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Mass and Axial current renormalization in the Schrödinger functional scheme for the RG-improved gauge and the stout smeared $O(a)$ -improved Wilson quark actions.

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We present the quark mass and axial current renormalization factors for the RG-improved gauge and the stout smeared $O(a)$ -improved Wilson quark actions.

The $O(a)$ improvement coefficient for the three-flavors of dynamical quarks has been determined previously with the stout-link

smearing parameter $\alpha = 0.1, n = 6$.

We employ the Schrödinger functional scheme and obtain the renormalization factors at $\beta = 1.82$ with three-flavors of quarks

where a large scale simulation is being carried out.

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