

Gravitational Wave Signals from Binary-Single Black Hole Encounters in Star Clusters

Thursday, 26 October 2023 17:00 (2 hours)

Star clusters are the dynamical formation channel for binary black holes (BBHs). In these dense systems, BBH mergers are not only driven by gravitational wave (GW) emission but also by binary-single encounters with other objects in the environment. The focus of the talk will be on the GW signals generated by close encounters between a BBH and a third black hole. We characterized diverse GW signatures, that are produced through numerical simulations using stellar mass black holes as input masses. The talk will also consider the potential for these burst signals to fall within the sensitivity band of current and future ground-based detectors, depending on the parameters involved.

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