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Complex Langevin simulations of a finite density matrix model for QCD

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We study the Stephanov model, which is a Random Matrix Theory model for QCD at finite baryon density, using the Complex Langevin algorithm. Naive implementation of the algorithm
shows convergence towards the phase quenched or quenched theory rather than to the intended theory with dynamical quarks. A detailed analysis of this issue and various potential
resolutions of the failure of this algorithm are discussed.

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