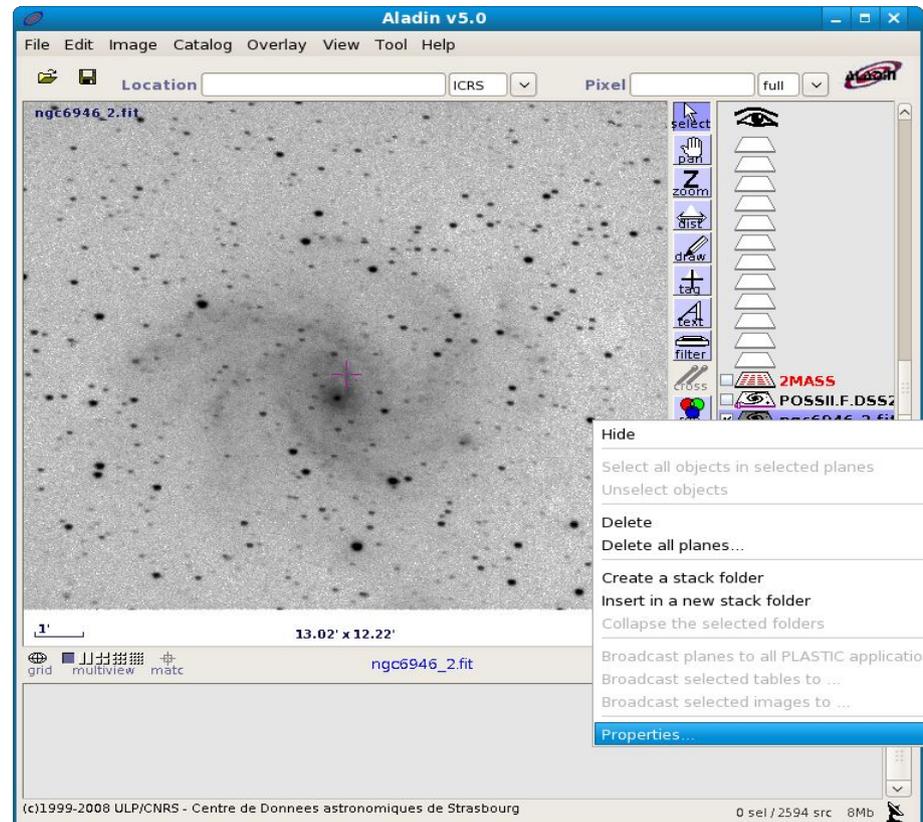
Load a reference catalog (e.g. 2MASS)



Astrometrical calibration

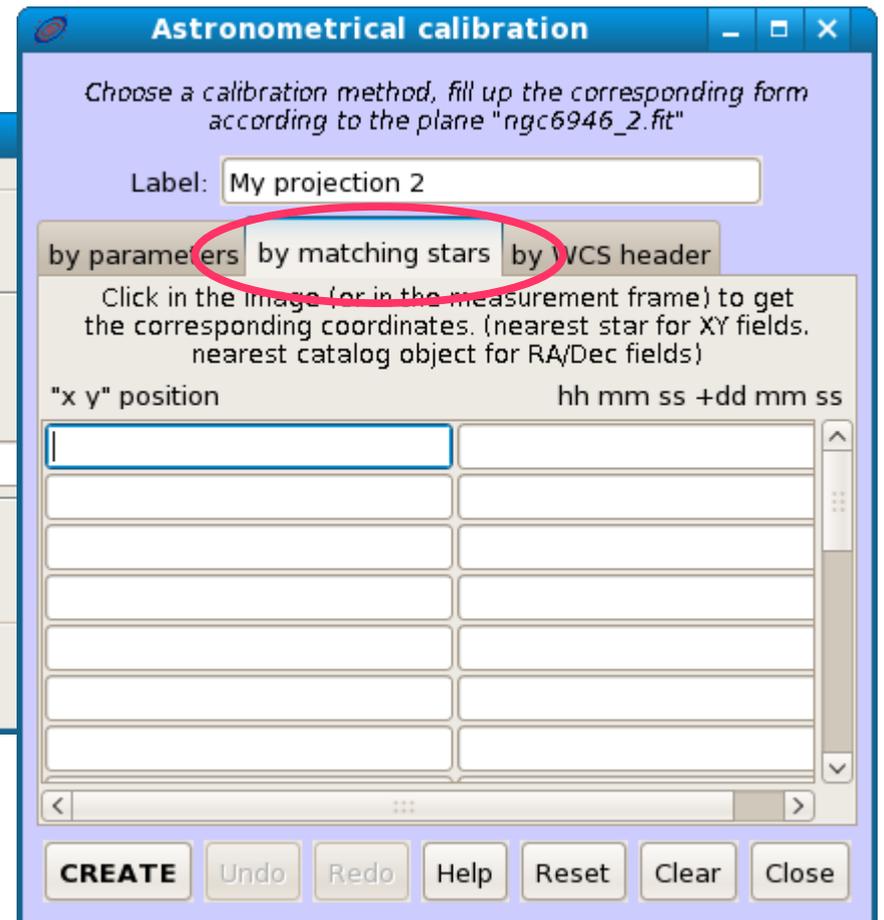
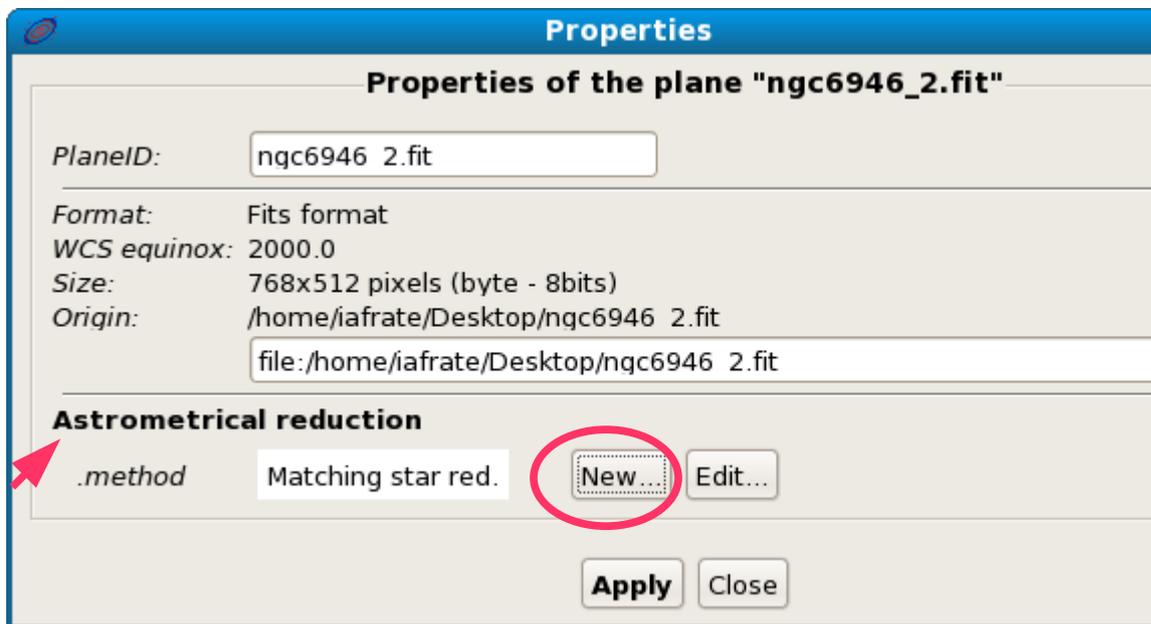
The 2 images and the catalog have been loaded in the Aladin planes

Display the properties of the plane with the image to calibrate (ngc6946.fits)



Astrometrical calibration

In the properties window select *astrometrical reduction* --> *new* --> *by matching stars*

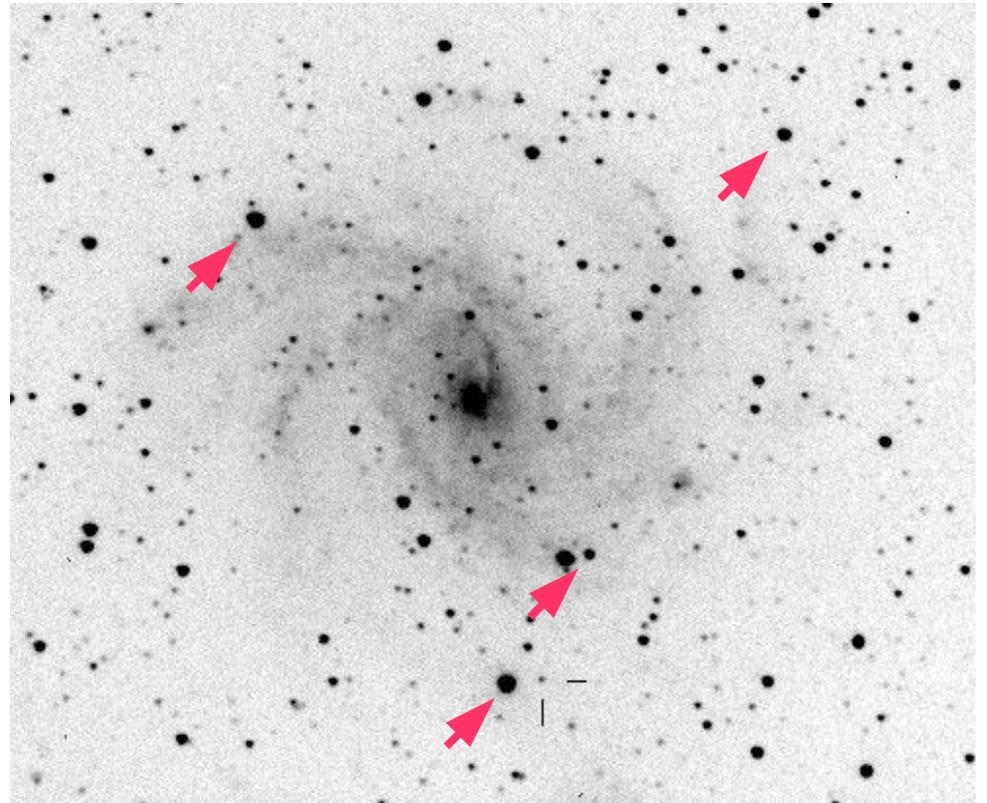


Astrometrical calibration

Insert in the left column the coordinates (x, y) of 3 or 4 stars of the uncalibrated image (ngc6946.fits), by clicking them

Insert in the right column the coordinates (RA, dec) of the same stars of the calibrated image (POSS II), by clicking them

Press "CREATE"

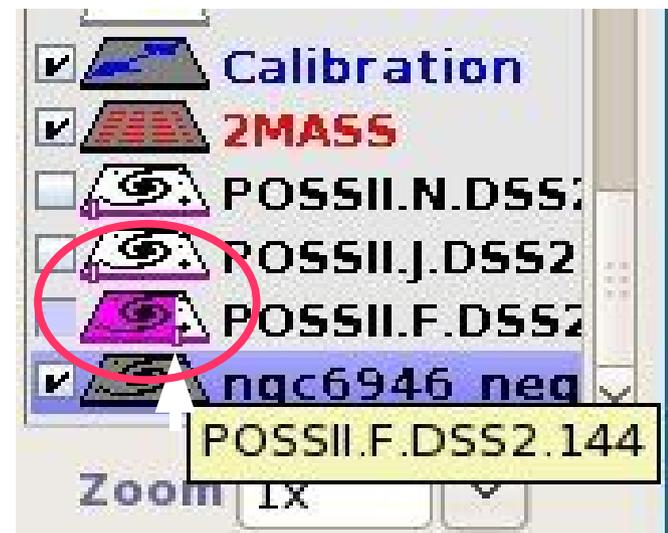


Comparison with POSS red

Now your image is calibrated, you can compare it with the POSS red one

Select the plane `ngc6946.fits`, go to the icon of the plane POSS II red and modify its transparency level (move right the cursor below the icon) to show both images overlaid

Notice that the supernova doesn't appear in the POSS red image



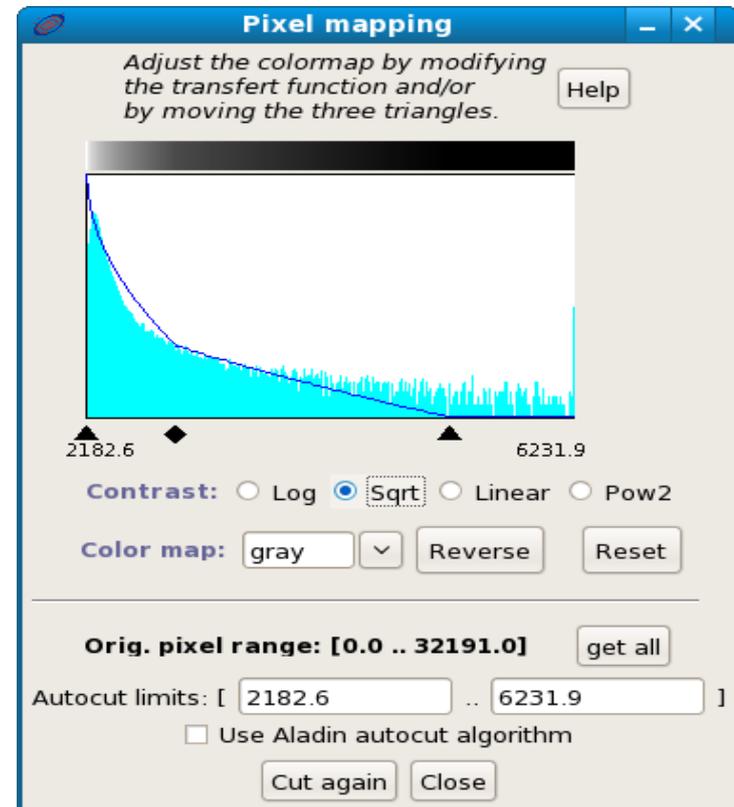
Comparison with POSS red

ALTERNATIVE PROCEDURE FOR IMAGE COMPARISON:

You can create an animation (blink)

Click the button “*assoc*”
and select the 2
images to compare

If necessary modify
the stretch of the 2
images with the
button “*pixel*”

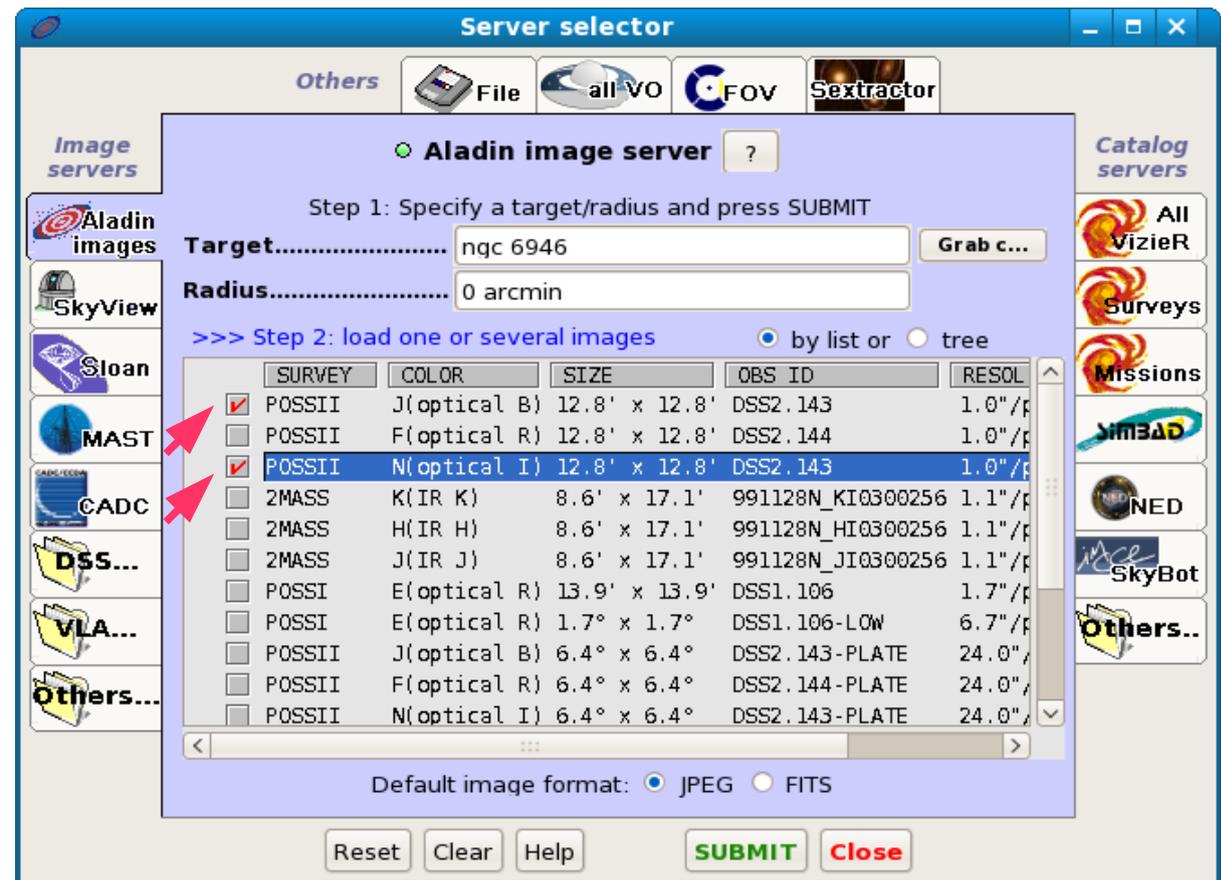


Comparison with POSS blue and IR

Load the images POSS blue and IR

Repeat the procedure of the previous pages to compare them

Note that the supernova doesn't appear in these images either



Coordinates of the supernova

Click on the supernova (in the plane `ngc6946.fits`)

In the field “*command*” are displayed the coordinates of the supernova [20:34:45.45 +60:05:56.5]

The offset from the nucleus of `ngc6946` can be computed from the coordinates or by drawing a distance vector (button “*dist*”)

Dist = 3.31' (RA=51.898") 6.95 s. DE=3.2' PA = 195.2 deg)

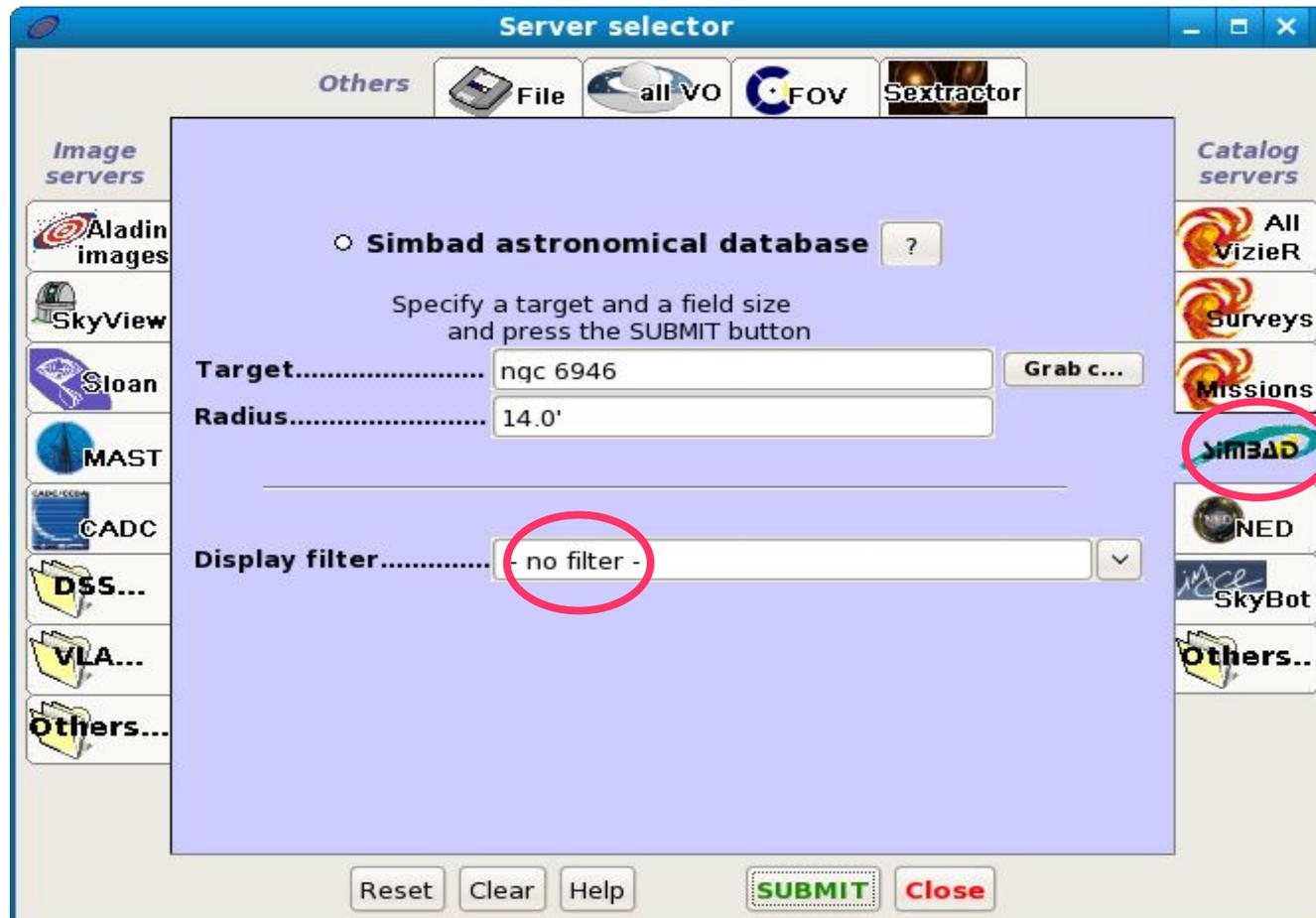
offset



Supernovae in ngc6946

Load the SIMBAD astronomical database

In the field “*display filter*” select -no filter-



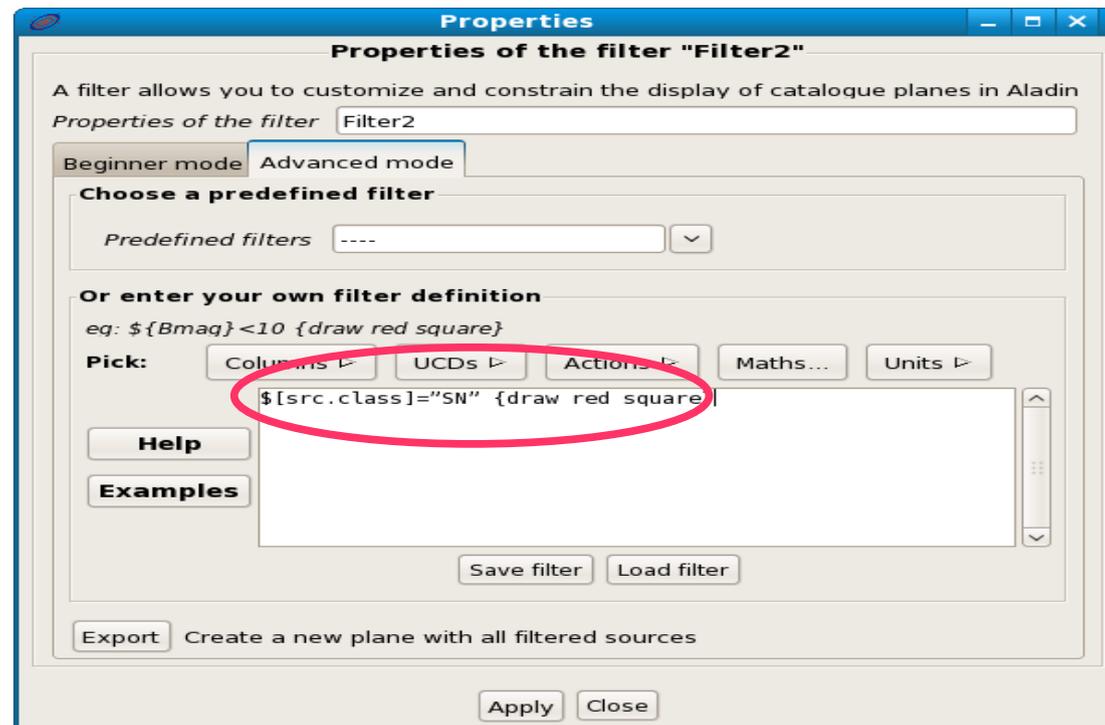
Supernovae in ngc6946

Click the button “*filter*” and switch to the window “*advanced mode*”

Write the following string in the box:

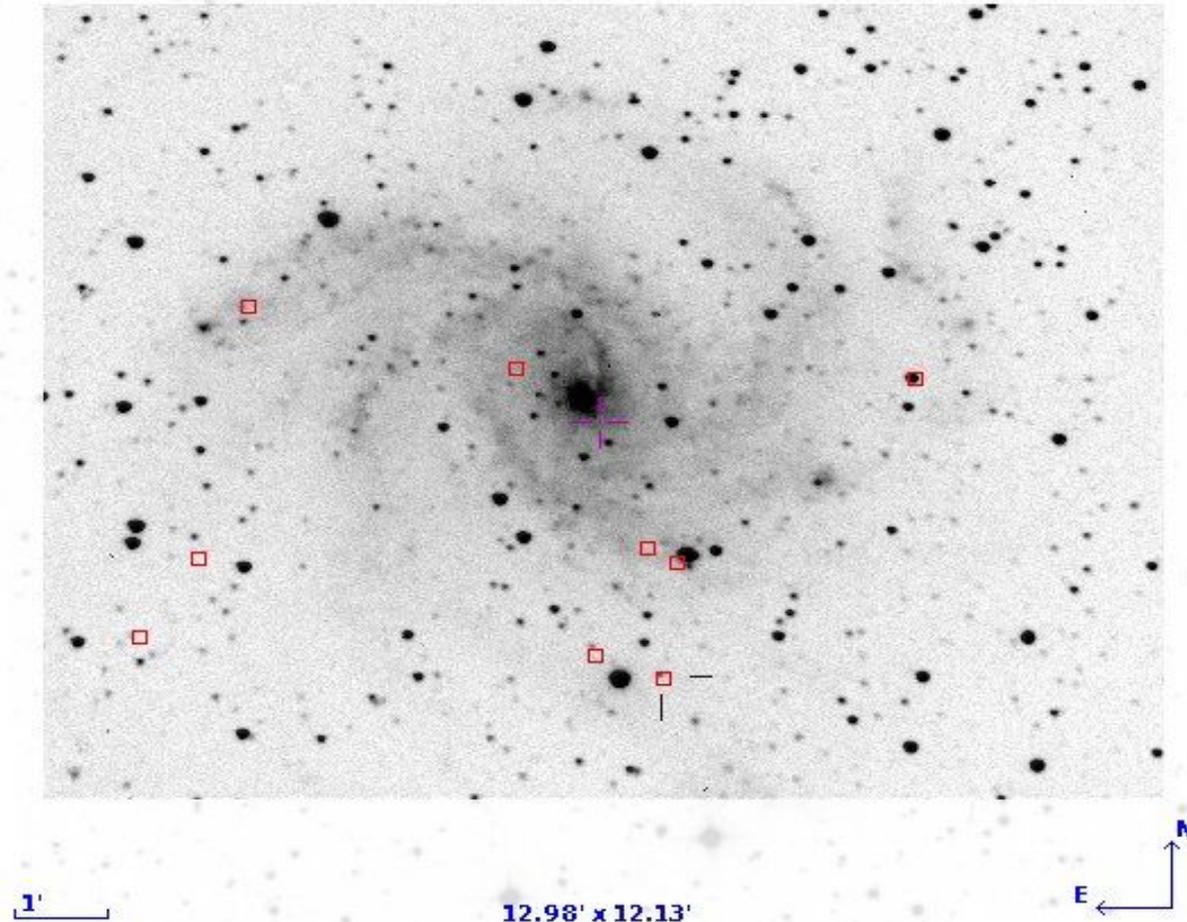
`$[\text{src.class}] = \text{SN}$ {draw red square}`

Click “*apply*”



Supernovae in ngc6946

The 9 supernovae in the galaxy ngc6946 are displayed in the filter plane (red squares)



Supernovae in ngc6946

If you select a supernova its data appear in the measurement window

If you click on its name you open a window in your web browser with the SIMBAD page of the supernova (with information, references, etc.)

MAIN ID	OTYPE	RA	DEC	COO ...	COO ...	C...	PMRA	PMDEC
<input type="checkbox"/> SN 2004ET	SN	20 35 25.33	+60 07 17.7					

Clicca per caricare nel tuo browser i dati correlati

Save your work

File --> Save...

options:

- *Export Planes*, e.g. the plane of the original image with the astrometrical calibration
- *Stack Backup*, save all the planes, included data, catalogs and images in an Aladin file, in order to continue your work later (possibly offline)