

Implications of the Tensor Mode Detection by BICEP2 for the QCD Axion

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We discuss the implications of the recent detection of tensor modes by BICEP2 for the QCD axion. We focus particularly on the possibility that the Peccei-Quinn symmetry is spontaneously broken during primordial inflation, while satisfying the constraints on isocurvature perturbation, and the QCD axions constitute dark matter in the universe.