

# Analytical work

April 6, 2015

## 1 Observed Associations

### 1.1 Associations density

The observed associations have densities in the range:  $[0.02 - 0.13 \frac{10^{11} M_{\odot}}{Mpc^3}]$  (Tully et.al 2006 table 2)

### 1.2 Volume Observed

The observations were in the range of,  $r = [1.1 - 3.2 Mpc]$  and  $b > |30|$

this means a volume of:  $V = \frac{2\pi r^3}{3} - \cos(\theta) \Big|_{1.1}^{3.2} \Big|_{\pi/6}^{5\pi/6}$

### 1.3 Espected associations in simulations?