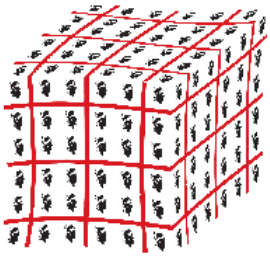

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Momentum dependence of the topological susceptibility with overlap fermions

Friday, 18 June 2010 15:30 (20 minutes)

We investigate the momentum dependence of the topological susceptibility and its derivative at zero momentum with overlap fermions.
We expose the role of the low-lying Dirac eigenmodes for the topological charge density, and find a negative value for the derivative. While the sign of the derivative is consistent with the QCD sum rule in pure Yang-Mills theory, the absolute value is estimated larger if only the contribution from the zero modes and of the low-lying eigenmodes is taken into account. We also examine the effect of dynamical quarks by a reweighting method and find that it reduces the topological susceptibility for smaller quark masses and triggers the change of sign of the derivative.

Please, insert your presentation type (talk, poster)

talk

Primary author: KOMA, Yoshiaki (Numazu College of Technology)

Co-authors: Dr ILGENFRITZ, Ernst-Michael (Institut fuer Physik, Humboldt-Universitaet zu Berlin); Dr SCHIERHOLZ, Gerrit (Deutsches Elektronen-Synchrotron DESY); Dr KOLLER, Karl (Fakultaet fuer Physik, Ludwig-Maximilians-Universitaet Muenchen); Dr KOMA, Miho (Numazu College of Technology); Dr STREUER, Thomas (Institut fuer Theoretische Physik, Universitaet Regensburg); Dr WEINBERG, Volker (Leibniz-Rechenzentrum der Bayerischen Akademie der Wissenschaften)

Presenter: KOMA, Yoshiaki (Numazu College of Technology)

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