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ASTR400B
EXAMPLE TEX FILE

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ABSTRACT

A sentence that defines the topic. A sentence that says why the topic is important. A sentence that says what question you are exploring. A sentence about why that question is important. A sentence that states what you found. A conclusion about what your finding means.

1. INTRODUCTION

1. Define the topic you are studying and state why it matters.
2. Overview our current understanding of the topic.
3. What are the open questions?
4. Make it clear that you understand the topic!!

2. THIS PROJECT

1. State what question(s) you are exploring
2. Why is this question interesting/important?

3. METHODS

1. Write a paragraph that describes the simulation you are using. Details can be found in van der Marel et al. (2012).
2. Describe the code you wrote. What equations do you use? For example you may have employed some dynamical friction formalism (e.g. van der Marel et al. 2012; **?**).

   Here is an example of an equation written in "math mode":

$$I = \frac{1}{1 + d_1^{P(1+d_2)}} \tag{1}$$

   where

$$d_1 = \sqrt{\left(\frac{x_1}{R_{maj}}\right)^2 + \left(\frac{y_1}{R_{min}}\right)^2}$$

$$d_2 = \sqrt{\left(\frac{x_1}{PR_{maj}}\right)^2 + \left(\frac{y_1}{PR_{min}}\right)^2}$$

$$x_1 = (x - x_0)\cos\Theta + (y - y_0)\sin\Theta$$

$$y_1 = -(x - x_0)\sin\Theta + (y - y_0)\cos\Theta$$

3. This code must be unique to you - you cannot simply use the assignment solutions. But you can use the solutions as a starting point to create your code.

4. RESULTS

1. At least one plot should be illustrated (with proper labels and figure caption).
2. Describe what your code returned. What did you find? Describe what is in the plot.

   Example Plot is provided in figure 1:

5. DISCUSSION

What did you learn? What do your results mean? What is the importance of your results ?

6. CONCLUSION

1. Summarize the paper. Make sure there is a concise summary of what is in each section of the report.
2. Comment on future directions - what other things could you do to explore the topic further?

REFERENCES

Besla, G., Kallivayalil, N., Hernquist, L., Robertson, B., Cox, T.J., van der Marel, R.P., & Alcock, C. 2007, ApJ, 668, 949
van der Marel, R. P., Besla, G., Cox, T. J., Sohn, S.T., & Anderson, J. 2012, ApJ, 753, 9

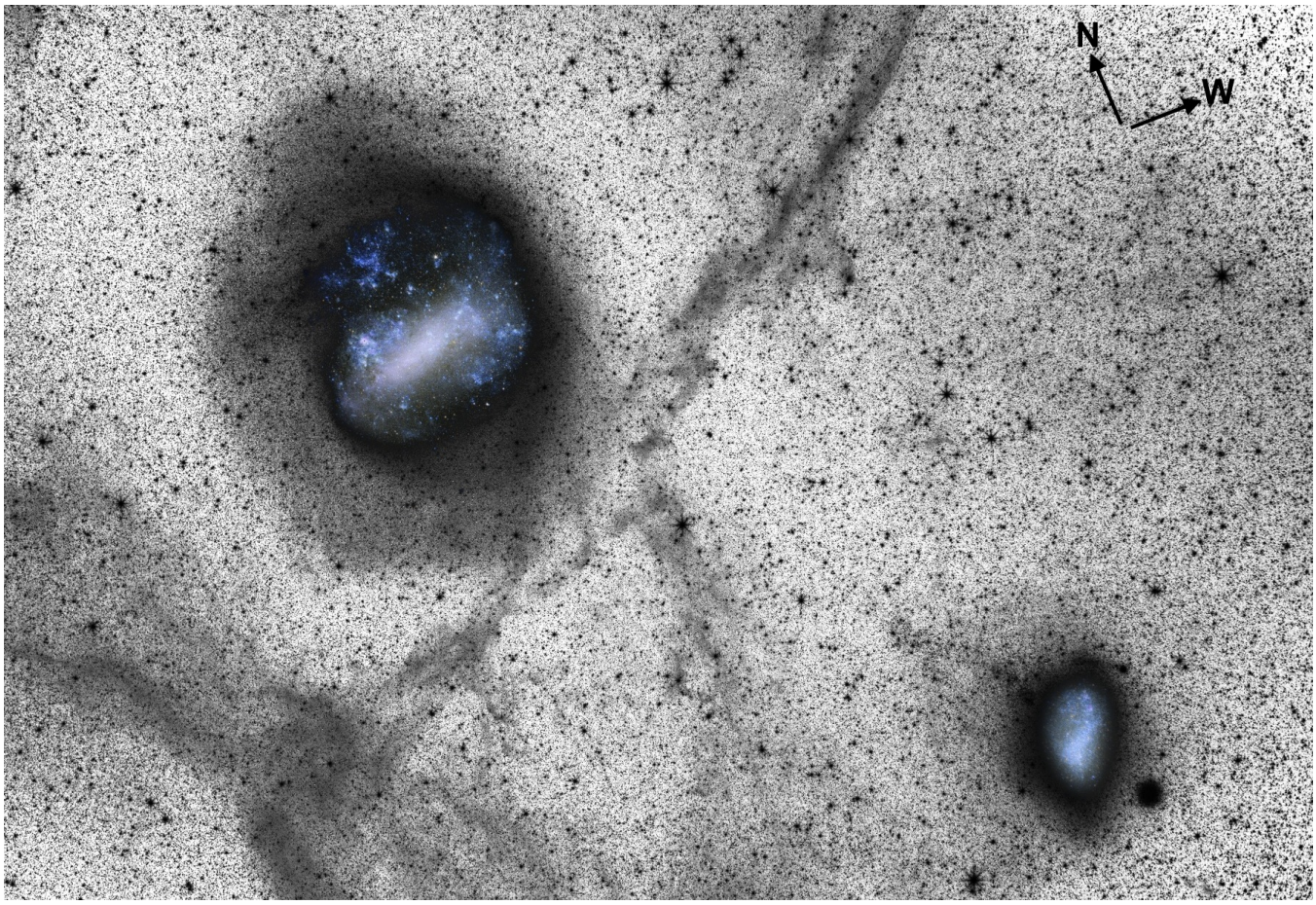

Figure 1. Wide-field Luminance filter image of the Magellanic System (39 x 27 degrees). The LMC is located towards the top left and the SMC is to the bottom right. The Milky Way globular cluster 47 Tuc is visible to the West of the SMC.A tail of stars from the SMC is visible stretching towards the LMC in the East. The outskirts of the LMC disk display pronounced asymmetries. For illustrative purposes, a color inset of the inner regions of the LMC and SMC, made from the color data obtained in our observing run is inserted as a reference and for comparison with previous studies.