

ICTS Astrophysical Relativity Seminar

Title : Detectability of gravitational higher order modes in the 3G era

Speaker : Divyajyoti (Indian Institute of Technology, Madras)

Date : Wednesday, 17th March 2021

Time : 02:00 pm

Abstract : The LIGO-Virgo collaboration has reported the detection of nearly 50 compact binary mergers, including the recent GWTC-2 catalog events. This number is expected to increase considerably with the planned network of 3rd generation detectors. In this study, we assess the detectability of higher order modes of gravitational radiation, in the next generation detectors such as Cosmic Explorer and Einstein Telescope. Besides, a study concerning the effect of binary's mass ratio and its orbital inclination with the observer's line-of-sight in detecting various modes is presented. For a few selected events of the LIGO-Virgo catalog, we identify the modes that would have been detected if a third-generation detector was operational when these events were recorded. Observing these higher order modes in the 3G era would have a huge impact on the science possible with these detectors ranging from astrophysics and cosmology to testing strong-field gravity.

Venue : Please click on the link to join the seminar

<https://zoom.us/j/95776592029?pwd=enJXRXBVdytsSmtuMjA4cFhvQ3NJUT09>

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