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Modeling the mass of strange quark stars within the scope of PQCD

In the present work we address the equation of state for strange quark stars considering a model of high-density perturbative QCD (PQCD). In the second order regime of the strong coupling constant, the results depend sensitively on the choice of the renormalization mass scale that corresponds in turn to a first-order chiral transition. The results indicate quark stars with maximum masses higher than $2.0 \rm M_{\odot}$ and radii equivalent to ordinary neutron stars.

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