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ICTS String Seminar

Title : The characteristics of the Z-boson in Chern-Simons-matter theory

Speaker : Amiya Mishra (Yau Center of Southeast University, China)

Date : Monday, 02 June 2025

Time : 3:30 PM (IST)

Abstract : One of the powerful tools to study strongly coupled field theories is duality - the claim that certain strongly coupled field theories are equivalent to (generally different) weakly coupled theories. I will discuss aspects of non-abelian Chern-Simons theory coupled to non-supersymmetric fundamental matter in three-spacetime dimensions, focusing on a dual pair known as quasi-fermionic theories: the critical boson and the regular fermion. I will address an apparent puzzle in the Higgsed phase of the critical boson theory - regarding the characteristics of the Z-boson and its dual fermionic interpretation. By employing 3d Bose-Fermi duality, I will derive the exact large N result for the two-point function of the Z-boson and explore its spectral representation, highlighting the implications.

Venue : Online

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

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