

Imaging Deep Sky Objects

Background: Deep sky objects are those extended objects outside the solar system. One of the most useful sources of these objects is the Messier List. This was compiled by Charles Messier in the _____ century as a list of “non-comets” and so objects he wanted to avoid, since he was a comet hunter. Traditionally the first person to find a comet got his/her name on it, and he badly wanted a “Comet Messier.” Eventually he succeeded in finding a comet with the help of his list of avoidable faint fuzzy things.

There are about 103 objects in the Messier list. Many of them are clusters of stars, either sparse “open clusters” or more star-rich compact “globular clusters.” About one third of the Messier objects are galaxies external to the Milky Way. In _____ Edwin Hubble classified galaxies into three categories:

Procedure:

1. Go to seds.org/messier/CONindex4.html

Make a table and list all the Messier objects in your constellation and describe them.

2. Choose one of these objects to photograph. Tell which object you chose and why you picked it. You will take a sequence of images and then later combine the good ones into a final product.
3. In Maxim DL, turn on the camera if necessary. (Go to View, CCD Window. Connect to the SBIG-ST-8 CCD camera (it is in the 7-10 range), turn on the cooler.)
4. Find the object with the telescope and center it in the camera’s field of view.

Go to Settings and choose 3x3 binning, Auto Calibration = None.

Go to Sequence, type a filename (such as M15_25nov08), Number = 20 (for 20 exposures), Start at = 1. Setpath = Maxim DL 3, folder = M15Globular or some such sensible folder to save your images in.

Click this box’s Setup , and in the first line only check Enable, Filter = Light, Exposure = 7 seconds, binning = 3, Delay first = 0, Delay between = 0.

5. Go to Expose, set Seconds = 7, delay = 0, and click Expose to check that your object is still centered in the camera’s view. If 7 seconds is too short to show an image, then change the times to 20 seconds and try again.

Return to Sequence and click Start to begin taking your 20 images. (Go inside to get warm, but keep the telescope and laptop in view for security.)