

INDIAN ASSOCIATION FOR THE CULTIVATION OF SCIENCE
2A & 2B, Raja S.C. Mullick Road, Jadavpur, Kolkata-700032, India

Seminar Notice

Org. by:
School of Physical Sciences

Title:	Testing the Strong Cosmic Censorship Conjecture in anti-de Sitter spacetimes
Speaker:	Subhodeep Sarkar, IIIT Allahabad
Date:	July 28, 2022 (Thursday)
Time:	15:00 hours (IST)
Venue:	Physics Seminar Room (C-406), 3rd Floor, Centenary Building, IACS
Abstract:	Determinism is the cornerstone of any successful theory of nature. The internal structure of black holes holds the key to answering this question of determinism in general relativity which is supposedly guaranteed by the Strong Cosmic Censorship (SCC) conjecture. It is therefore imperative to use theoretical tools to probe the stability of the inner horizons of various black holes and verify if SCC is indeed respected. Over the years, we have gained reasonable experience in this area, and have managed to answer the question in the context of asymptotically flat and de Sitter spacetimes. We have turned our attention to anti-de Sitter (AdS) spacetimes fairly recently. In this talk, I will discuss the validity of SCC in 2+1 and 1+1 AdS dimensions. We will see that a non-extreme BTZ black hole respects cosmic censorship. A simple toy mass inflation model is able to capture the subtle physics involved near the Cauchy horizon. We also show how similar considerations hold for 2D AdS black holes in JT gravity.

All are cordially invited to attend the Seminar