

Abstract

We study non-linear structure formation made by baryonic matter out of context of dark matter scenario using a MONDian cosmological model. A simple spherical model is used for the growing of a patch of background starting from a epoch at which the considered scale entered to the MONDian regime . We show that structure with different sizes virialize at different redshifts and a down-top scenario of structure formation is foreseen. The other effect of this modified dynamics model is mass segregation in such a way that starting with a top-hat distribution will end with an isothermal like distribution of matter. The final stage of structures in this case before the virilizing time is a non-equilibrium thermodynamical stage and the structure needs a period of time to reach its equilibrium stage.