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Finite temperature QCD with physical $(u/d, s, c)$ domain-wall quarks

Wednesday, 28 July 2021 05:00 (15 minutes)

I outline the simulation of lattice QCD with $N_f = 2 + 1 + 1$ optimal domain-wall quarks at the physical point, on the $64^3 \times (6, 8, 10, 12, 16, 20)$ lattices, for three lattice spacings $a \sim 0.064 - 0.075$ fm. The quark masses and lattice spacings are determined at the zero temperature on the 64^4 lattice. The topological susceptibility of each gauge ensemble is measured by the Wilson flow. In this talk, I present the topological susceptibility $\chi_t(a, T)$ of these gauge ensembles for temperature $T \sim 150 - 520$ MeV, and also obtain $\chi_t(T)$ in the continuum limit.

Primary author: Prof. CHIU, Ting-Wai (National Taiwan University)

Presenter: Prof. CHIU, Ting-Wai (National Taiwan University)

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