



UNIVERSITY OF MIAMI  
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# Growth and Evaporation of Axion Soliton

## Abstract

Axion-like dark matter is an emerging candidate challenging the conventional cold dark matter paradigm. The ground state of a Bose-Einstein condensate under self-gravity manifests as a compact and small core, effectively forming a soliton. This soliton features a flat density profile, aligning with the observed inner profiles of dwarf galaxies. In our simulations, we aim to elucidate the responses of a soliton to various environmental conditions.