



Contribution ID: 165

Type: **Talk**

Insights into the heavy dense QCD phase diagram using Complex Langevin simulations

Wednesday, 15 July 2015 14:40 (20 minutes)

Complex Langevin simulations provide an alternative to sample path integrals with complex weights and therefore are suited to determine the phase diagram of QCD from first principles. Adaptive step-size scaling and gauge cooling are used to make correct convergence possible. We present results for the phase diagram of QCD in the limit of heavy quarks and discuss the order of the phase transitions, which are studied by varying the spatial simulation volume.

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Session Classification: Nonzero Temperature and Density

Track Classification: Nonzero Temperature and Density