

On the EFT description of ALPs coupled to heavy chiral matter

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The impact of heavy new physics on low-energy observables is generically and conveniently described using effective field theories (EFTs). The latter framework, when applied to the degrees of freedom of the standard model (SM), raises several questions, for instance: which is the most general EFT? which UV models require that the most general EFT be used? which observables allow to test whether the most general EFT is necessary? In this talk, I will approach these questions using the SM extended with an axion-like particle (ALP) and heavy chiral fermions. In particular, I will explain why non-decoupling effects forbid the description within the SMEFT of the interaction between the ALP and two SM gauge bosons. I will also compare the latter interaction with an adequate UV anomaly coefficient, which is also non-decouplin
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