

Neutron star equation of state measurements from binary mergers

Friday, 20 September 2024 09:00 (50 minutes)

The study of neutron stars, dense remnants of stellar core collapse, provides a unique opportunity to explore the fundamental properties of matter under extreme conditions. In this talk I will review the status of our current understanding of the neutron star equation of state (EOS) through measurements derived from multi-messenger observations of binary neutron star mergers. Then, focusing on the inspiral-to-post-merger gravitational wave emission, I will discuss the prospect of constraining the EOS with third generation detectors such as Einstein Telescope and Cosmic Explorer, pointing out their potential as well as the challenges that their increased sensitivity will pose.

Presenter: GAMBA, Rossella (Pennsylvania State University / University of California, Berkeley)