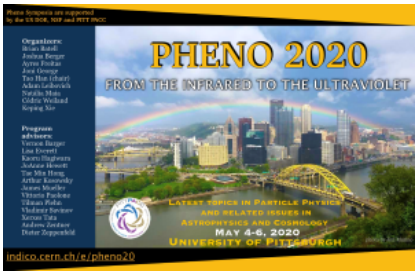

Contribution ID: **964** Type: **Parallel Talk**

QCD axion DM and inflation scale

Tuesday 5 May 2020 16:45 (15 minutes)

I show that the upper bound of the classical QCD axion window can be significantly relaxed with low-scale inflation. If the Gibbons-Hawking temperature during inflation is lower than the QCD scale and the inflation lasts long enough, the initial QCD axion misalignment angle follows an equilibrium distribution. The distribution is peaked at the strong CP conserving minimum and the variance is much smaller than O(1) if the inflation scale is smaller than 10^8 GeV. As a result, the axion can be the dark matter even for an axion decay constant much larger than 10^{12} GeV.

Summary

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