

Abstract Submitted
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Neutron Star EOS and Symmetry Energy in RMF model with three-body couplings KOHSUKE TSUBAKIHARA, Osaka Electro-Communication University, AKIRA OHNISHI, Yukawa Institute for Theoretical Physics, Kyoto University, TORU HARADA, Osaka Electro-Communication University — Neutron Star EOS(NS-EOS) is one of most interesting topics not only in astrophysics but also in nuclear physics. Symmetry energy in nuclear system and the emergence of hyperons in dense matter are key ingredients to investigate NS-EOS theoretically. We introduced $n = 3$ three-body couplings to RMF model and examine how valid they are to give reasonable descriptions of nuclear/hypernuclear properties. We have been able to obtain the quantitatively enough fit of both the bulk properties of finite nuclear systems and consistent symmetry energy with the one deduced from recent observations simultaneously. In this presentation, we present the results of hadronic star matter EOS, M-R relation, possibility of appearance of Σ^- in NS-EOS providing we fix isovector-vector couplings by fitting Σ^- atomic shift data, and so on.

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