HAM iminuit & Multinest Results

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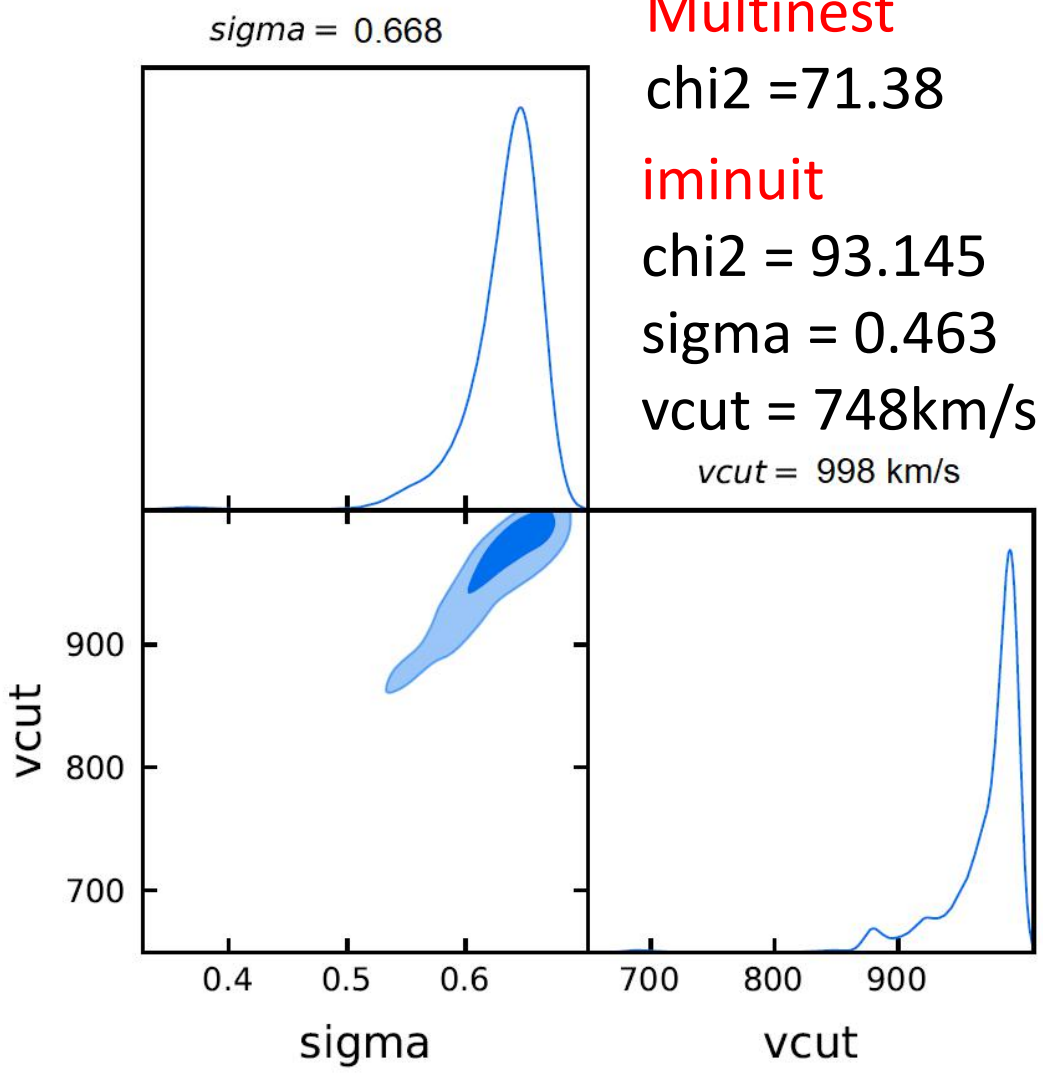
NOTE：

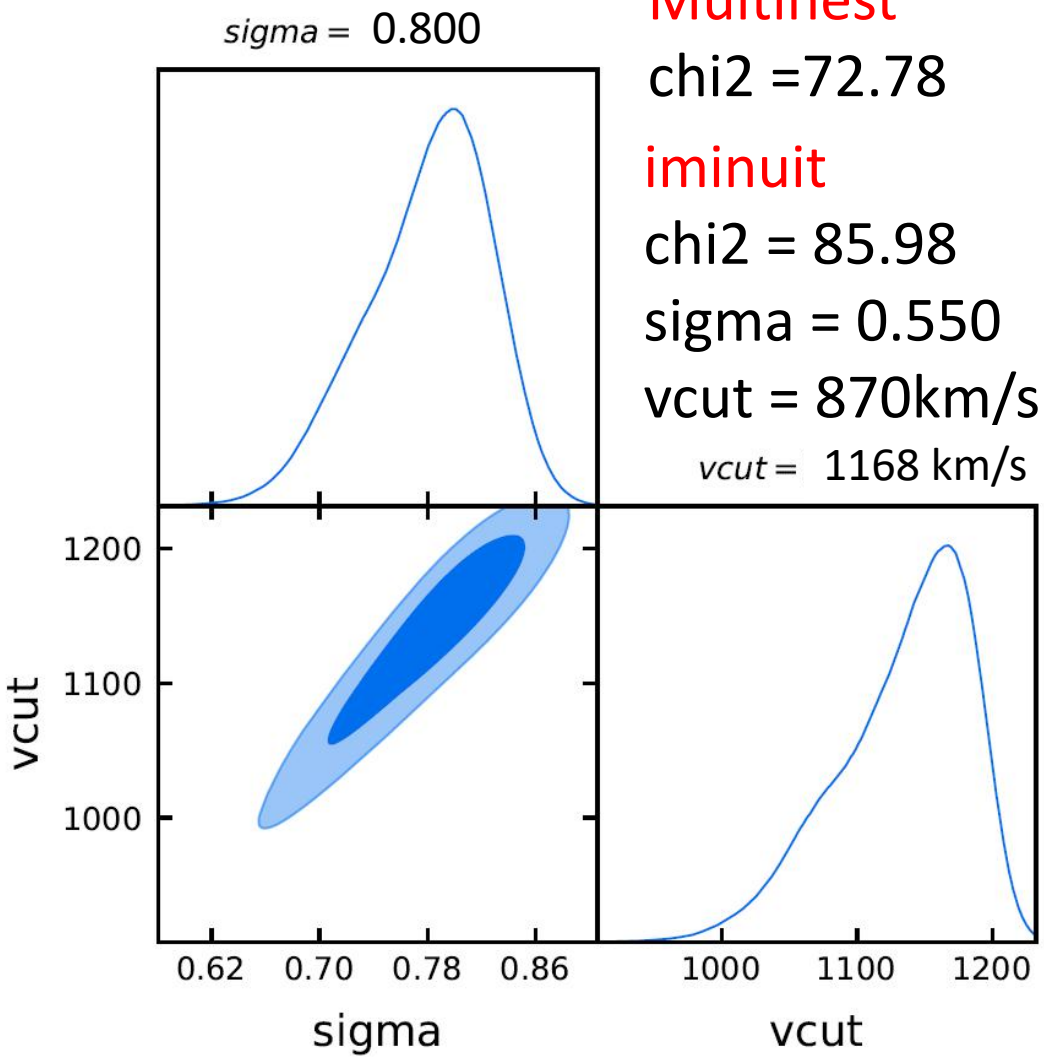
- The parameters are sigma for scattering Vpeak; vcut for cutting large scattering Vpeak end; prior: sigma [0.2,1]; vcut [500,1200]
- A comparison of fitting for raw galaxy catalogue (left panel) and PIP weighed catalogue (right panel)
- Multinest results are analyzer.get_bestfit()['parameters'], errors are not provided because they are not reliable
- Vpeak distribution functions present the average of 15 realisations with the best fitting results

LRG NGC:(left: no PIP obs; right: PIP obs)



Multinest
chi2 =71.38

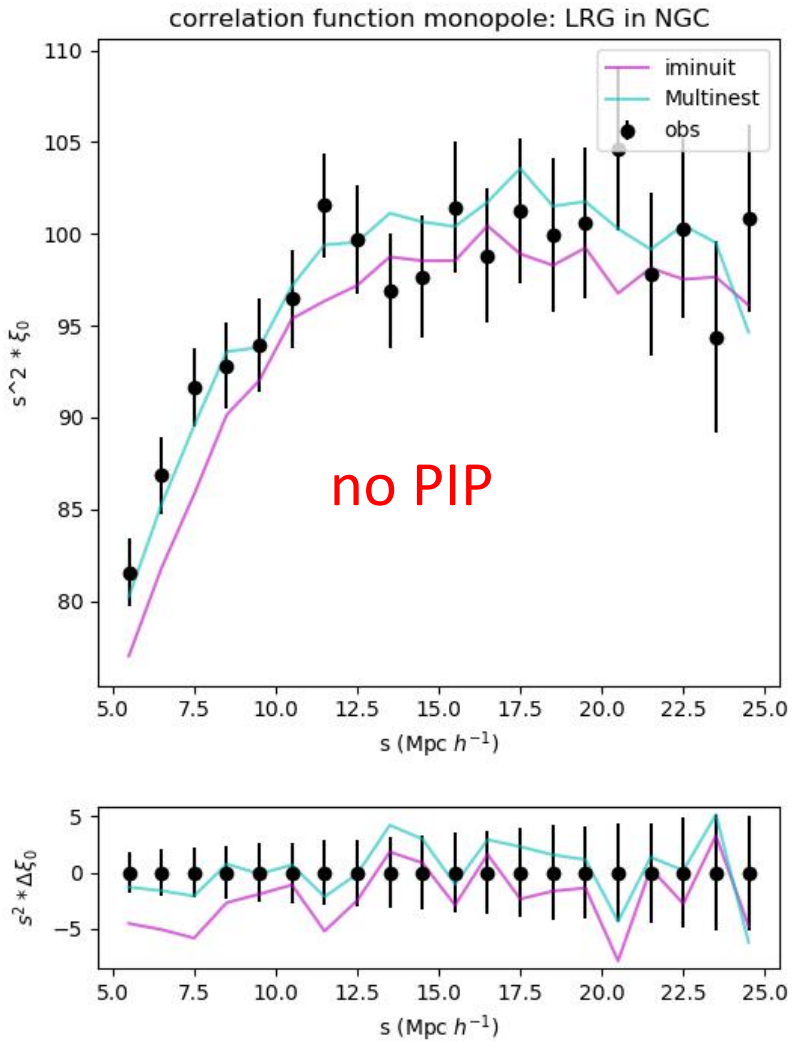
iminuit
chi2 = 93.145
sigma = 0.463
vcut = 748km/s

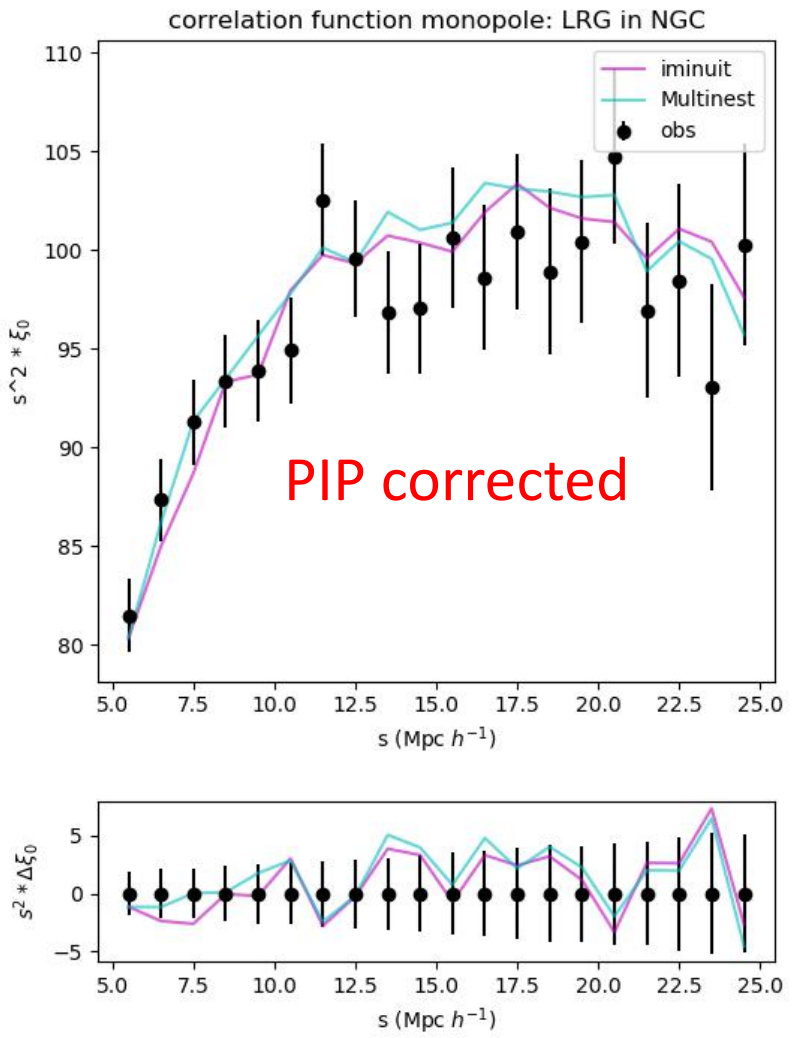


Multinest
chi2 =72.78

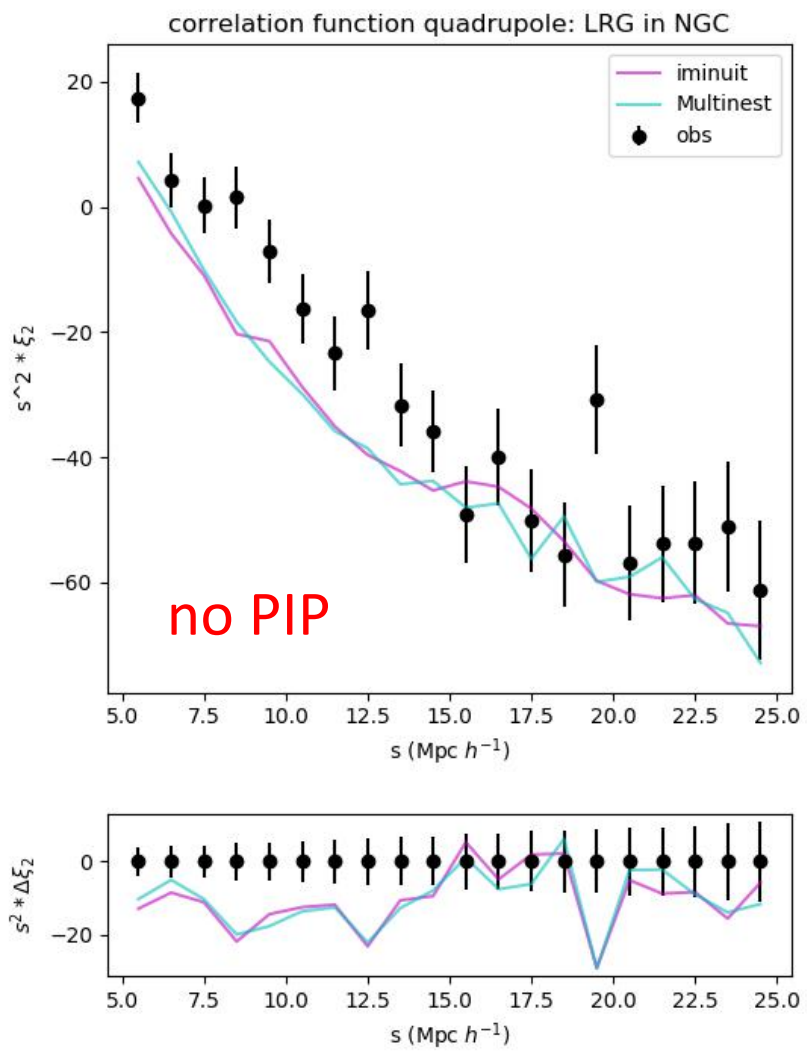
iminuit
chi2 = 85.98
sigma = 0.550
vcut = 870km/s

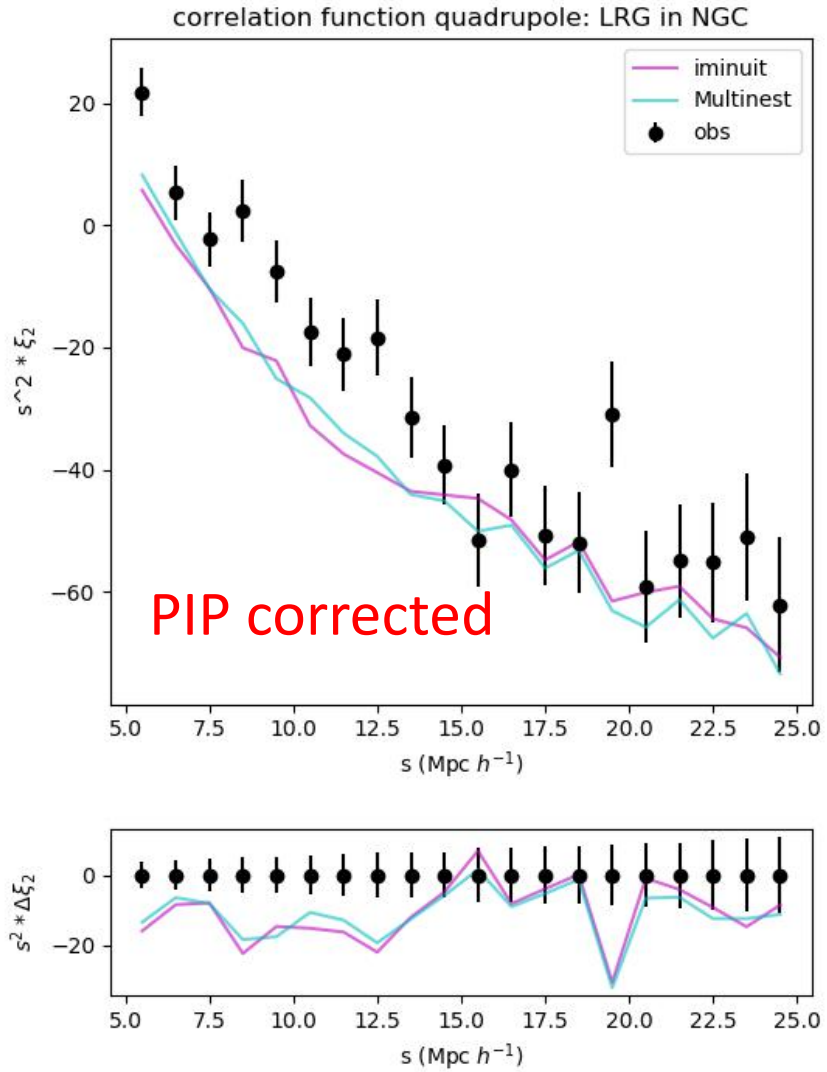
LRG NGC: correlation function monopole



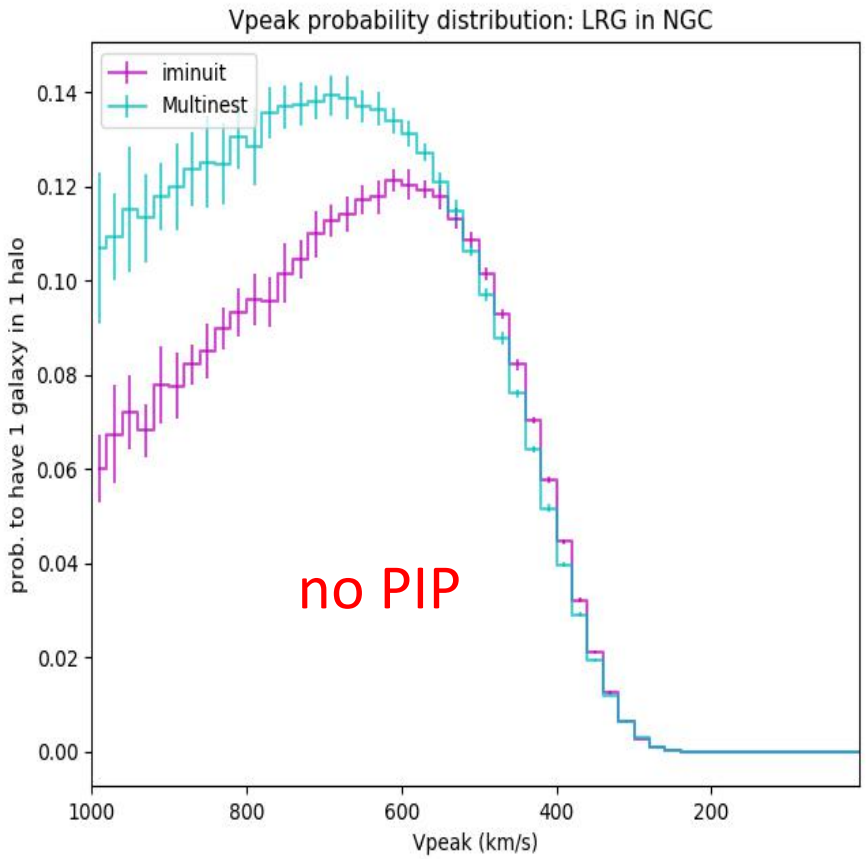


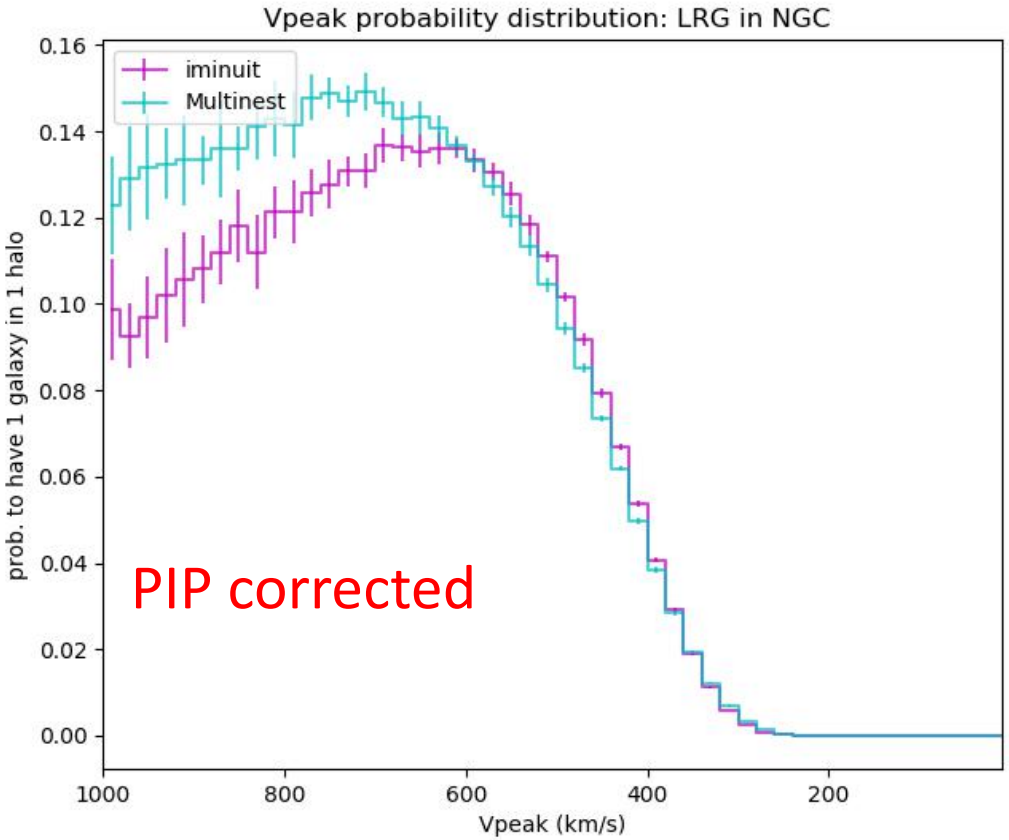
LRG NGC: correlation function



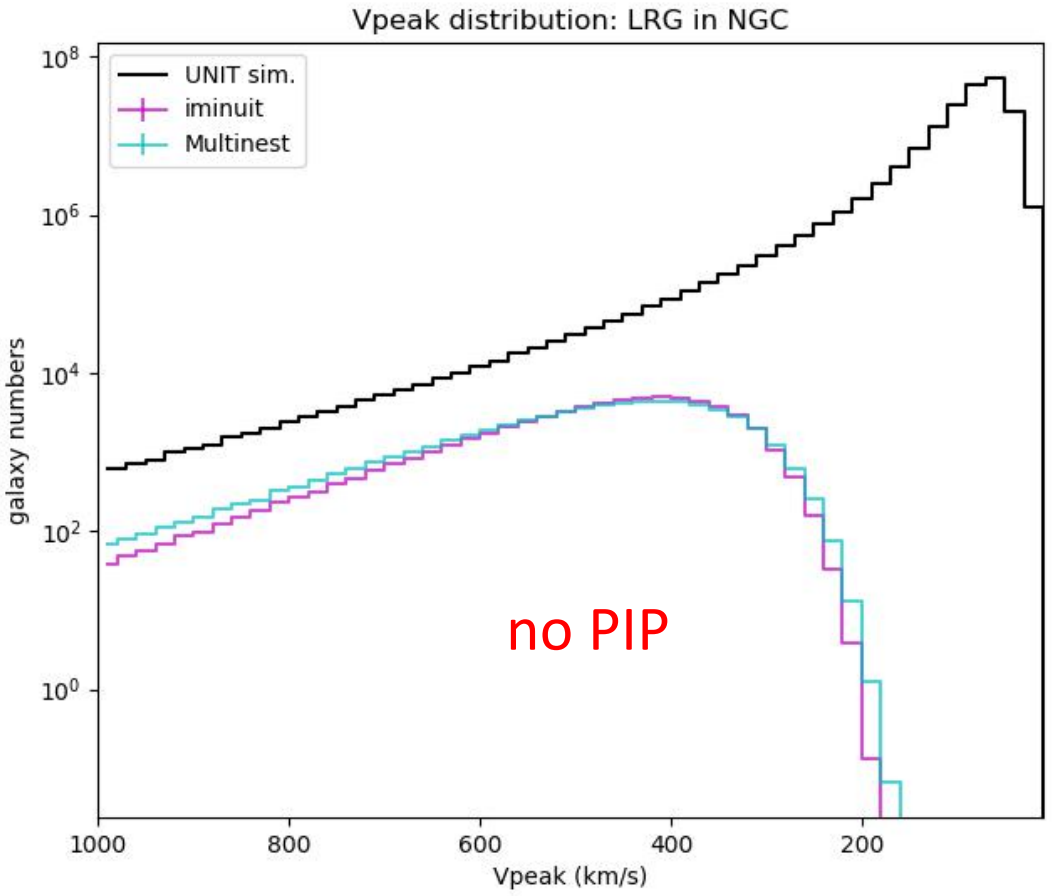


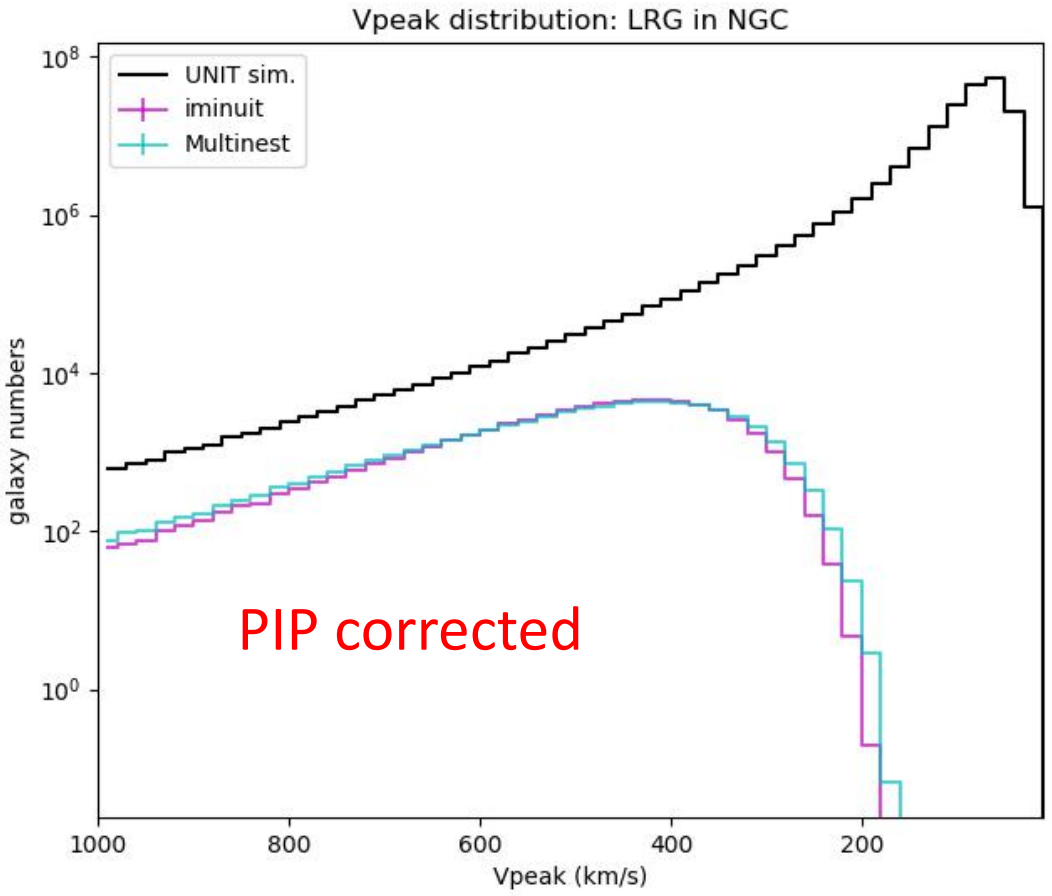
LRG NGC: Vpeak distribution



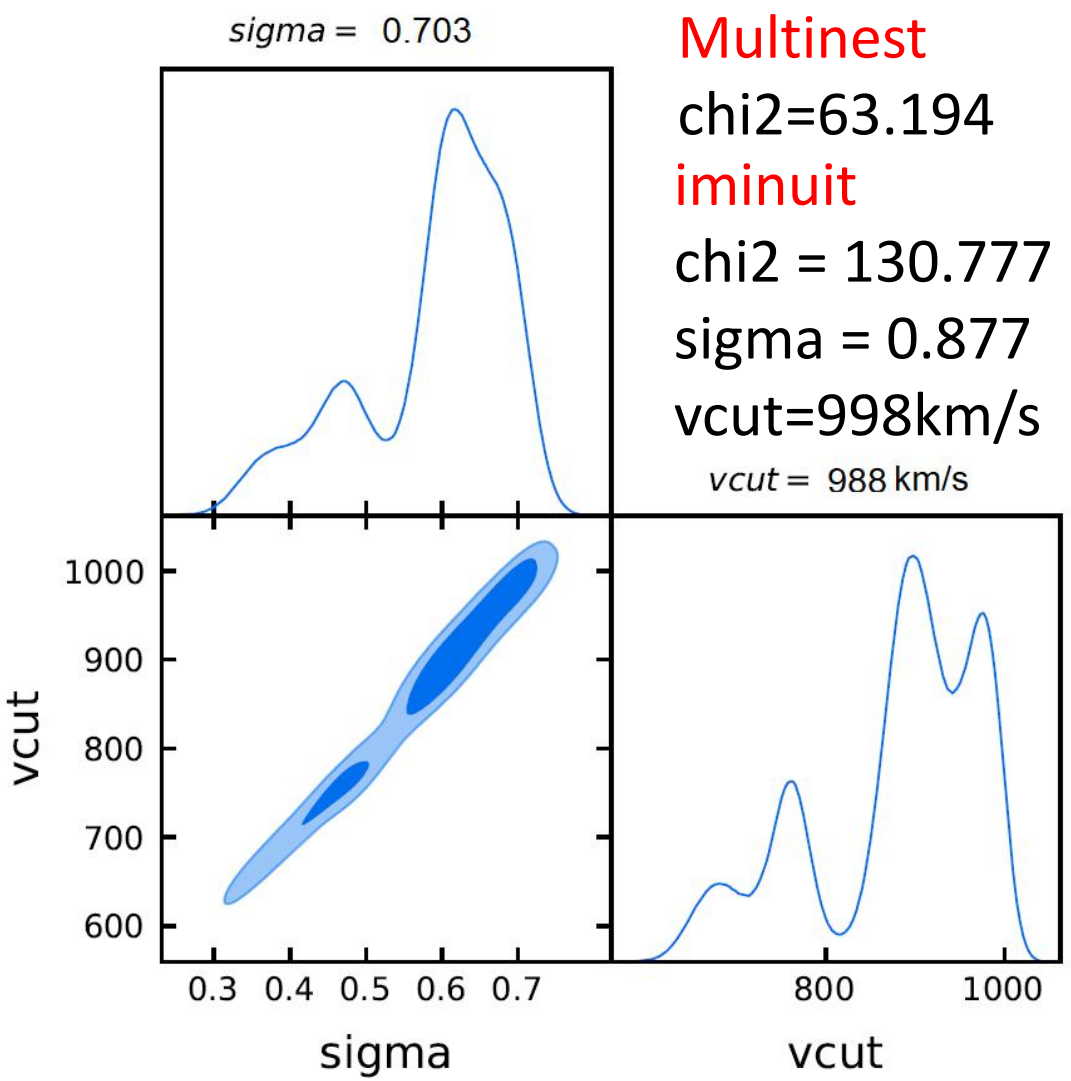


LRG NGC: Vpeak distribution

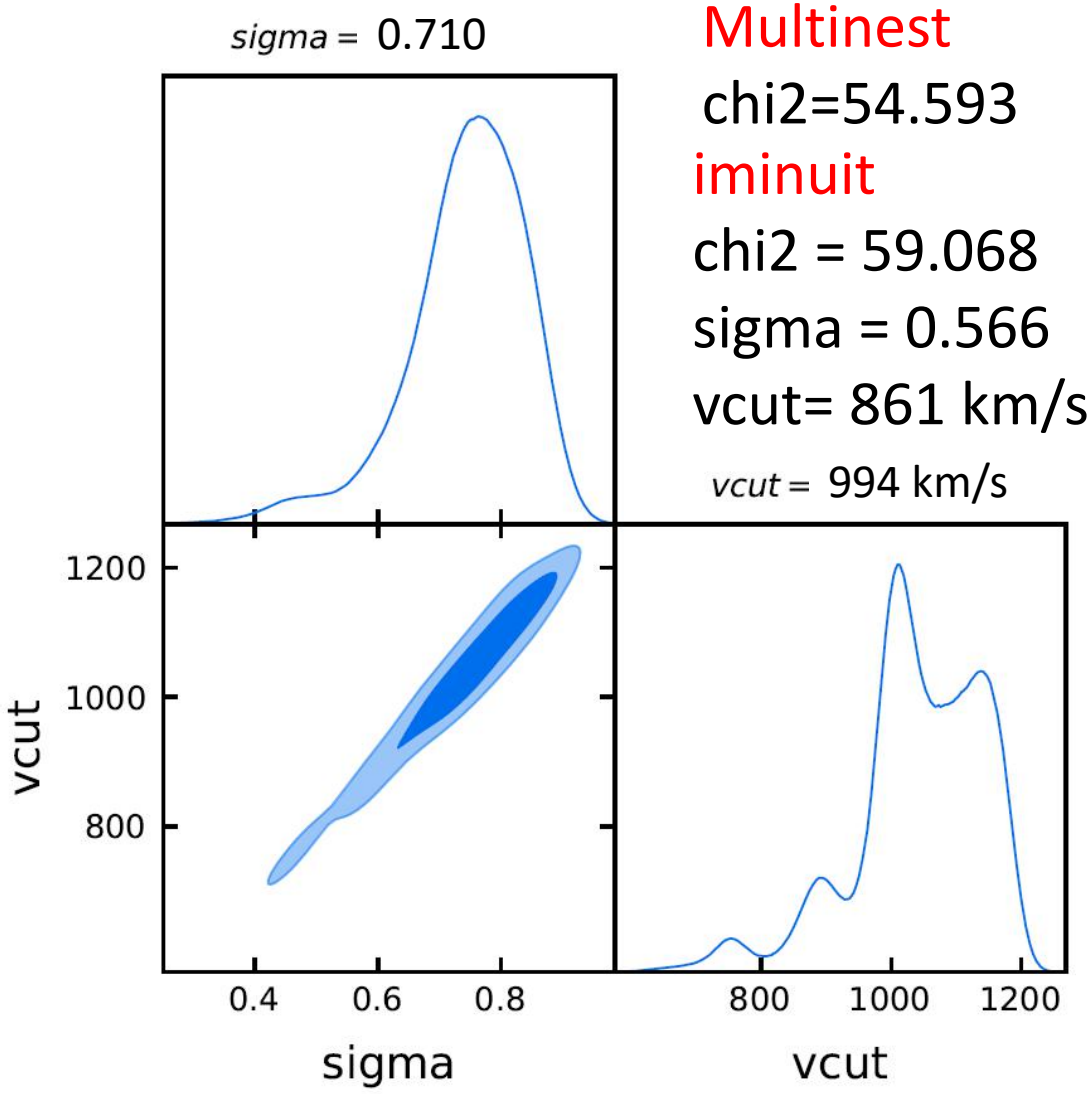




LRG SGC: (left: no PIP obs; right: PIP obs)

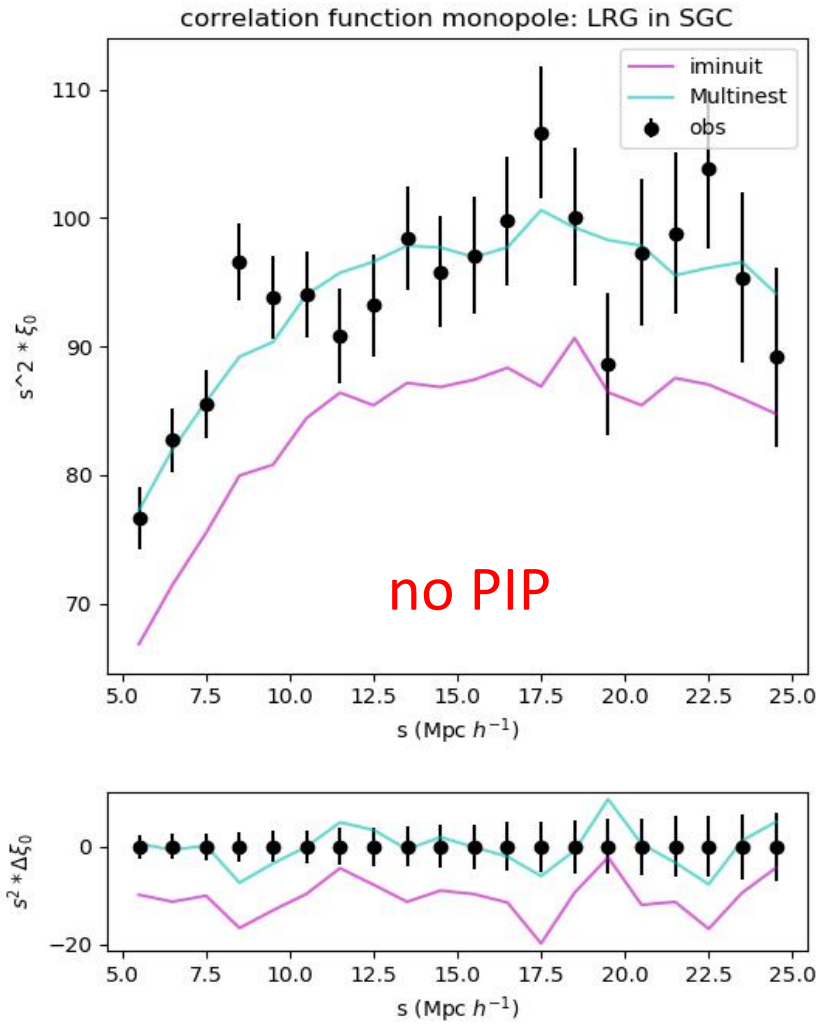


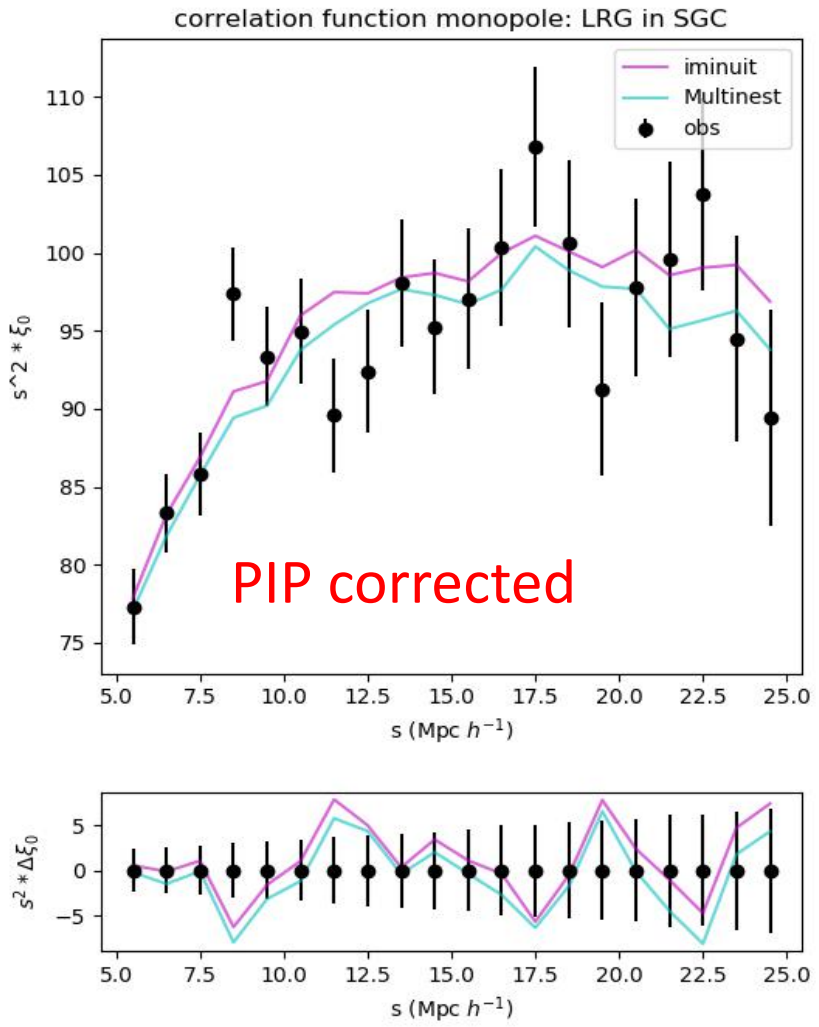
Multinest
chi2=63.194
iminuit
chi2 = 130.777
sigma = 0.877
vcut=998km/s



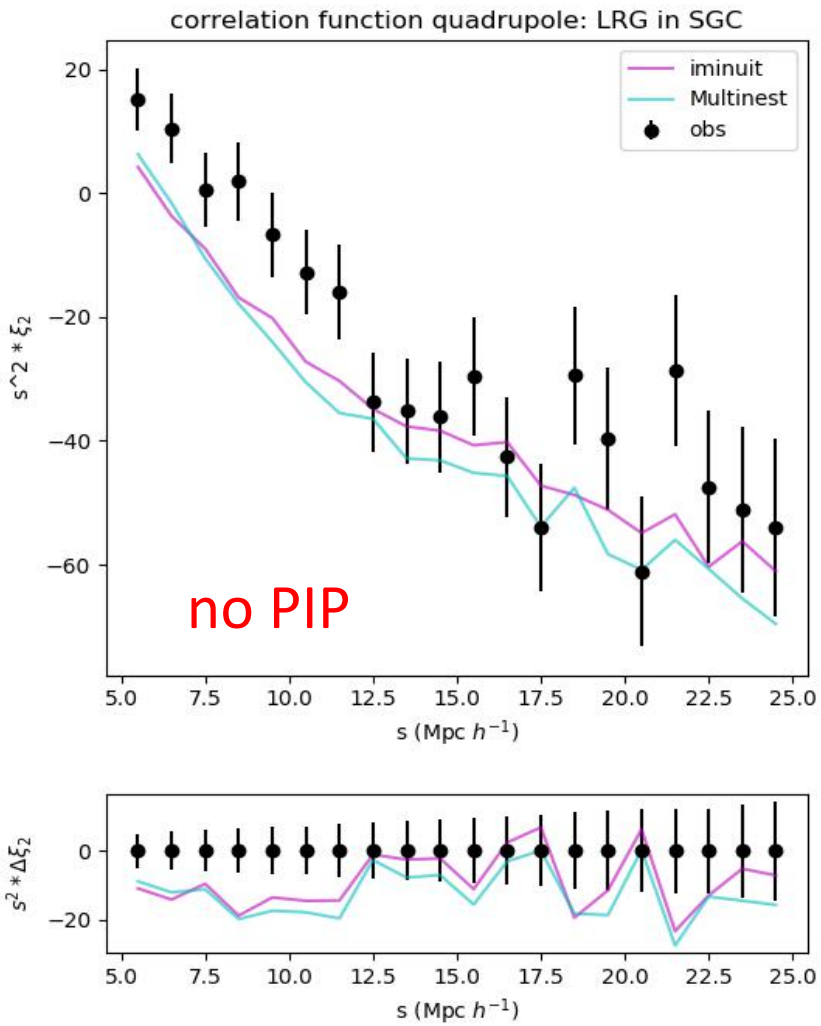
Multinest
chi2=54.593
iminuit
chi2 = 59.068
sigma = 0.566
vcut= 861 km/s

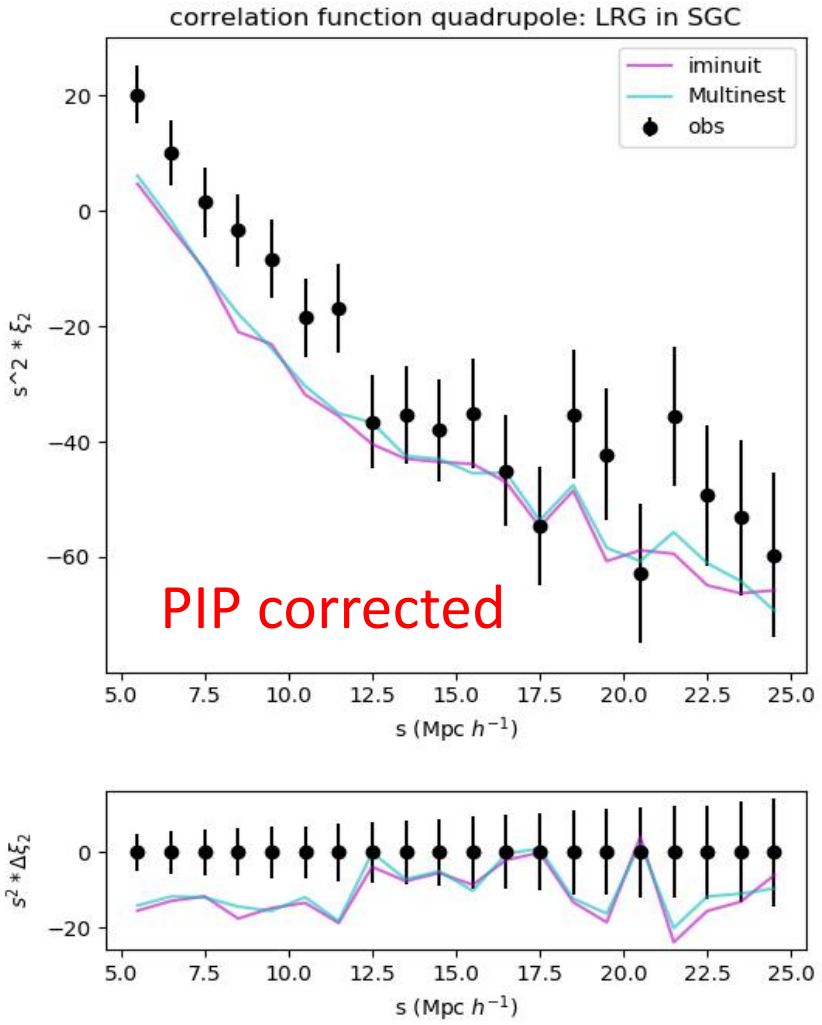
LRG SGC: correlation function



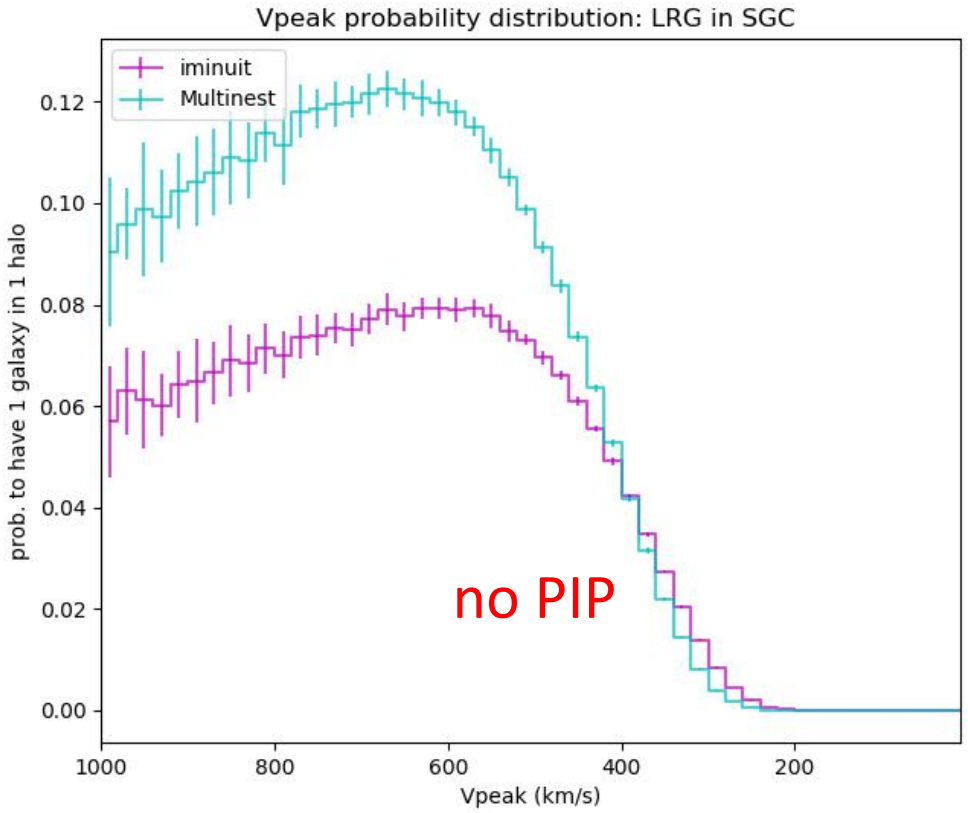


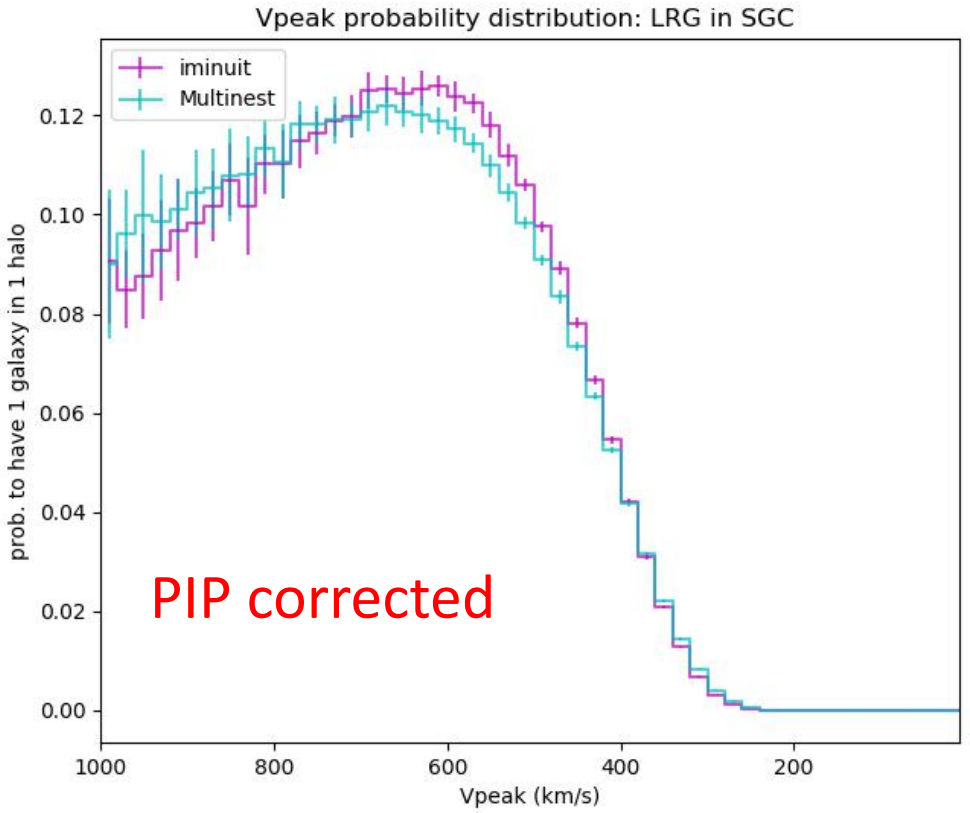
LRG SGC: correlation function



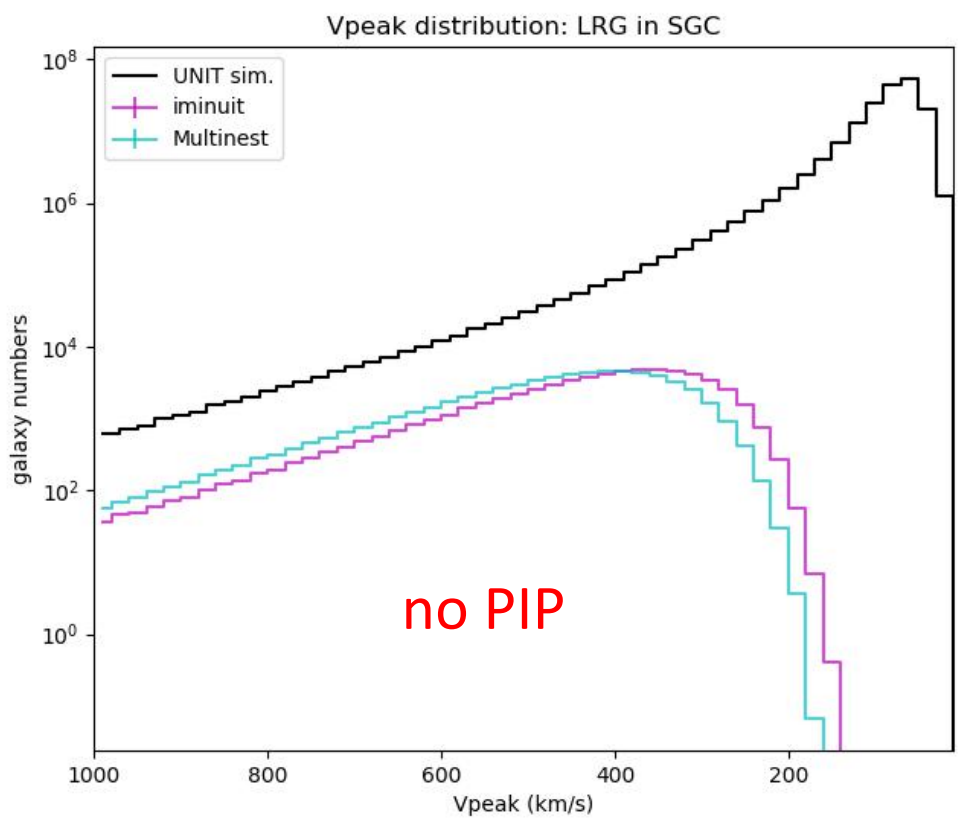


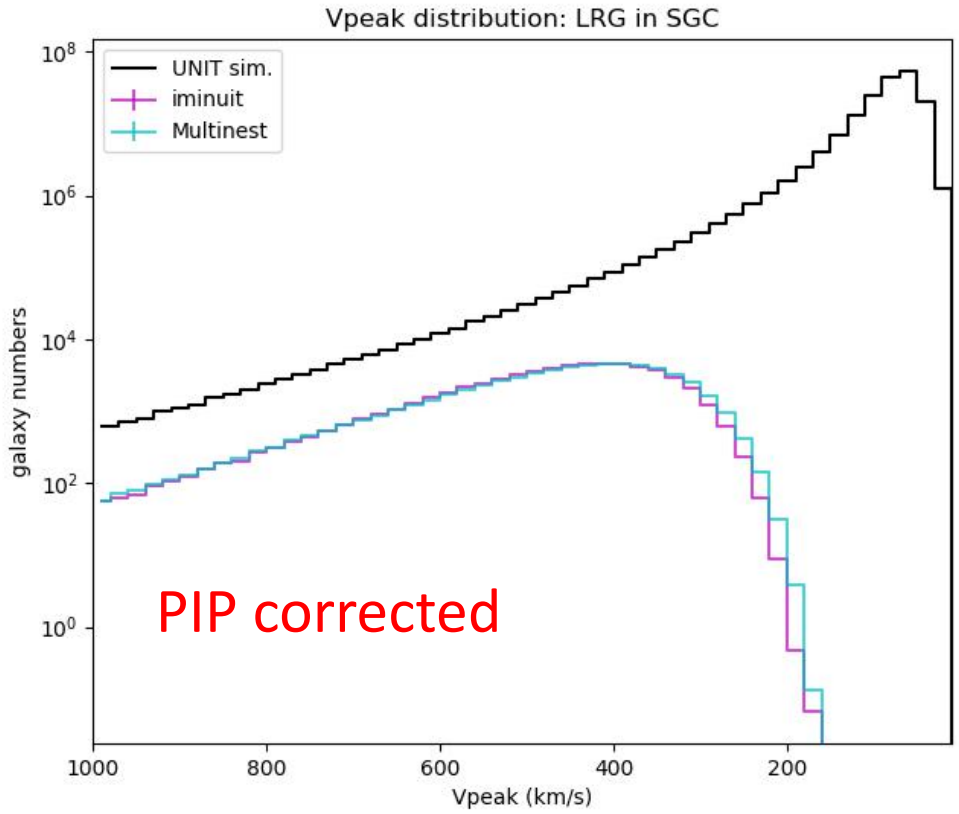
LRG SGC: Vpeak distribution





LRG SGC: Vpeak distribution





Conclusions：

- PIP corrected observation didn't help to make a good quadrupole fit
- PIP + change of prior help iminuit to have a better fit but it is still not as good as Multinest in terms of chi2
- PIP +change of prior didn't help multinest that much in terms of chi2, but the posterior seems better (not that noisy)
- the getdist 1-sigma error is still not equal to multinest analyzer 1-sigma error