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EFFECT OF DARK MATTER PARAMETERS ON INTERACTION AND STRUCTURE FORMATION

Content :

It is believed that after big bang the Quark Gluon Plasma state of matter is formed which freeze out to form hadronic matter. At that stage dark matter was dominating other physical matter, due to annihilation and interaction with hadronic matter it starts to decay and converted into the dark energy. At present stage 73% dark energy, 24% dark matter and rest of the visible matter are the content of the universe. Cold Dark Matter simulations fit well with the evolution of large scale structure of universe and disagree with observations on small scale distances. A general assumption is that Dark Matter in galaxies and clusters is subject only to Newtonian gravity. In present work, we discuss modified gravitational interaction which leads to weaker binding than shown by Antonio R. Mondragon and R.E. Allen. In this picture, the dark matter is composed of fundamental scalar boson with an R parity of -1. We analyse the binding energy curves by varying the parameter of dark matter particle and study the nature of dark matter.

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