

ICTS Seminar

Title : Search for lensed gravitational wave signals from binary black hole mergers

Speaker : Haris M K, ICTS-TIFR, Bangalore

Date : Monday, October 29, 2018

Time : 10:00 AM

Venue : Emmy Noether Seminar Room, ICTS Campus, Bangalore

Abstract : Based on the rate of gravitational-wave (GW) detections by Advanced LIGO and Virgo, we expect these detectors to observe hundreds of binary black hole mergers as they achieve their design sensitivities. A small fraction of them can undergo strong gravitational lensing by intervening galaxies, resulting in multiple images of the same signal. To a very good approximation, the lensing magnifies/de-magnifies these GW signals without affecting their frequency profiles. Identifying such lensed images of GW events will help us to improve the parameter estimation of the merger event and study the properties of the underlying lens. In this talk, I will discuss an algorithm we developed to identify such strongly lensed GW images and demonstrate its performance using simulated GW observations.