


Infrared Astronomy with the Spitzer Space Telescope

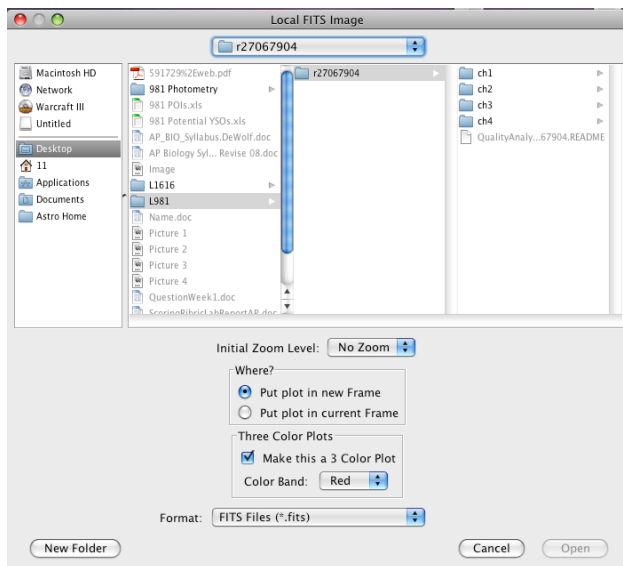
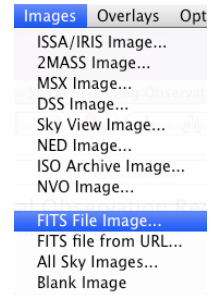
Creating a 3-Color Image of a Target

Introduction

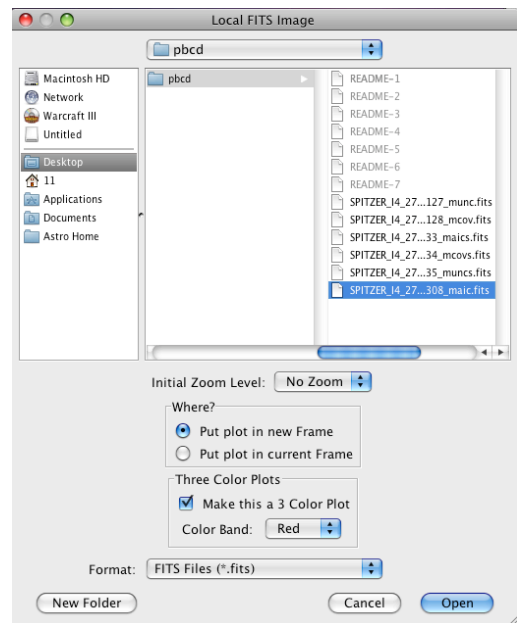
Astronomers – and students – can learn a lot about objects in our universe by looking at images made of them in many different wavelengths. The Spitzer Space Telescope uses infrared regions of the electromagnetic spectrum to explore star formation, search for extra-solar planets, and much, much, more.

Procedure

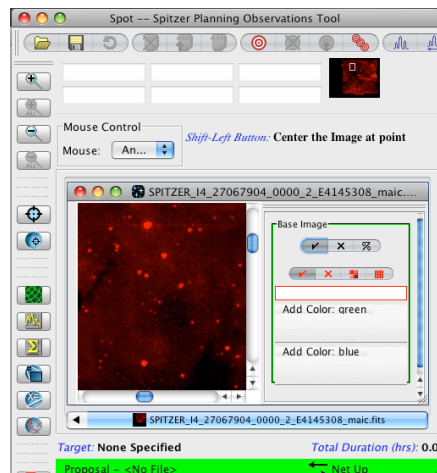
1. Log in on your eMac.
2. Open Spot. 
3. From the menu bar for Spot, choose Images and FITS File Image...
4. A window called Local FITS Image will open. Navigate your way to the L981 folder you created to hold the data you downloaded from the Spitzer Archive for L981.



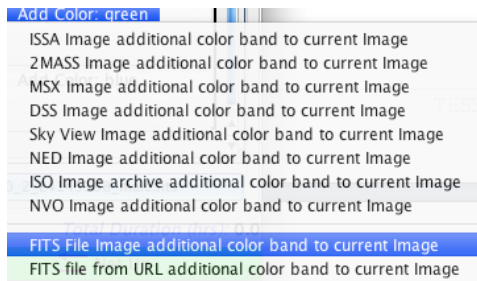
5. Click on the r27067904 folder that holds the data from the IRAC instrument on the SST. Click to check the blue box in the **3 Color Plot area** (bottom center).
6. Click on the Ch 4 folder.
7. Click on the PBCD folder. This folder opens and should see a list of 13 files. The one you want is at the bottom of the list – **SPITZER_14_27...308_maic.fits**
8. Click on this file and then click OPEN.



9. Click on **Add Color:green** in the window that opens.



10. In the window that opens, select FITS file Image additional color band to current image.
11. Go back to the **r27067904** folder. Click on the PBCD folder and open the Ch 3 folder. Select the same bottom maic.fits file.
12. Next, **Add Color: blue**. Repeat the steps above to add the maic.fits file from Ch 2.



That's it – you now have a 3-color image of L981.

This image is a false-color image. We have selected colors to represent the different wavelengths used in IRAC channels 4,3, and 2. We used red to represent the longest wavelength because red light has the longest wavelength in the visible range.

Next we will explore this image to look for strong infrared sources. **Save this image as a FITS file.**

