

Hints and constraints on ultralight dark matter by astronomical observations

Generated by misalignment mechanism of axion-like particle dark matter may favor an ultralight mass, which can be described by classical wave field. The ultralight wave dark matter can produce fluctuating gravitational potential due to the interference between waves, which can stochastically heat the stellar systems embedded in the dark matter halo. We will talk about the observational hints of such heating effects and the constraints on the ultralight dark matter by astronomical observations.

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