Independent Observing Project Description
ASTR:1070 (Stars, Galaxies, and the Universe) Lab

For your observing project, you will document your study of an astronomical object in greater detail than we've done in in lab, taking on the role of an amateur astronomer. In science, we strive to explain how we collected our data and how we analyzed it as clearly as possible. This is so that other scientists can reperform our experiment and (hopefully!) confirm our results. We communicate how we collected the observations, analyzed the data, and arrived at a conclusion as part of a publication in scientific journals. Professional journals are "peer-reviewed", meaning they are vetted by other scientists for clarity and correctness. *A goal throughout your final project is to offer enough details that your work could be peer-reviewed – if a classmate looked at your paper or presentation, they should follow it closely enough to be able to reproduce your work.*

For your project, select an object from the list below. Every group must pick a different object. You will then examine observational data of that object taken with the MACRO Robert L. Mutel Telescope. The pixel scale of each image from the RLMT is 0.54"/pix. You will then produce a tri-color image with the help of the labs performed in class. You'll lastly make a calculation based on that data, and report your results to the class and your instructor.

Table 1: Potential Objects to be Studied --

OBJECT TYPE	OBJECT OPTIONS	CALCULATION, DATA PRODUCT
NEBULA	- Messier 1 - Messier 16 - Messier 27 - Messier 42 - NGC 6888 - NGC 6992	Tri-color Image, Physical Size
GALAXY	- Messier 31 - Messier 51 - Messier 81 - Messier 82	Tri-color Image, Physical Size
STAR CLUSTER	- Messier 13	Tri-color Image, Physical Size