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Calculation of PCAC mass with Wilson fermion using gradient flow

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We calculate the PCAC mass for $N_f = 2 + 1$ flavor full QCD with Wilson fermion. We adopt the gradient flow method as a non-perturbative renormalization scheme. Our calculations are performed on two different mass parameters; heavy ud quark with $m_\pi/m_\rho \simeq 0.63$ and almost physical s quark, and physical quarks. We compare the results with those renormalized with the Schrodinger functional scheme. We also present our preliminary calculation performed on large ($L \sim 5$ fm) lattice with physical quark mass.

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