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Axial U(1) symmetry at high temperatures in $N_f = 2 + 1$ lattice QCD with chiral fermions

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The axial U(1) anomaly in high-temperature QCD plays an important role to understand the phase diagram of QCD. The previous works by JLQCD Collaboration studied high-temperature QCD using 2-flavor dynamical chiral fermions, such as the domain-wall fermion and reweighted overlap fermion. We extend our simulations to QCD with 2+1 flavor dynamical quarks, where the masses of the up, down, and strange quarks are near the physical point, and the temperatures are close to or higher than the pseudocritical temperature. In this talk, we will present the results for the topological susceptibility, axial U(1) susceptibility, and hadronic collelators.

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