Grading Rubric : Research Assignment 7 FINAL REPORT

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1. **Miscellany (5/5)** 
   1. The report must be written in LaTeX using the emulateApJ or MNRAS formatting. (1 /1)
   2. Informative Title, Name (1/1)
   3. Proper Grammar (1 /1)
   4. All references properly cited (1 /1)
   5. Acknowledgements with code citations (1/1)
2. **Abstract ( 2.5/5)**

(a) A sentence that defines the Broad Galaxy Evolution topic 0/1  
(b) A sentence that says why the Galaxy Evolution topic is important 0/1

specific topic is the mass loss rate of a satellite galaxy - the beginning of the abstract needs to introduce concepts of satellite galaxies and tidal forces for their evolution about a massive host

(c) A sentence that introduces the simulations 0/0.5

what simulations? N-body

(c) A sentence that says what specific simulation question you are exploring 0.5/0.5

(e) A sentence(s) that states what you found 1/1  
(f) A conclusion about importance of finding(s) for the Galaxy Evolution Topic 1/1

1. **Keywords (5/10)**
   1. 5 keywords listed and defined in the text (2 per word)

missing definitions for all keywords, only 4 identified - going to assume the 5th is dynamical friction, and that is defined so ok there.

1. **Introduction (7.5 / 10)**
   1. Define the Proposed Topic in Galaxy Evolution (par 1) 1/1
   2. State why this topic matters to our understanding of galaxy evolution 1/1
   3. Define “Galaxy” according to (cite) Willman & Strader and “Galaxy Evolution” 0.5/1

galaxy definition is not correct

* 1. Overview our current understanding of the topic (par 3) 2/2
  2. What are the open questions in the field? With citations (par 4) 1/2

needed to answer open questions in the field in general - not just about M33 specifically.

* 1. Cite at least 3 journal papers (not including willman & strader). Use BibTex for formatting citations 1/1
  2. Include at least one figure from those papers to motivate your work – the figure must be discussed in the text. Caption must have citation, not plagiarized + punchline (what is the takeaway message) 1/2

figure caption is not right. this figure doesn’t show what you think it does …y axis is not mass.

1. **Section 2: This Project: ( 4/5)**

(a) State what question(s) you are exploring (Paragraph 1) 1/1

(b) Which of the open questions does this project address? (Paragraph 2) 1/1

(b) Why is the open question interesting/important? How will your study address the question? (Paragraph 3) 2/3

dynamical friction will always act to cause teh galaxies to merge - there will never be a pause.

1. **Section 3: Methods ( 7/10)** 
   1. Paragraph 1: describes the simulation you are using and what code was used to create it (citations) 0/1

simulation not described, citation didn’t show up

* 1. Defined N-body 0 /1

not defined

* 1. Paragraph 2 : Overview approach. 2/2
  2. Include a figure to describe methods with caption 2/2
  3. Paragraph 3: Describe calculations with terms defined 1/2

jacobi radius equation - terms not defined. M31 mass needs to be defined as mass within the separation of M31-M33.

* 1. Paragraph 4: Describe the plots you need 1/1
  2. Paragraph 5: Hypothesis   1/1

1. **CODE: (10/10)**
   1. Code header that explains the goal 2/2
   2. Code is documented 2/2
   3. Significant work done in extension of code from class work. 4/4
   4. Code Github Repository is well organized and Code for Final Project is well documented. 2/2
   5. Code check-ins attended **if 2/3 are not attended/rescheduled this entire section is graded as 0.**
2. **Section 4: Results (20 /20)**
3. Paragraph 1: Describes Plot 1 4/4
4. Plot 1 included with caption + punchline 4/4
5. Paragraph 2: Describes Plot 2 4/4
6. Plot 2 included with caption, independent code+ punchline and quantitative 8/8
7. **Section 5: Discussion (14/15)**
8. Par 1: Result 1.
   1. Does the result agree or disagree with hypothesis? 3/3
9. Par 2:
   1. How does this result relate to existing work ? 5/5
   2. What is the importance/meaning of this result for our understanding of galaxy evolution? 3/4

you had set this up with the dynamical friction equation, but then never referred to it.

* 1. What are the uncertainties 3/3

1. Repeat for subsequent results
2. **Section 6: Conclusion ( 10/10)**
   1. Paragraph 1, Summarize 1-4 in abstract 2/2
   2. Paragraph 2: highlight one key finding, what it means and whether it agrees/disagrees with hypothesis 2/2
   3. Last Paragraph: Future directions, how could you improve the analysis/code? 6 /6

11. Total 85 /100