Review of: "A simple direct empirical observation of systematic bias of the redshift as a distance indicator"

Nan Liang[1]

1 Beijing Normal University

The author shows the mean redshift of galaxies that rotate in the same direction relative to the Milky Way is significantly different from the redshift of galaxies that rotate in the opposite direction relative to the Milky Way around 0.0065 to 0.012. Morover, the analysis of H_0 using SN Ia when the spin directions of the host galaxies are consistent shows smaller value $h \sim 69.05$, reducing the tension with the CMB.

Here I have two comments.

1. There is no physical explanation for the difference between the mean redshift of galaxies that rotate with or against the direction of rotation of the Milky Way. The value of the mean redshift of galaxies may be affectted seriously by the peculiar motion of the galaxies at small redshifts or in small fields with unknown and complex bias. Fig.2 shows that the dataset is limited to a relatively low redshift at $z < 0.25$, and more that half of the sample at $z < 0.10$. Fig. 3 shows the difference of the mean redshift of galaxies Δz decreases as the field gets larger.

2. It is intresting that the analysis of H_0 using SN Ia have provided a new possible way to explain the H_0 tension. However, the lower number of galaxies with supernovae maybe increase the statistical error. The results in Tab. 5 may not be significant in statistics. Further analysis with the mock data simulated by the observed dataset might be needed.