The 33rd International Symposium on Lattice Field Theory (Lattice 2015)



Contribution ID: 253

Type: Poster

Quark Spin in Proton from Anomalous Ward Indentity

Wednesday, 15 July 2015 18:30 (2h 30m)

We report a quark spin calculation from the anomalous Ward identity with overlap fermions on 2+1 flavor dynamical fermion configurations. Such a formulation decomposes the divergence of the flavor-singlet axial-vector current into a quark pseudoscalar term and a triangle anomaly term, flavor by flavor. We use the overlap fermion for the valence and the quark loop so that the renormalization constants Zm and ZP cancel in the pseudoscalar operator 2mP. In addition, the overlap Dirac operator is used to calculate the local topological charge in the anomaly so that there is no renormalization for the anomaly term either.

Primary author: Prof. GONG, Ming (Institute of High Energy Physics, CAS)
Co-authors: Prof. LIU, Keh-Fei (University of Kentucky); Dr YANG, yibo (University of kentucky)
Presenter: Prof. GONG, Ming (Institute of High Energy Physics, CAS)
Session Classification: Poster Session

Track Classification: Hadron Structure