

Contributed Talk

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Title: Exploring the strong regime of gravity with mergers of heavy compact objects.

Abstract: Gravitational-wave observations of compact binary mergers have granted us access for the first time to the strong regime of gravity. Because their merger-ringdown emission falls in the most sensitive band of Advanced LIGO and Virgo, mergers with masses above $100M_{\text{sun}}$ are excellent arenas to dig for new gravitational-wave observables and even search for new exotic compact objects. To date, however, only one such observation exists, known as GW190521. In this talk I will discuss efforts towards increasing the detection rate of these objects exploiting higher-order harmonics and alternative interpretations of existing events beyond the black-hole scenario, such as boson-stars.