Contribution ID: **42** Type: **not specified**

Fuzzy Dark Matter Candidates from Strings

Thursday 23 September 2021 11:55 (15 minutes)

We provide a string theoretical explanation of fuzzy dark matter as composed by ultra-light axions coming from the compactification of type IIB string theory on Calabi-yau manifolds. In particular, we consider C_4 axions stabilased in a Large Volume Scenario, and thraxions, axionic modes living in warped throats of the internal manifold. Based on the latest bounds, we study how likely is for dark matter to be composed of such particles and in which abundance. We provide predictions on the preferred ranges of masses and decay constants when string axions behave as FDM. Moreover, requiring those axions to lie in the FDM range imposes constraints on the features of the internal manifold. We also comment on implications for the Weak Gravity Conjecture.

Do you wish to attend the workshop on-site?

yes

Summary

Primary author: RIGHI, Nicole (DESY)

Presenter: RIGHI, Nicole (DESY)

Session Classification: Parallel Sessions: String & Mathematical Physics

Track Classification: Strings & Mathematical Physics