Quark Matter 2012



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QCD Critical Point : Marching towards continuum

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We simulate QCD with two light dynamical quarks on a 32³ X 8 lattice by tuning the current quark mass such that the Goldstone pion mass is about 230 MeV. Earlier results of our Mumbai group corresponded to the same physical parameters but were on coarser lattices at respectively 1.33 times and twice the lattice cut-off (a) compared to these simulations, thus permitting us a march towards the continuum limit. Employing the Taylor expansion method we had proposed earlier to estimate the radius of convergence of the series for the baryonic susceptibility, and using up to eight order terms, we attempt to zoom in on the QCD critical point

Primary authors: GAVAI, Rajiv V (Tata Institute, Mumbai, India); DATTA, Saumen (T); Prof. GUPTA, Sourendu (TIFR, Mumbai)

Presenter: GAVAI, Rajiv V (Tata Institute, Mumbai, India)

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