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Nucleon Axial Form Factor from Domain Wall on HISQ

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The Deep Underground Neutrino Experiment (DUNE) is an upcoming neutrino oscillation experiment that is poised to answer key questions about the nature of the neutrino. Lattice QCD has the ability to make significant impact upon DUNE by computing the interaction of a nucleon to a weak current. Nucleon amplitudes involving the axial form factor are part of the primary signal measurement process for DUNE, and precise calculations from LQCD can significantly reduce the uncertainty for inputs into Monte Carlo generators. Recent calculations of the nucleon axial charge have demonstrated that sub-percent precision is possible on this vital quantity. In this talk, I will discuss preliminary results for the Callat collaboration's calculation of the axial form factor of the nucleon. These computations are performed with Möbius domain wall valence quarks on HISQ sea quark ensembles generated by the MILC and Callat collaborations. The results use a variety of ensembles including several at physical pion mass.

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