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RIMOM renormalization using domain wall and staggered fermions

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We present the scalar, pseudoscalar, vector and axial-vector renormalization constants with the regularization independent momentum subtraction (RI/MOM) scheme as the intermediate scheme using domain wall fermion on 2+1 flavors ensembles from RBC/UKQCD collaboration and highly improved staggered quark on 2+1+1 flavors ensembles from MILC. A two-step matching method is used to reduce the systematic uncertainties. After converting the renormalization constants in the RI/MOM scheme to the $\overline{\rm MS}$ scheme perturbatively and applying the relation that the mass renormalization constant is the reciprocal of the scalar composite operator renormalization constant for the chiral fermion, one can determine the physical light and strange quark masses of those actions as a verification of the previous results obtained through the symmetric momentum subtraction (SMOM) scheme.

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