



This is a rough estimation of the distribution Einstein Radii of massive galaxy clusters ($> 10^{14}$ M_{sol}/h) in cosmoDC2. The calculation is based on analytic NFW (for DM halos) and SIS (for BCGs) models. The x-axis is the size of Einstein Radius in the units of arcsec, Y-axis is the probability distribution of the Einstein Radii. The red curve shows the distribution when the clusters are modeled with spherical NFW profile only; the blue curve shows the distribution when the mass model of clusters is DM + BCG, i.e., NFW+SIS. There is plenty of room to improve the current results, such as involving ellipticities, substructures, LOS structures, or even particle data from the N-body simulation. Regardless, this is just a starting point for showing how to build mass models of the objects selected from cosmoDC2 and apply the mass models to the scientific applications interesting you. The corresponding notebook is “contributed/reDisClustersDC2_CL+SL_NanLi_HackurDC2.ipynb”. Should you have any questions or suggestions, please do not hesitate to slack me @linan7788626. Hopefully, we can make this notebook useful for your projects.