

Dark energy (DE) not only affects the expansion rate of the background Hubble flow and the distance-redshift relation, but also the scenario of structure formation in the universe. In this talk, I will consider the structure formation under commonly used semi analytical model "spherical Top-Hat collapse" in flat Friedmann Robertson Walker (FRW) DE models. The effect of DE with constant equation of state parameter on the formation of non-linear structures is depicted. In the context of Press Schechter formalism, the predicted numbers of dark matter halos in DE cosmologies are calculated and the results are compared with the well-known LCDM model. Finally, on the basis of recent observational growth rate data, the linear structure formation in clustering dark energy models will be discussed.