

Contribution ID: 187 Type: Talk

Spectral Flow and Index Theorem for Staggered Fermions

Tuesday, 24 June 2014 17:30 (20 minutes)

We investigate numerically the spectral flow introduced by Adams for the staggered Dirac operator on realistic quenched gauge configurations in 2D and 4D. We study both the unimproved and the HISQ Dirac operators, and we compare with the case of spectral flow for Wilson fermions. We show that the spectral flow provides a good topological definition of the index, with a clear separation of high and low crossing modes, especially for the HISQ Dirac operator.

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Track Classification: Vacuum Structure and Confinement