ASTR400B Project Report, Spring 2020



ABSTRACT

A summary to be inserted here

1. INTRODUCTION

The simulation of Milky Way–M31–M33 orbital evolution was described previously (Marel et al. 2012). That paper included an extensive analysis of both N-body simulations and semi-analytic orbit integrations. The present study uses data from the same N-body simulation to carry out further computational analysis.

2. DATA

Data from one N-body simulation in (Marel et al. 2012) was supplied in text-file format by one of the original authors. This included position and velocity data for each particle at the current epoch (t=0) and 800 future timesteps. For ease of analysis, this was all transferred to the open source database PostgreSQL¹ (approximately 1.35 billion records). The same database was used for computed summary data during the analysis.

Particle counts for each timepoint are shown in Table 1 TODO add table

3. SOFTWARE

(Toomre & Toomre 1972)

REFERENCES

Marel, R. P. v. d., Besla, G., Cox, T. J., Sohn, S. T., & Anderson, J. 2012, The Astrophysical Journal, 753, 9, doi: 10.1088/0004-637X/753/1/9
Toomre, A., & Toomre, J. 1972, The Astrophysical Journal,

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 $^{^{1}}$ http://www.postgresql.org