



Master's thesis
Astronomy

Your Title Here

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1. Introduction

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1.1 Local Group

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1.2 History of Local Group Research

1.3 Aim of This Thesis

2. Hubble Flow

3. SIBELIUS project

4. Findings from DMO Halo Catalogue Analysis

4.1 Hubble Flow Fitting

4.2 Local Anisotropy of the Hubble Flow

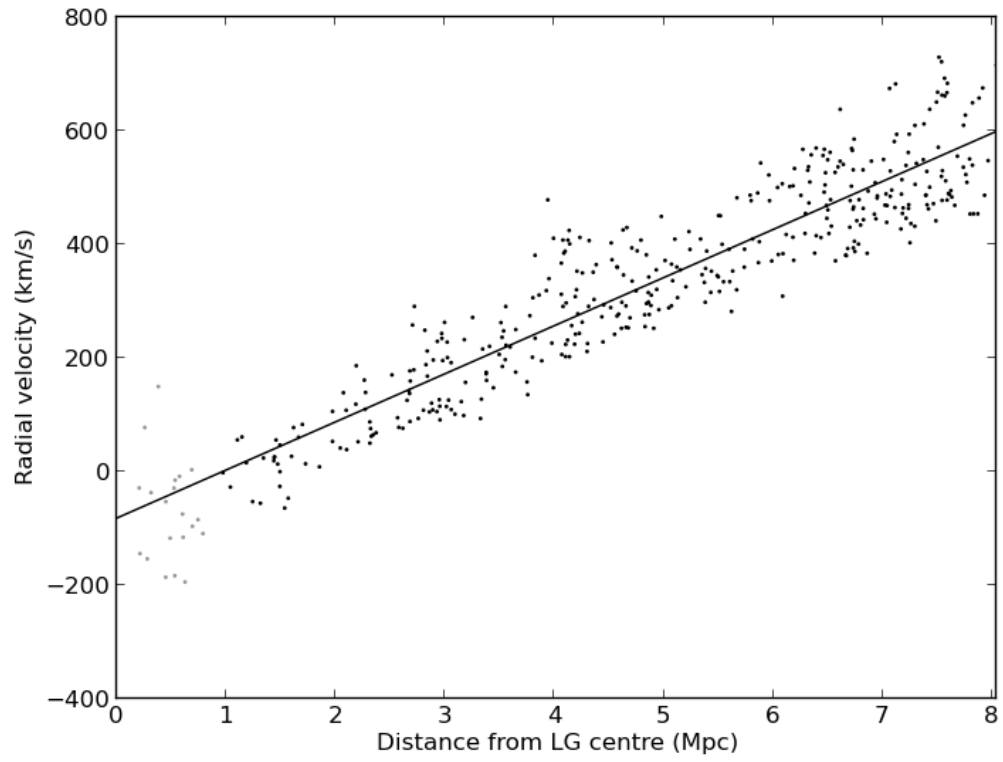


Figure 4.1: Radial velocities of haloes as a function of distance. Best fit to Hubble flow shown with solid line. Nearby points ignored when fitting shown in gray.

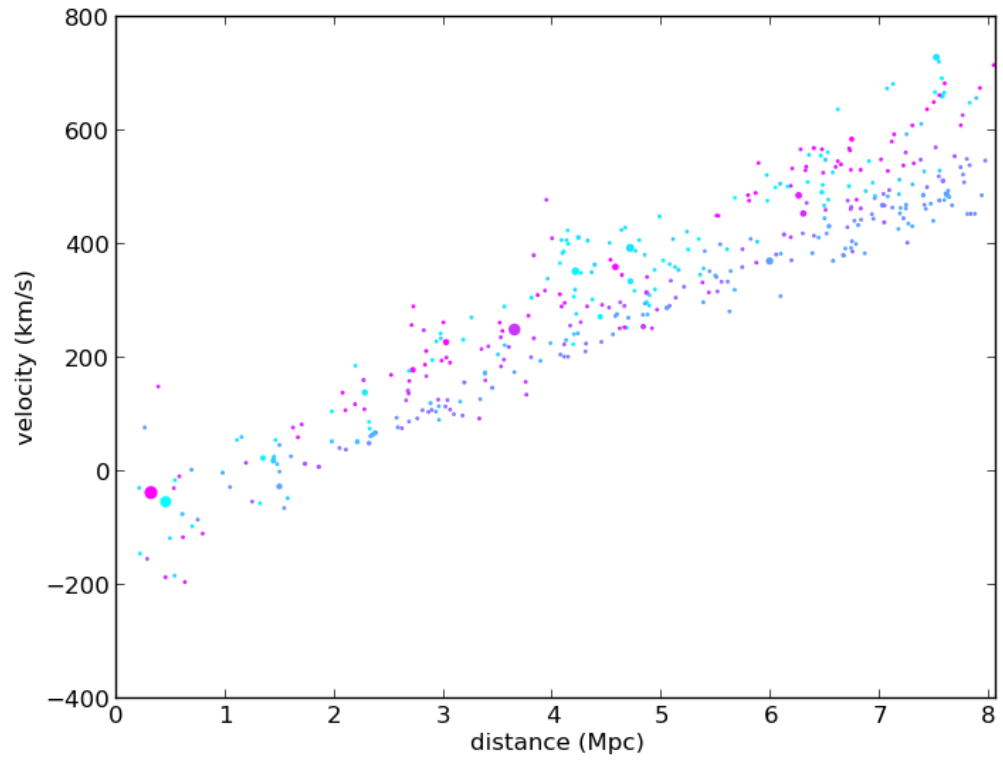


Figure 4.2: Hubble flow with colours depicting angular distance from line connecting Milky Way and Andromeda counterparts in simulation.

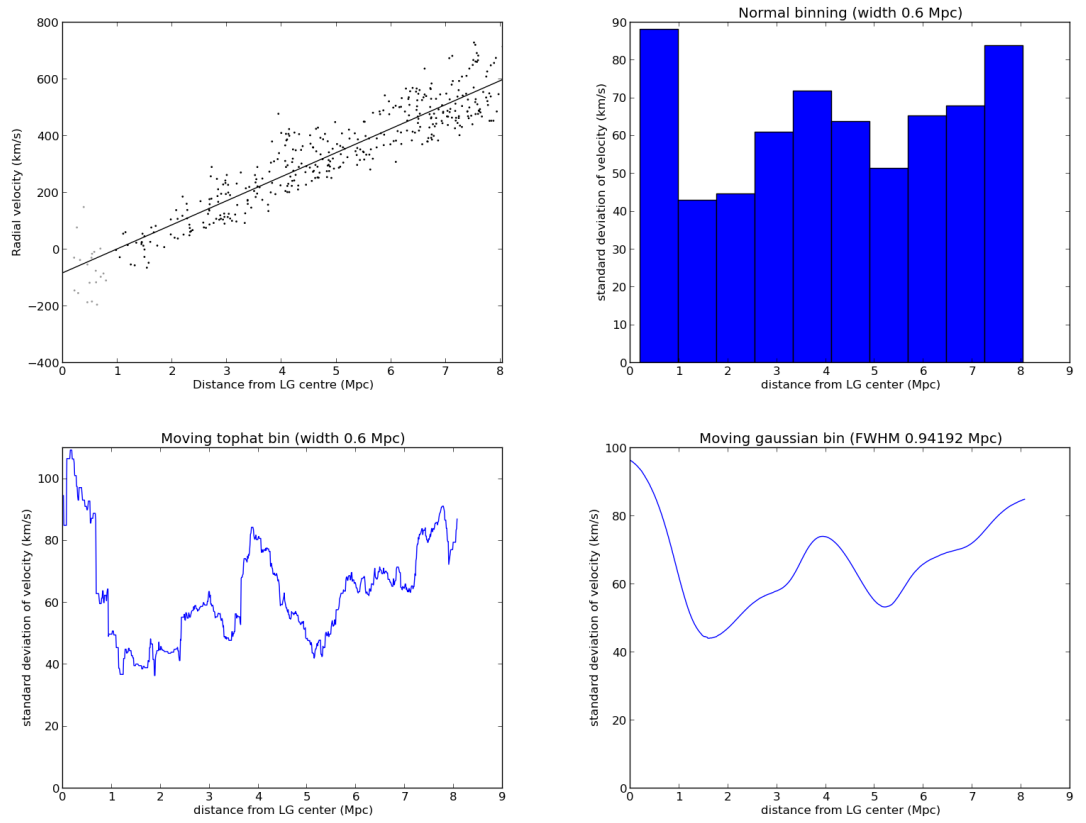


Figure 4.3: Velocity dispersion of Hubble flow.

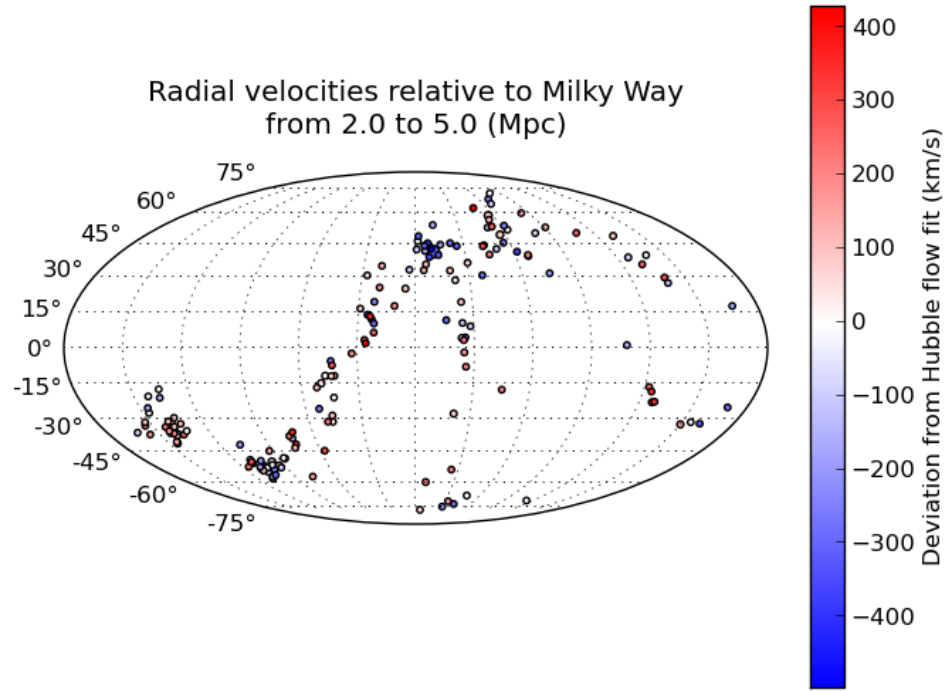


Figure 4.4: Haloes with distances between 2 and 5 Mpc as seen from Milky Way counterpart in simulation. Colours depict deviations from best linear Hubble flow fit ignoring haloes up to 2 Mpc away, blue end meaning haloes coming closer faster than expected and redder colours moving away.

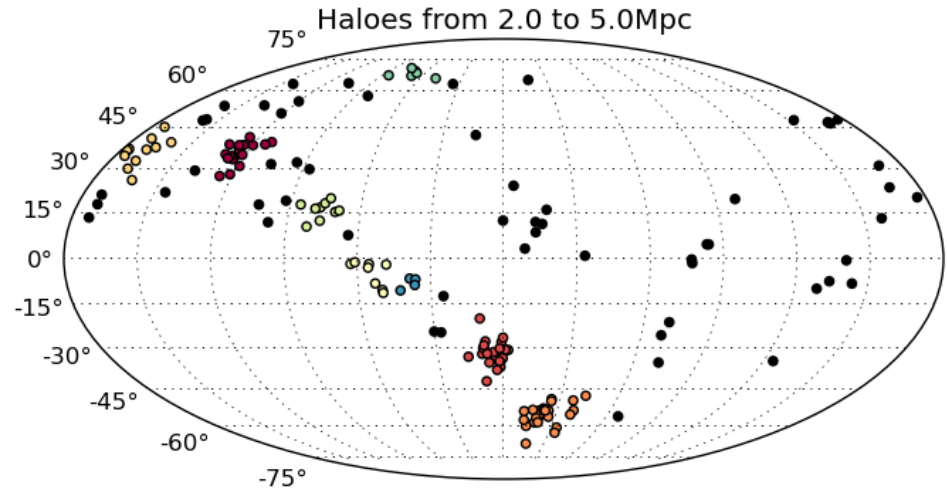


Figure 4.5: Dark matter haloes with distances from 2 to 5 Mpc grouped to clusters using DB-SCAN clustering algorithm. Parameters used for this plot were $ms=5$ and $eps=2$.

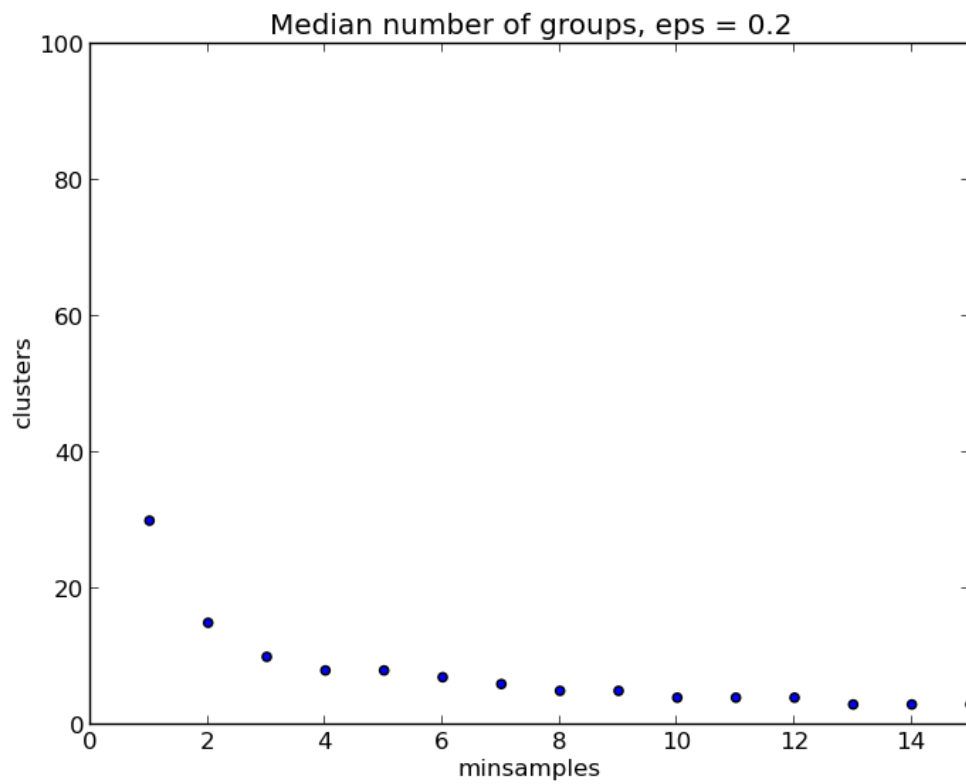


Figure 4.6: Median number of clusters found with constant eps on different minsamples.

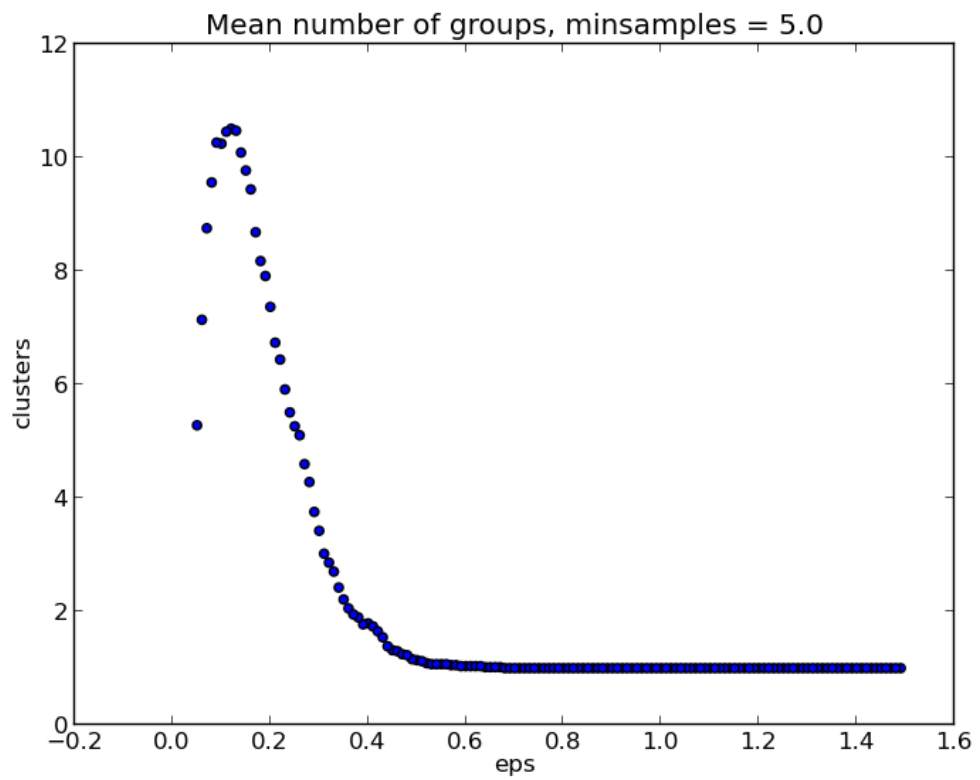


Figure 4.7: Mean number of clusters found with constant ms on different eps.

5. Statistical Estimate of the Local Group Mass?

6. Conclusions