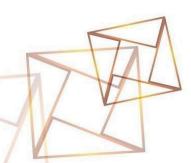
TATA INSTITUTE OF FUNDAMENTAL RESEARCH



ICTS String Seminar

Title : The giant graviton expansion in $AdS5 \times S5$

Speaker: Sameer Murthy (King's College London, United Kingdom)

Date : Tuesday, 31 December 2024

Time : 11:30 AM (IST)

Abstract : The superconformal index of 1/2 - BPS states of N = 4U(N) super Yang-Mills theory

has a known infinite q-series expression with successive terms suppressed by q^N , called the Giant Graviton Expansion. We derive a holographic bulk interpretation of this series by considering the corresponding functional integral in the dual $AdS5 \times S5$ at finite N. I will discuss how the integral localizes to collections of maximal giants, i.e. D-branes wrapping a maximal 3-sphere inside the 5-sphere. The small fluctuations of the maximal giant are described by a supersymmetric version of the Landau problem. The supersymmetric index of this system and its matrix versions precisely reproduce the successive terms of the GGE.

Venue : Emmy Noether Seminar Hall

Zoom Link: https://icts-res-in.zoom.us/j/88092766911?pwd=R3ZrVk9yeW96ZmQ4ZG9KRzVhenRKZz09

Meeting ID: 880 9276 6911

Passcode: 232322