ICTS | INTERNATIONAL CENTRE for THEORETICAL SCIENCES

TATA INSTITUTE OF FUNDAMENTAL RESEARCH

ICTS String Seminar

Title : Universality in spin-refined high-energy data of higher D CFT

Speaker : Sridip Pal (California Institute of Technology, USA)

Date : Wednesday, 26th June 2024

Time : 03:00 PM (IST)

Abstract : We show that thermal effective field theory controls the high-temperature expansion of the partition function of a d-dimensional CFT with an insertion of any finite-order spatial isometry. As an example application, we find that for CFTs, the effective free energy of even-spin minus odd-spin operators at high temperatures is smaller than the usual free energy by a factor of 1/2d. Near certain rational angles, the partition function receives subleading contributions from "Kaluza-Klein vortex defects" in the thermal EFT, which we classify. We illustrate our results with examples in free and holographic theories, and also discuss nonperturbative corrections from worldline instantons. We also show that the same EFT describes the long-distance expansion of the partition function of a d-dimensional QFT with an insertion of any finite-order spatial isometry.

Venue : Madhava Lecture Hall

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

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