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Abstract for an Invited Paper for the APR20 Meeting of the American Physical Society

## QCD at non-zero temperature and density $^1$

RASMUS LARSEN<sup>2</sup>, Brookhaven National Laboratory

We explore 2+1 flavor QCD at non-zero temperature and density on the lattice. We find the phase boundary at chemical potential up to 300 MeV and explore how to probe the confinement transition using heavy quarkonium. We also show new results on the fluctuations of baryons at finite chemical potential.

<sup>1</sup>hotQCD Collaboration

<sup>2</sup>hotQCD Collaboration