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Correlations and fluctuations from lattice QCD: Wuppertal-Budapest results

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We present the new results of the Wuppertal-Budapest lattice QCD collaboration on flavor diagonal and non-diagonal quark number susceptibilities with 2+1 staggered quark flavors, in a temperature regime between 120 and 400 MeV. A Symanzik improved gauge and a stout-link improved staggered fermion action is utilized; the light and strange quark masses are set to their physical values. Lattices with N_t=6,8,10,12,16 are used. We perform a continuum extrapolation of all observables under study. Preliminary results for charm quark susceptibilities are also presented, with the charm quark treated at the partially quenched level.

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