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## Re-visiting the role of short-range correlations on neutron star properties

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Role of short-range correlations (SRCs) on properties of the neutron stars is re-examined by considering the behaviour of low density part of the equation of state, such that bulk properties of finite nuclei such that binding energy, charge radius, iso-scalar giant monopole resonance etc. remains unaffected with the addition of SRCs, within the framework of relativistic mean-field (RMF) models. Parameters of RMF models are re-calibrated by matching the behaviour of equation of state at sub-saturation densities rather than at single saturation density point, when SRCs are incorporated in such models. Relative response of energy of symmetric nuclear matter and density dependence of the nuclear symmetry energy towards SRCs governs the overall behaviour of equation of state of neutron star and may become softer or stiffer with the inclusion of SRCs for different types of interactions in the RMF model. The inclusion of short-range correlations in a few recently advocated equations of state brings the values of dimensionless tidal deformability closer to constrained limits from the GW170817 event.

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