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How well can gravitational wave observations of coalescing binaries involving neutron stars constrain the neutron star equation of state?

Wednesday 14 October 2015 14:00 (45 minutes)

The Advanced LIGO detectors began observation runs a few weeks ago. This has afforded relativists and astronomers the opportunity to use gravitational waves to improve our understanding of a variety of astronomical objects and phenomena. In this talk I will examine how well gravitational wave observations of coalescing binaries involving neutron stars might constrain the neutron star (NS) equation of state. These astrophysical constraints can improve our understanding of nuclear interactions in ways that complement the knowledge acquired from terrestrial labs. I will study the effects of different NS equations of states in both NS-NS and NS-Black Hole systems, with and without spin, on these constraints.

Presenter: Prof. BOSE, Sukanta (IUCAA, Pune)