

Renormalization group effects in non-universal DFSZ axion models

Thursday 8 December 2022 15:00 (20 minutes)

It has been recently pointed out that in certain axion models it is possible to suppress simultaneously both the axion couplings to nucleons and electrons, realising the so-called *astrophobic axion* scenarios, wherein the tight bounds from SN1987A and from stellar evolution of red giants and white dwarfs are greatly relaxed. So far, however, the conditions for realising astrophobia have only been set out in tree-level analyses. In this talk, we study whether these conditions can still be consistently implemented once renormalization group effects are included in the running of axion couplings. We find that axion astrophobia keeps holding, albeit within fairly different parameter space regions, and we provide analytical insights into this result.

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