Contribution ID: **197**   Type: **Oral presentation**

Neutron Electric Dipole Moment from Overlap Fermions

Wednesday 28 July 2021 06:30 (15 minutes)

We report our effort on calculating the neutron electric dipole moment (EDM) induced by the theta term using overlap fermions. Three 2+1-flavor RBC/UKQCD domain wall lattices with pion mass ranging from ˜300 to ˜500 MeV are utilized and on each gauge ensemble we use 3 partially-quenched valence pion masses. Lattice chiral fermions are essential in the calculation, which guarantees a correct chiral limit even at finite lattice spacings, and enables us to reliably extrapolate our result from heavy pion masses to the physical point. Thanks to the cluster decomposition error reduction (CDER) technique and the partially-quenched chiral extrapolation formula, the statistical uncertainties of our calculation are effectively controlled.

Primary authors: LIANG, Jian; LIU, Kehfei

Presenter: LIANG, Jian

Session Classification: QCD in searches for physics beyond the Standard Model