ICTS String Seminar

Title : On lattice axial symmetries

Speaker : Shu-Heng Shao (Massachusetts Institute of Technology, USA)

Date : Thursday, 10 October 2024

Time : 6:00 PM (IST)

Abstract : Can we regularize the chiral global symmetry and its anomaly on a lattice with a finite dimensional Hilbert space? We discuss how the vector and axial U(1) symmetries of a massless Dirac fermion in 1+1d are realized in a Hamiltonian lattice model. Interestingly, these two lattice charges do not commute and form an infinite dimensional algebra, which is consistent with the Nielsen-Ninomiya theorem. After bosonization, this leads to the exact momentum and winding U(1) global symmetries in the lattice XY model.

Venue : Online
Zoom Link: https://icts-res-in.zoom.us/j/95573366829?pwd=dhJjpK4SOLGdPXJF8Oib9pvbnzTdWU.1
Meeting ID: 955 7336 6829
Passcode: 146328