

# Photoshop basics for astrophotography

---

## Introduction

Here's a small astrophotography tutorial for astrophotography. I found it difficult for myself to start editing astrophotographs with photoshop, as I understood very little of photoshop. So here you can find the step by step instructions. Someone who doesn't know photoshop will understand this (I hope so :)

The tutorial is about removing light pollution and uneven field illumination. Here's the example we will work with:



Here's what we need to do:

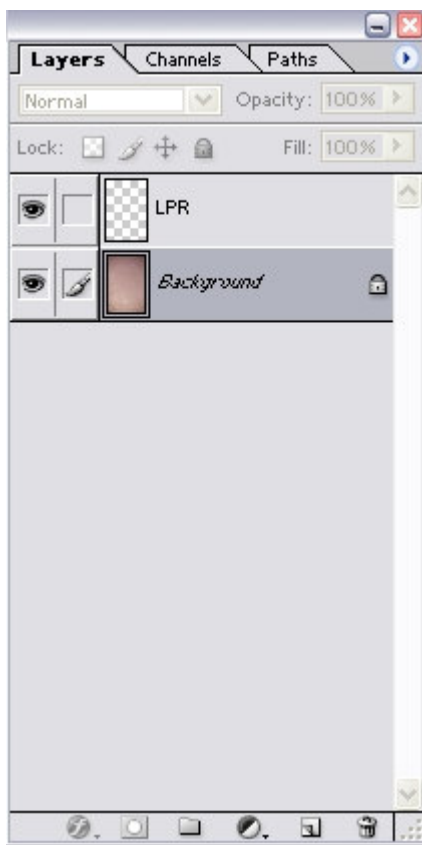
1. Create a new layer, called 'LPR'
2. Apply Gaussian blur to new layer
3. Invert new layer, change opacity
4. Contrast change

### 1. Create new layer

Easy: menu: **Layer > New > Layer...**

Call the new layer 'LPR' (actually the name doesn't matter).

Now select back the background layer: click on Background in the layers tab



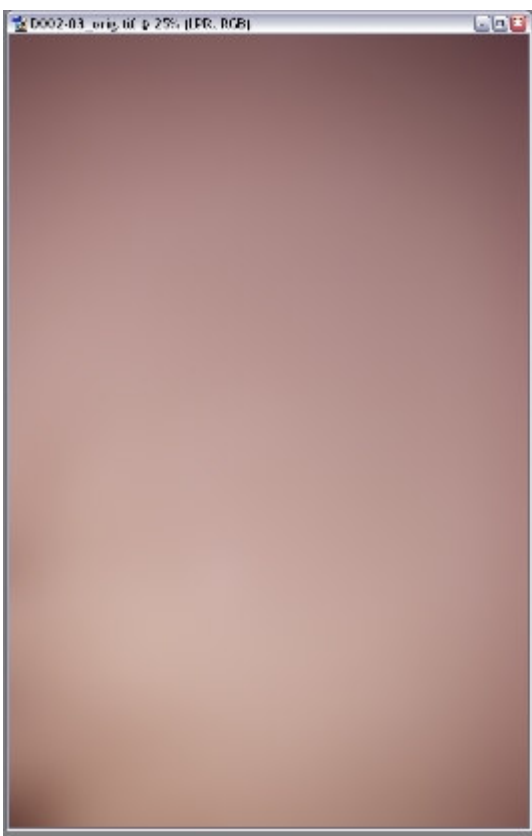
Press Ctrl-A (to select the whole background layer image), then Ctrl-C (to copy the whole image)  
Now select the LPR layer (as you selected the background layer) and press Ctrl-V (paste the whole image in the LPR layer).

Now we've got two layers, with in each layer the same, original photograph.

## 2. Gaussian blur

This is to remove all the stars from the LPR layer image, so you don't see any detail in it anymore.  
Menu: **Filter > Blur > Gaussian Blur...**

Experiment with the new dialog so you just don't see the stars anymore, I set the radius to 95 pixels.  
You set get something like this (depening on your original image)



### 3. Inverting the layer, set opacity

Now you should invert the LPR layer: Menu: **Image > Adjustments > Invert**  
You should now see the LPR layer in negative colors:



Now set the opacity for the LPR layer:



Experiment with the value, but it should be around 50%. Look at your photograph, you should get an even grey thing, like this:



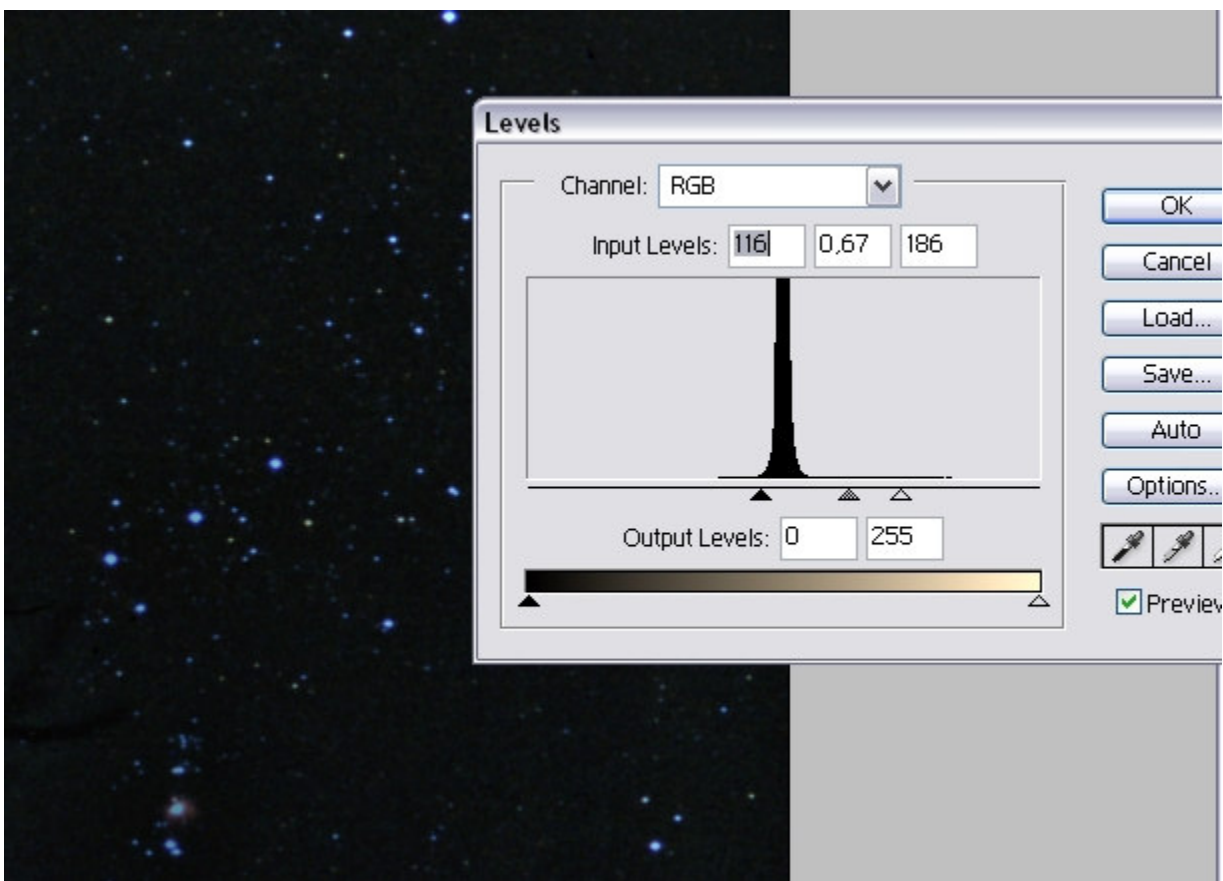
If you see the image background is very even grey, you should join the 2 layers: Menu: **Layer > Flatten Image**

### 3. Adjusting contrast, brightness, color, ...

Now the final touch, which should be done carefully. You should get realistic colors for the stars, a black sky and no CCD/scanner artifacts.

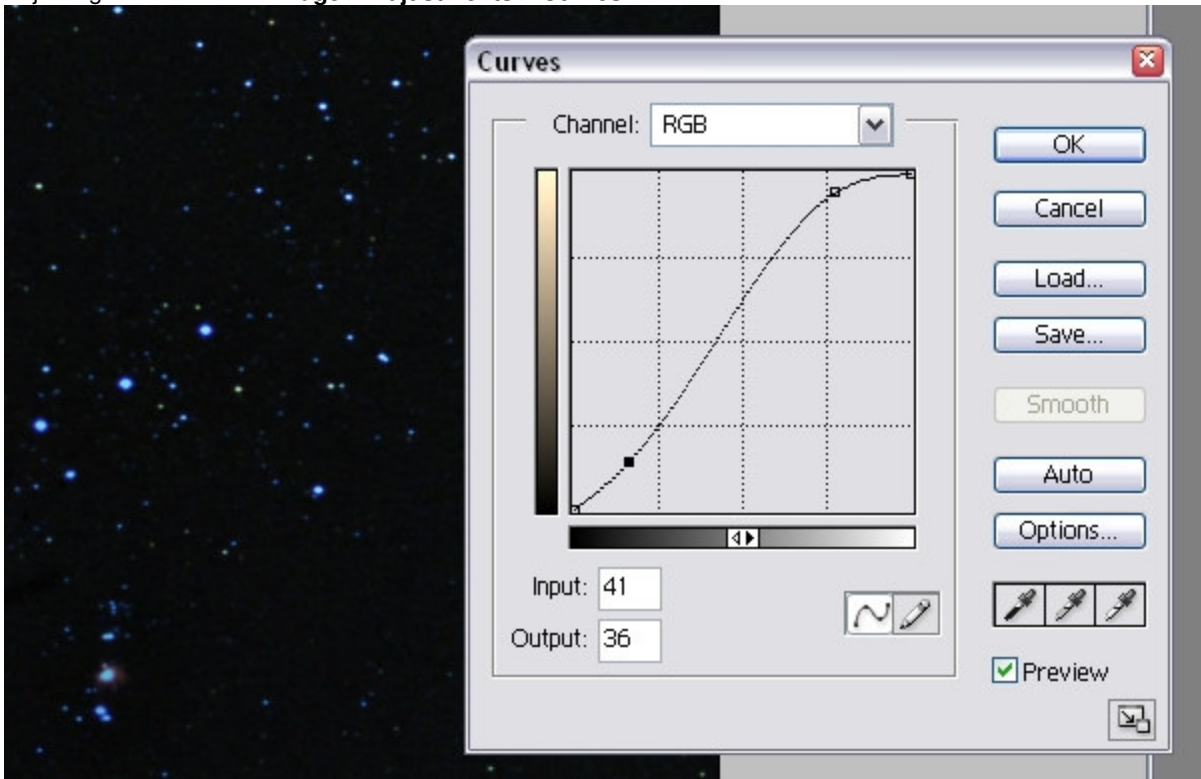
Experiment with all things mentioned here, until you're happy with the final result.

- Play around with levels: Menu: **Image > Adjustments > Levels:**



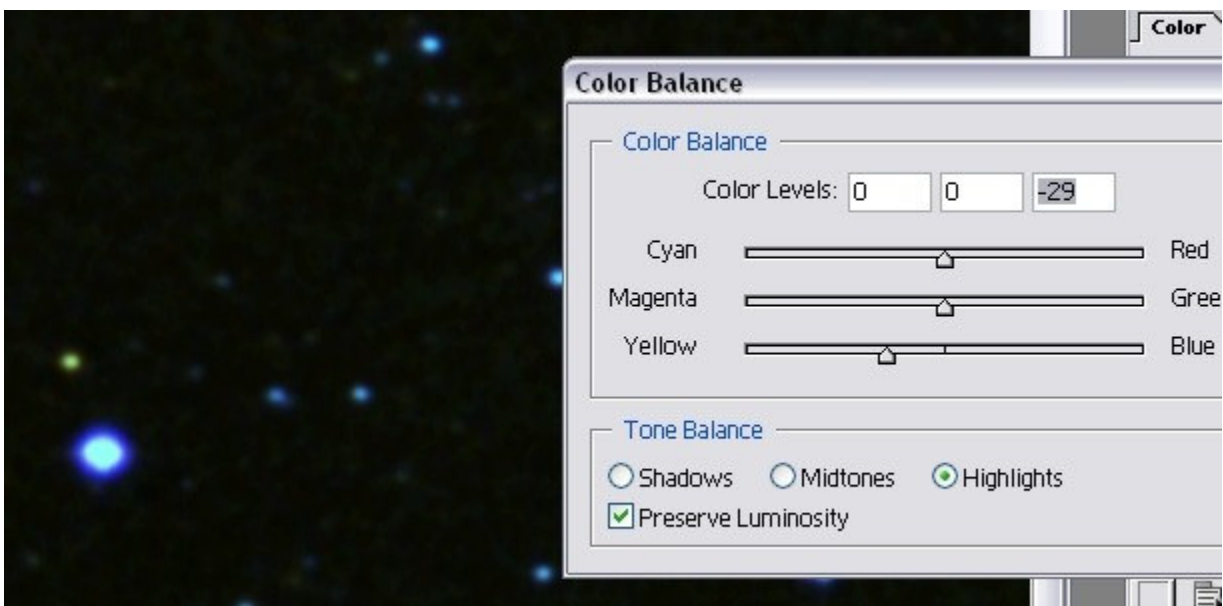
See what results you can get by experimenting with the slides (the 3 arrows)  
 The strange thing is that I get blue stars :p

- Adjusting Curves: Menu: **Image > Adjustments > Curves**



Be careful here, so you don't remove the faintest stars!

- Adjusting the color  
 As you see, I get blue stars. You should change the color balance (if necessary!): Menu: **Image > Adjustments > Color Balance**



To remove the blue from the stars, I had to select 'Highlights', and remove blue by sliding the arrow to yellow (away from blue).

Experiment with the color balance to see the best results!

- Sharpening: Menu: **Filter > Sharpen > Unsharp Mask**  
Experiment with this, don't go too far, you may destroy your photograph.

By doing this whole proces again, I got a better final result for my photograph :-)



1'15" piggyback shot, manually guided. 85mm f/1.8 Nikor lens @ f/2.4; Nikon F-50  
Film: Agfa RSX II 135 pro (200 asa).

Good luck and clear skies!!!

Pieter Tieghem

pieter.tieghem@tiscali.be

