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The step scaling function of the SU(3) 2 flavor sextet model with Wilson fermions

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We investigate the discrete β function of the 2-flavor SU(3) sextet model using the gradient flow scheme. Staggered fermion investigations suggest that the system is chirally broken, contradicting earlier Schroedinger functional Wilson fermion studies that were consistent with conformality. Our results, using improved Wilson fermions and the gradient flow RG scheme, suggests a step scaling function that differs significantly from the perturbative 2-loop prediction and in tension with the staggered results. Considering the potential phenomenological impact of this model, it is important to resolve this disagreement.

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