



Contribution ID: 254

Type: not specified

Topological charge in two flavors QCD with optimal domain-wall fermion

Tuesday, 15 June 2010 12:10 (20 minutes)

We determine the topological charge and its fluctuations for the gauge configurations generated by lattice simulations of 2 flavors QCD with optimal domain-wall fermion, on a $16^3 \times 32 \times 16$ lattice with Wilson gauge action at $\beta = 5.90$. We project the low-lying modes of the lattice Dirac operator with the Lanczos thick-restart algorithm, and obtain the topological charge, the topological susceptibility (χ_t) and the second normalized cumulant (c_4). Our preliminary results of χ_t and c_4 agree with the sea-quark mass dependence predicted by the chiral perturbation theory.

Please, insert your presentation type (talk, poster)

talk

Primary author: HSIEH, Tung-Han (Research Center for Applied Sciences, Academia Sinica)

Co-authors: OGAWA, Kenji (Department of Physics, National Taiwan University); Prof. CHIU, Ting-Wai (Department of Physics, National Taiwan University); MAO, Yao-Yuan (Department of Physics, National Taiwan University)

Presenter: HSIEH, Tung-Han (Research Center for Applied Sciences, Academia Sinica)

Session Classification: Parallel 24: Chiral symmetry

Track Classification: Chiral symmetry