

TITLE: The experimental search for axion particles

ABSTRACT:

The axion comes out from the theory as the most elegant solution to the CP problem in the strong interactions. Peccei-Quinn introduced the pseudoscalar particles scheme on the CP interaction already in 1977, since then, no astrophysical or experimental observation has ruled out the possible existence of this particle. Moreover, the search for axions has not decreased but increased on intensity during the last years. The strong theoretical motivation and the interesting properties of the axion, which would expand our tools to observe the universe, make it a very fascinating quest. I will review the axion helioscope search where I got involved and describe the technological upgrades developed in the experiment to enhance the experimental sensitivity and future helioscope prospects. Then, I will describe a novel technique which will allow extending the search for an extended axion model.

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