

QCD axion dark matter and the cosmic dipole anomaly

There is growing evidence that the cosmic dipole measured from the distant galaxy number-count is not consistent with that of CMB and the deviation is getting close to 5σ . We find that the QCD axion, a hypothetical particle originating from the spontaneous breaking of the Peccei-Quinn symmetry, could explain this dipole anomaly if it constitutes the dark matter of our universe. This model requires that the Hubble parameter during inflation should be lower than 10^7 GeV which indicates low scale inflation.

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