

## Image J Hints

Where is Image J?

On the class PCs, Image J can be found in *Programs*, under the *Start Menu*

Image J the Program

The program may open up as one window with the toolbar at the top and the telescope images inside or may open up as separate windows for the toolbar, measurement window and each telescope image. It just depends on which operating system you have.

Adjusting your image

Bring up the *Adjust Brightness/Contrast* window. Find it under the *Image Menu*

You can also try *Log* to bring out details. Find it under the *Process Menu*, under *Math*

If you need to re-orient your image (turn it), use the commands under *Rotate* (For mac *Transform*), under the *Image Menu*

Change the color by choosing one of the colors under the *Lookup Tables*. Find it under *Image Menu*. Don't forget to try *Invert LUT*.

Enlarge your image by using the magnifying glass on the toolbar.

Finding information about your image

Use the *Show Info* command under the *Image Menu* to open a window that has information about your image such as the date, the exposure time, the filter, etc.

Measuring brightness

On the toolbar, click the arrows to load the *Astronomy Tools*. New tool icons will show up. The circle tool is the *Aperture Photometry Toll*. The circle is pre set. To change the size of the circle (radius of the circle) right click (control-click on a mac). The object aperture is the size of the measurement circle. You want this to be just big enough to capture your object's light. The background annulus sets a circle around your measurement circle to measure the background sky. This is subtracted from your measurement. You can adjust any of these radii.

Measurement window

Use the *Source-Sky* measurements. This measurement has the subtracted the background sky already.

3 D images of brightness

*Surface plot*, under the *Analyze Menu*, will give you a 3D plot of the brightness. Draw a square around the area you want to investigate. *Plot profile* gives a 2D view.

Making a movie of several images (good for moving objects like asteroids or moons)

Open all the images you want to include. Under the *Image Menu* go to *Stacks*. Then choose *Images to Stack*. You can animate your stack by choosing *Tools* in the *Stacks* submenu. Then use the *Animation* commands.