

The QCD Equation of State with Asqtad staggered fermions

Presenter: Ludmila Levkova (Indiana University)

C. Bernard, T. Burch, C. DeTar, S. Gottlieb, U. Heller, L. Levkova, J. Osborn, D. Renner, R. Sugar, D. Toussaint

Abstract: We report our final result for the equation of state (EOS) with a Symanzik improved gauge action and the Asqtad improved staggered fermion action at $N_t = 4$ and 6. In our dynamical simulations with 2+1 flavors we use the inexact R -algorithm. In this contribution we emphasize our estimate of the finite step-size systematic error on the EOS. Finally, we discuss the extension of the EOS computation to non-zero chemical potential and give some preliminary results.