Grading Rubric : ASTR400B Research Assignment 2

Name: [Suzuki,Hina](https://github.com/hina18201716/astr400b-25s)

**A Introduction 9 / 10**

Each of the below points should be a separate paragraph in your introduction.

1. Define the Proposed Topic. 1/1
2. State why this topic matters to our understanding of galaxy evolution. 2/2
3. Overview our current understanding of the topic. 2/2
4. What are the open questions in the field? 1/2
5. Cite at least 3 journal papers. Use BibTex for formatting citations 1/1
6. Include at least one figure with caption from those papers to motivate your work. 2/2

**B. The Proposal 9/ 10**

They must answer each of the below questions as separate subsections.

1. What specific question(s) will you be addressing? 1/1
2. How will you approach the problem using the simulation data? Here you should outline the codes you’d need to write. It can be in general terms. 4/5
3. Include at least one figure that illustrates your methodology. 2/2
4. What is your hypothesis of what you will find? Why do you think this will occur? 2/2

**C. Misc. 4 /5**

1. Proper Grammar 0/1
2. Included a bibliography 1/1
3. In Latex and ApJ/MNRAS formatting 2/2
4. On Time/On Github 1/1

**TOTAL** 22**/25**

**Late Penalty:**

* if submitted on due date, but after 5 PM  **(-5 points).**
* Proposals will **not be accepted** after the due date.

**Comments: -1: need more generic open questions.**

**-1: methods**

**how will you compute the effective radius ?**

**For V in the V/sigma plot you need to actually use the circular speed of the particles themselves rather than reading it off of the rotation curve derived from the mass profile. The mass profile rotation curve tells you the speed a particle needs to have to be on a circular orbit but it does not tell you the actual speed that the particles are moving – for example, a non-rotating spheroid still has a rotation curve. So, to compute the “V” you can either:**

1. **create phase diagrams like in Lab 7 and try to figure out the relevant “Vmax” but this is going to be tricky with the merger remnant.**
2. **quantify the actual average circular motions of the particles directly – compute the average v\_\phi in cylindrical coordinates as a function of radius (translate the velocity vector into cylindrical coordinates and compute the average \phi component in spherical shells ). Talk to himansh abotu this if you are not sure what is meant.**

**Where this rotation curve plateaus is “vmax”**

**-1: grammar and latex accuracy.**