

Axions in the post-inflationary scenario

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In the scenario in which the axion is born after inflation, understanding the abundance and distribution of axion dark matter requires dedicated numerical simulations. We study the complex dynamics of the axion field's evolution, including the scaling of the axion cosmic string network, the decay of domain walls, and the gravitational formation of miniclusters by means of lattice and N-body simulations. Given the expanding experimental campaign to search for axions and axion-like particles, these simulations have potentially wide implications for present-day searches.

Authors: O'HARE, Ciaran (Sydney); PIEROBON, Giovanni; REDONDO, Javier (Universidad de Zaragoza); WONG, Yvonne

Presenter: PIEROBON, Giovanni

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