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Mass limit of strange star in colour flavour locked equation of state and density dependent B parameter

In this article we have analyzed a class of strange star described in terms of CFL phase equation of state. The results obtained by considering CFL equation of state is then compared with those obtained from MIT bag model equation of state. It is noted that if we consider the CFL phase equation of state in which the quarks are assumed to form cooper pair, the maximum mass of strange star takes value as high as 3.61 $M_{\odot}$ which is higher than the value 2.03 $M_{\odot}$ obtained by considering MIT bag model equation of state for non-interacting quarks. This higher mass limit of strange star in CFL equation of state admits wider range of compact objects such as 4U 1820-30, PSR J1614-2230, PSR J0030+0451, PSR J1903+0327, PSR J0740+6620, PSR J0952-0607 and mass of the companion star in gravitational wave events GW170817 and GW190814. Prediction of radius of few compact objects shows that CFL equation of state admits smaller radius of compact objects than MIT bag equation of state.

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