ICTS | INTERNATIONAL CENTRE for THEORETICAL SCIENCES

TATA INSTITUTE OF FUNDAMENTAL RESEARCH

ICTS Astrophysics and Relativity Seminar (HYBRID)

Title : Constraining properties of asymmetric dark matter candidates from gravitational-wave observations

Speaker : Divya Singh (Pennsylvania State University)

Date : Friday, 21st April 2023

Time : 11:30 am (IST)

Abstract : The accumulation of dark matter particles in neutron star(NS) cores over long timescales could lead to the formation of a mini black hole causing the neutron star causing the NS to destabilize, and eventually implode to form a similarly massive black hole. In this talk, I will discuss the capability of different generations of GW detector networks to differentiate between populations of binary black hole and binary neutron star systems with component masses 1-2 solar masses through the measurement of the effective tidal deformability parameter, and in turn set limits on dark matter properties using the relative abundance of BNS and BBH mergers.

Venue : **Offline:** Emmy Noether Seminar Room (ICTS)

Online: Please click the below link to join the seminar.

https://icts-res-in.zoom.us/j/89179610280?pwd=RDZ6VlJybUxrdmpsbEp5dzRtM2dpZz09

Meeting ID: 891 7961 0280

Passcode: 212123

International Centre for Theoretical Sciences - TIFR
Survey No. 151, Shivakote Village, Hesaraghatta Hobli, Bengaluru (North) - 560089 Tel: +91 80 4653 6000 Fax: +91 80 4653 6002
Email: academicoffice@icts.res.in **Website:** www.icts.res.in