Creating A Colorful Cosmos (RGB Image Processing)



Create a true-color image with MicroObservatory by combining three separate telescope images in the JS9-4L image processor. One image taken through each of the telescope filters: red, green, and blue.



In this list of 3 Dumbbell Nebula images

1st is Red filter, 2nd is Green, 3rd Blue

MicroObservatory

for everyone!

umbbellNebu161018025132

mbbellNebu16101802573 IrregularGal161017120134 IrregularGal161017120636 IrregularGal161017121123 larGal16101712132

DumbbellNebu161018025435

Before you start: Close the Lagoon Nebula image that automatically opens in the JS9-4L window. ("My list" --> click on the X)

Step 1: Open 3 images of the same object

One taken with the Red filter one take with the Green, and one taken with the Blue

In the archived image list, typically the first 3 images of any object are in the order R-G-B



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Step 2: Enhance each black & white image to show as much detail as possible.

- a. Click "Scale" --> Log
- b. Set "Low Brightness Limit" to pixel value of the lower-left corner of image (dark night sky)
- c. Slide "High Brightness Limit" down to value that looks good to you
- d. Use "Stretch" and "Shift" to make fine adjustments
- e. Repeat for each of the 3 images, using "My List" to switch between them

Step 3: Colorize images

Make sure you know which image is R, G, B (check "Image --> Display FITS Header")

- a. Set the "Color" map for the Red filter image to Red, Green filter image to Green, Blue filter image to Blue
- b. Click on "Color" --> RGB Mode to see all 3 images added together

Step 4: Align Images

If needed, use "Tool" --> "Shift" to align images with each other

Step 5: Label your Image Use "Region" --> "Text"

Step 6: Save as PNG