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

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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 ( $\chi_t$ ) and the second normalized cumulant ( $c_4$ ). Our preliminary results of  $\chi_t$  and  $c_4$  agree with the sea-quark mass dependence predicted by the chiral perturbation theory.

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talk

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