अंतर्राष्ट्रीय सैद्धांतिक विज्ञान केंद्र
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भारत सरकार के परमाणु ऊर्जा विभाग की एकस्वायत्त संस्थान एवं समविश्वविद्यालय
An Autonomous Institution of the Department of Atomic Energy of Government of India and a Deemed to be University

ICTS Thesis Defence Seminar

Title : Detecting strong gravitational lensing of gravitational waves

Speaker : Ankur Barsode (ICTS-TIFR, Bengaluru)

Date : Monday, 30 November 2026

Time : 03:30 PM – 05:00 PM (IST)

Abstract : If a massive object (e.g., a galaxy) lies along the line-of-sight to the source of gravitational waves (GW), it can bend their propagation paths. Strong lensing of GWs occurs when multiple paths bend towards the observer, leading to multiple copies of the same signal arriving at our detectors at different times. If detected, such lensed GWs could provide a powerful probe of dark matter and high redshift cosmology, along with applications in source localisation and polarization measurement. However, the prerequisite problem of identifying such images from GW data is statistically as well as computationally challenging. In this talk, I will present some of the recent developments in GW strong lensing search, including a forecast for when the first detection might happen.

Venue : Feynman Lecture Hall
Zoom Link: https://zoom.us/j/95835995679?pwd=xnLhwGbQhqFxGNnpCahLPvLzfGQbn9.1
Meeting ID: 958 3599 5679
Passcode: 202630

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