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Constraining Skyrme-based neutron star equation of state from multi-messenger observations

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Neutron star equations of state based on Skyrme-interaction are one of the most widely used models to describe ultra-dense nuclear matter at the interior of these degenerate stars. In this presentation, I will discuss the effect of various Skyrme parameters on the stellar structural properties of a neutron star and its observables. I will also briefly present the potential source of biases in Bayesian inferences from astrophysical observations of gravitational waves and x-ray emissions, along with some of the possible avenues to mitigate them.

Author: MUKHERJEE, Arunava (Saha Institute of Nuclear Physics, Kolkata)

Presenter: MUKHERJEE, Arunava (Saha Institute of Nuclear Physics, Kolkata)

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