2+1 flavor QCD thermodynamics with stout-link improved staggered fermions

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Abstract: We report the status on our QCD thermodynamics project, where the tree-level Symanzik-improved gauge action and the Kogut-Susskind fermion action with stout links are employed. The staggered flavor-symmetry violation and scaling violation on the hadron masses are evaluated at zero temperature. The line of constant physics is determined for the thermodynamics with realistic masses for three light flavors.