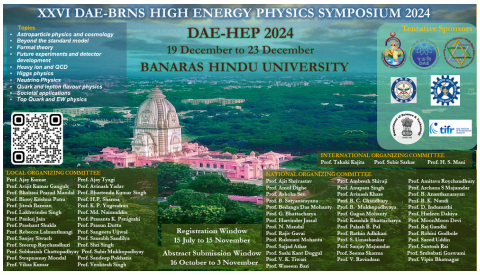

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Constraining the neutron star equation of state by including the isoscalar-vector and isovector-vector coupling using the Bayesian approach

We constrain the nuclear matter equation of state by including the isoscalar-vector and isovector-vector coupling using the Bayesian approach. We use the recent observation GW190814 (R. Abbott et al 2020 ApJL 896 L44) for the compact star of mass 2.6 $M_{\odot}$ along with the nuclear saturation properties for finite and infinite nuclear matter at saturation properties at saturation and supra-saturation. Here we see that the cross coupling between isocalar-vector and isovector-vector is more effective to reach such high mass of compact star. We use FSUGold and IU-FSU parameters as the references. Finally, we discuss the effects of such coupling on the non-radial oscillations of neutron stars.

Field of contribution

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