ICTS String Seminar

Title : Cubic string field theory using auxiliary fields

Speaker : Harold Erbin (Institute of Theoretical Physics, France)

Date : Friday, 05 December 2025

Time : 2:30 PM (IST)

Abstract : In general; string field theories (SFT) are non-polynomial – they have an infinite number of terms in the action, like gravity expanded around a background. On the contrary, Witten's open bosonic SFT is cubic, which made it possible to perform many computations, such as finding analytic solutions. While there is a no-go theorem from Sonoda and Zwiebach concerning the construction of a cubic closed SFT, the strictification theorem states that such a cubic formulation must exist in a sufficiently large Hilbert space. In this talk, I will show how to implement this idea with auxiliary fields, which circumvents the assumptions behind the no-go theorem. I will provide an explicit example by showing how open SFT with stubs can be made cubic with a single auxiliary field. I will discuss how these ideas can be generalized to other theories and how they fit with the homotopy algebras of SFT.

Venue : Feynman Lecture Hall
Zoom Link: https://icts-res-in.zoom.us/j/88092766911?pwd=R3ZrVk9yeW96ZmQ4ZG9KRzVhenRKZz09
Meeting ID: 880 9276 6911
Passcode: 232322