



FAULKES TELESCOPE

Astronomical Imaging

LRGB Imaging

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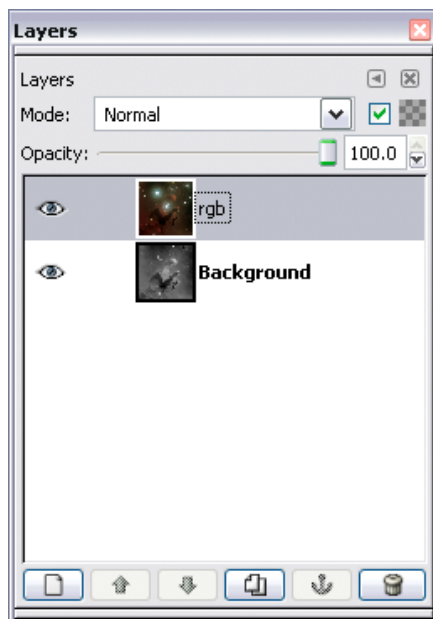
Getting Started

You will need a normal RGB image and a Hydrogen-Alpha image of the same object. You can create these yourself or download the packages that come with this course.

This technique works most effectively with nebulae.

Adding the Luminance

In the GIMPshop or GIMP, open your RGB and H-Alpha image. Select and copy your RGB image and paste it on top of the H-Alpha image.

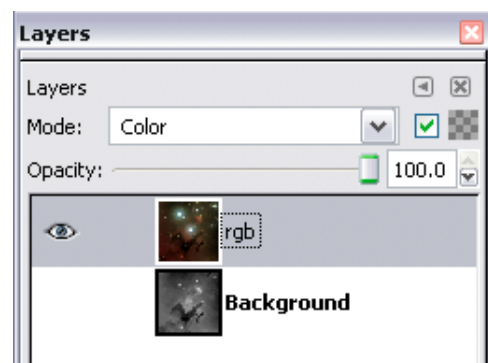
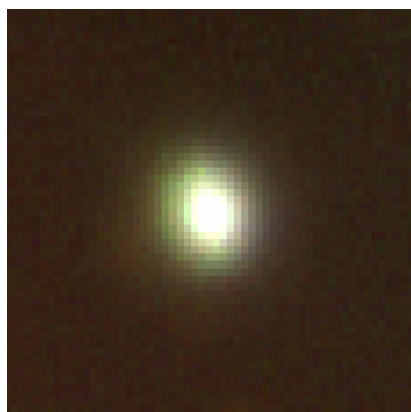


Then change the blending mode of the RGB from Normal to **Color**.

Use the zoom and move tools to align the RGB and H-Alpha images, and crop the image if you have to, to clean up the edges.

You can probably see that the stars are suffering from a strange halo effect, this is because the RGB stars are so much larger than the H-Alpha stars. Also, because the H-Alpha stars are perfectly white, smaller and sharper - they are much better to use than the larger, blotchy RGB stars. So you are going to erase the stars from the RGB image, thus leaving behind just the H-Alpha stars.

This process is quite time consuming, but it's well worth the effort. Make the H-Alpha layer invisible in the layers window, then zoom in on a star.



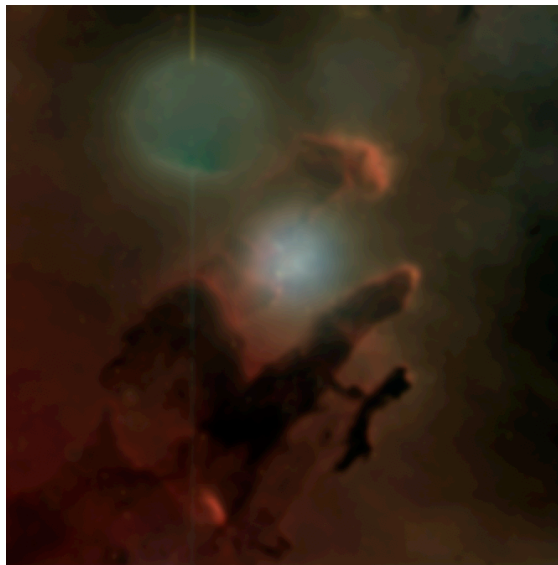
Now select the **Clone Stamp Tool**.



Select a large brush size, then sample some of the space surrounding the star. You do this by holding the **Ctrl** key and clicking the mouse button on some blank space, release the Ctrl key, then paint over the star using the left mouse button. This should copy the pixels you sampled from the surrounding space, over the star.

Finally, blur the RGB layer by going to **Filter > Blur > Gaussian Blur** and select a **Blur Radius** between **5** and **10**. The aim of the blur is to remove the noise in the RGB image and the artifacts left over from the star erasing.

Your image should look something like this.



Now make the H-Alpha layer visible again.



Colour Adjustments

Under the **Image > Adjustments** menu, there are many tools for adjusting the colour of the image, **levels**, **curves** and **colour balance** are useful tools. Because these are colour related, make sure you have the RGB image selected in the layers window.

Adjustments you can make to the H-Alpha image include **Brightness-Contrast** (in the Image > Adjustments menu), and an **Unsharp Mask** filter (Filter > Enhance > Unsharp Mask). A **Radius of 2**, an **Amount of 0.50** and **Threshold of 0** should be sufficient.



Normal RGB Image



Final LRGB Image

When you're happy with your final image, go to **Layer > Flatten Image** to merge the RGB and H-Alpha layers.

N.B. Make sure you have made all the adjustments you want, after this action you can no longer manipulate the individual layers.

Save your image by going to **File > Save As**.