

# Signatures of a Higher Temperature QCD Transition in the Early Universe

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Beyond Standard Model physics could increase the temperature the QCD phase transition and transform it to a first order phase transition. Primordial black hole production is enhanced during first order phase transitions due to a softening of the equation of state and could result in significant abundances without a corresponding peak in the inflationary power spectrum. In contrast to the SM QCD transition, PBH produced at higher temperatures would have smaller masses and could be a dark matter candidate within the asteroid mass window or match the proposed Hyper Suprime-Cam microlensing signal. Furthermore, the curvature perturbations that generate these PBH populations can account for the claimed NANOGrav gravitational wave signal.

## Secondary category for the parallel session (optional)

Cosmology

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