Heavy Quarks & Leptons



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Interactions of Mev and Gev sterile neutrinos with matter

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Both cosmology and astrophysics suggest the possible existence of a sterile neutrino with mass of several Kev , which is a dark matter candidate. The interaction of sterile neutrinos with matter in Kev energy scale has been studied in the literature. In this paper we study the interaction of sterile neutrinos with atoms and the role of sterile neutrinos on ionization of atoms in Mev and Gev energy scales. We also study the interaction of sterile neutrinos with nuclei in the Mev and Gev energy scales. We obtain the relevant cross sections for both these two interactions. Finally we compare our results with the results of Kev energy range.

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