



ICTS Astrophysics and Relativity Seminar (HYBRID)

Title : Extended minimal theories of massive gravity

Speaker : Masroor C Pookkillath (Mahidol University, Thailand)

Date : Thursday, 13th April 2023

Time : 05:30 pm (IST)

Abstract : Cosmological surveys show that the Λ CDM model is the most favored model of our universe. However, this model doesn't explain the physical origin of the dark sectors. The recent growing tensions in cosmology, Hubble tension, and S_8 tension obstructs our understanding of the dark sectors. Modified Gravity theories are promising candidates to address the above issues.

I introduce a class of extended minimal theories of massive gravity. To understand how the effective gravitational force works for this theory, we investigate cosmological scalar perturbations. We then restrict the models by imposing the following conditions at all times: (1) define an effective gravitational constant, G_{eff} ; (2) the value $G_{\text{eff}}/G_{\text{N}}$ is finite but not always equal to unity, and (3) the square of the mass of the graviton is always positive. Finally, we focus on a subclass of such theories and show they have a rich and compelling phenomenology.

Venue : **Offline:** Chern Lecture Hall (ICTS)

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

<https://icts-res-in.zoom.us/j/89901829097?pwd=WmRLalY4UjY4R1lrTENIbExpYUZuUT09>

Meeting ID: 899 0182 9097

Passcode: 131323