



Department of  
Theoretical Physics

# THE QUANTUM SPACETIME SEMINAR SERIES

## Spacetime Avatar of Generalized Symmetries on the String Worldsheet

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**Date:** October 14, 2024

**Time:** 11 AM IST

**Venue:** A304

Zoom link shall be shared separately



In this talk, we discuss the spacetime consequences of fusion categorical symmetries on the string worldsheet. Generalizing the known example of string scattering on non-Abelian orbifold, we explain that the fusion categorical symmetry in the worldsheet constrains the tree-level scattering amplitudes, but such constraints get weaker at loop level. Eventually, at the infinite loop level, the remaining constraint on the scattering amplitudes is reduced to a finite abelian group. We discuss Ising model and bosonic string on  $S^1/Z_2$  as examples. Based on 2402.00105 with Justin Kaidi and Yuji Tachikawa. Time permitting, we will also comment on the worldsheet understanding of the K-theoretic symmetry identified in 2404.16097.