LATTICE 21

JULY 26-30 2021, ZOOM/GATHER@MIT

Contribution ID: **533**   Type: **Oral presentation**

Tensor renormalization group analysis for reduced staggered fermions

Tuesday, 27 July 2021 14:30 (15 minutes)

Reduced staggered fermions afford a very economical lattice fermion formulation yielding just two Dirac fermions in the continuum limit. They have also been used to construct models capable of symmetric mass generation. However, generically they suffer from sign problems. We discuss an application of the tensor renormalization group, a sign problem free method, to such models. We make a comparison between tensor renormalization group results and RHMC results in smaller volumes and show behaviors of physical observables in the thermodynamic and the continuum limits.

Primary author: SAKAI, Ryo (University of Iowa)

Co-authors: CATTERALL, simon; MEURICE, Yannick (University of Iowa)

Presenter: SAKAI, Ryo (University of Iowa)

Session Classification: Algorithms (including Machine Learning, Quantum Computing, Tensor Networks)

Track Classification: Algorithms (including Machine Learning, Quantum Computing, Tensor Networks)