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Effects of near-zero Dirac eigenmodes on axial U(1) symmetry at finite temperature

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We investigate the issue of possible restoration of the axial U(1) symmetry at finite temperature, using lattice simulations with the Mobius domain-wall fermion. In this talk, we focus on the effects of near-zero Dirac eigenmodes, which play a crucial role for both SU(2)xSU(2) chiral symmetry restoration and the restoration/breaking of axial U(1) symmetry.
Performing simulations at two different volumes, two different quark masses, and reweighting to other masses and to overlap Dirac operators, we study its volume, mass, residual mass dependences.

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