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Axion minicluster power spectrum and mass function

Wednesday 20 June 2018 12:10 (5 minutes)

We present a semi-analytical method to calculate the average axion energy density, as well as the power spectrum, from the re-alignment mechanism in a scenario where the Peccei-Quinn symmetry breaking happens after inflation. Furthermore, we develop a modified Press & Schechter approach, suitable to describe the collapse of non-linear density fluctuations during radiation domination. This allows us to make a prediction for the distribution of mass and size of axion miniclusters. The presentation is based on the work published with the arXiv number 1708.04466.

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