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The effect of scalar meson interactions on symmetry energy in RMFT.

Tuesday 23 October 2018 18:00 (30 minutes)

An extension of the standard RMF theory by including interaction between sigma and delta mesons is proposed. The first-order and second-order interaction between those mesons is calculated separately. It is shown that in both cases that the symmetry energy E_{sym} can be diminished to some extent in the specific range of baryon density. However, for the second-order interaction E_{sym} can take even negative values for low enough coupling constant. Current work includes implementing those results into TOV equation. The neutron stars with a mass in the range $1.8-2.3 M_{\odot}$ were obtained.

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