

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

Your independent observing project paper represents 20% of your lab grade, and is due at the start of class during your lab section the week of Apr. 22th.

Your paper should be 3 pages in length (single spaced, 12 pt. font) with a figure.

Your paper should contain:

- **Background related to your object**
 - Possible topics: historical discovery, when to observe it, what constellation it is in, could you observe it with your eyes, other names for the object, interesting discoveries recently made relating to the object, etc.
 - This portion should include several citations from books or online sources¹ supporting the information you present.
 - *Write about something you find interesting! A good goal is to teach your instructor something he/she doesn't know about the object.*
- **Experimental Plan**
 - Identifying information about the observation (date performed, filters used, exposure times, etc.)
 - Steps employed in MaxIm to arrive at your data product
 - Figure showing your data product² with explanation as to what it shows
 - *Another group working on a different project should be able to take your experimental plan, do exactly what you describe, and end up with the same data product.*
- **Calculation**
 - Acceptable calculations per object type are online and listed in Table 1.
 - Calculation explanation should clearly explain each step, define any variables, and explain any relevant formulas.
 - Cite any external information used to complete your calculation
 - *“Showing your work” is expected – a classmate should be able to adopt your numbers, follow your logic / formulas you presented, and end up with the same result.*

The paper is submitted as an individual. *While it is expected that you are your group members may have similar citations, assumptions, and calculated numbers, the language and communication within the paper should be yours alone. **Any duplicated text between group members is plagiarism.***

¹ Online sources must not include Wikipedia. Citations of articles outside Wikipedia are fair game, however. Online articles should meet standards for credibility, but do not have to be academic papers. Examples include: Popular Science, Sky & Telescope, NASA websites, etc.

² For those doing asteroid animations, please include a picture of one observation within your experimental plan as “example data”.