

Constraints on axionic dark matter in the 3-3-1 model

Dark matter in the form of axions can be included in a model with $SU(3)_C \otimes SU(3)_L \otimes U(1)_X$ symmetry with right handed neutrinos, where the strong CP problem can be solved. This version of the model has the appealing characteristic of giving the observed dark matter abundance measured by the Planck collaboration, for suitable values of the parameters in the model.

We studied the constraints on the parameter space of the model obtained when the axion mass is calculated taking into account both QCD effects and gravitationally induced operators.

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