

Axion star condensation around primordial black holes and microlensing limits

Friday, 31 May 2024 17:35 (5 minutes)

Dark matter is one of the biggest mysteries in physics and astronomy today. While multiple dark matter candidates have been proposed, such as the axion and primordial black holes (PBHs), the interplay between them is not well understood. In this talk, I will focus on the formation of axion minihalos around PBHs and the condensation of axion stars inside them, and reveal distinct morphological characteristics of these structures compared to isolated axion star scenarios. Furthermore, I will explore the implications of these results when applied to gravitational microlensing from extended objects, providing constraints on the fraction of these objects contributing to microlensing events from the EROS-2 survey.

Paper info

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