

EMBEDDING OF GALACTIC SYSTEMS IN EXTENDED NEUTRINO CLOUDS

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ABSTRACT. In an expanding universe neutrinos of mass 10eV form condensates with typical mass $10^{16} M_{\odot}$ and size ~ 0.5 Mpc. Visible matter like galaxies and stars are embedded in these and assuming a Maxwellian distribution and collisionless nature of these systems we solve the self consistent Poisson-Vlasov equations. These solutions correctly predict the profiles of luminosity of clusters of galaxies, dwarf, elliptic and spiral galaxies as well as their rotation curves; the embedding picture is supported by $M \propto R^3$ relation for astronomical systems as below.

