



ICTS

INTERNATIONAL
CENTRE *for*
THEORETICAL
SCIENCES

TATA INSTITUTE OF FUNDAMENTAL RESEARCH

ICTS Condensed Matter and Statistical Physics Seminar

Title : Introduction to tensor networks for many-body physics

Speaker : Rahul Trivedi (Max Planck Institute of Quantum Optics)

Date : Tuesday, 13 October 2026

Time : 11:30 AM (IST)

Abstract : Tensor networks provide a unifying mathematical language for reasoning about area law states, which are known to be of importance in studying gapped and stable phases of matter. In this talk, I will provide an introduction to the basics of tensor network, including diagrammatic notation for tensor network contractions. Then, I will consider the case of 1D tensor network states (or matrix product states) and explain how a full classification of these states can be accomplished. Finally, I will discuss our recent work on classification of 2D tensor network states and their connection to topological quantum order.

Venue : Emmy Noether Seminar Room

Zoom Meeting: <https://icts-res-in.zoom.us/j/97259593631?pwd=aDag5eaPTDKYcoGb0a7ldo2IgWKtBY.1>

Meeting ID: 972 5959 3631

Passcode: 131314