Contribution ID: **107** Type: **not specified**

Lattice Chiral Fermion without Hermiticity

Tuesday, 26 August 2025 15:15 (20 minutes)

We discuss the naive lattice fermion without the issue of doublers. A local lattice massless fermion action with chiral symmetry and Hermiticity cannot avoid the doubling problem from the Nielsen-Ninomiya theorem. Here we adopt the forward finite-difference, deforming the ⊠5-Hermiticity but preserving the continuum chiral symmetry. The lattice momentum is not Hermitian without the continuum limit now. We demonstrate that there is no doubling issue with an exact solution and showcase the numerical implementation of the hybrid Monte Carlo.

Primary authors: MA, Chen-Te; Prof. ZHANG, Hui (South China Normal University)

Presenter: MA, Chen-Te

Session Classification: Contributed talks

Track Classification: Invited talk