

Astrophobic Axions

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Reliable estimates of the allowed range for axion couplings to photons, nucleons and electrons are of major importance for determining the viable axion mass window as well as to focus experimental axion searches. We show that in a class of generalized DFSZ axion models with generation dependent Peccei-Quinn charges the axion couplings to nucleons and electrons can be simultaneously suppressed, thus relaxing the limits on the axion mass from the SN1987A burst duration and from white dwarf cooling.

Presenter: NARDI, Enrico