

GeV ALP from TeV Vector-like Leptons

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The generation of a mass for an axion-like-particle is a long-standing open issue. We propose a model where a GeV mass for this pseudo-scalar particle is predicted in a large portion of the parameter space due to the presence of explicit Peccei-Quinn symmetry-breaking terms in an exotic leptonic sector. The latter provides a solution to the muon $g - 2$ anomaly, within the framework of the Linear Seesaw neutrino mechanism. The spectrum is extended by a complex scalar singlet only transforming under the Peccei-Quinn symmetry, which generates the axion-like-particle. Its couplings with fermions can continuously span over many orders of magnitude, which constitutes a specific feature of this model in contrast to generic ultraviolet constructions.

Title of the Poster/Talk

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