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## Neutrino mass and phenomenology from a super-weak U(1) symmetry

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The super-weak force is a minimal, anomaly-free U(1) extension of the standard model (SM), designed to explain the origin of (i) neutrino masses and mixing matrix elements, (ii) dark matter, (iii) cosmic inflation, (iv) stabilization of the electroweak vacuum and (v) leptogenesis. We discuss the neutrino sector of this model in detail and study the allowed parameter space of the neutrino Yukawa matrices and mixing matrix elements. The model generates nonstandard neutrino interactions, whose allowed experimental limits are used to constrain the parameter space of the model. We provide benchmark points in the relevant parameter space that fall within the sensitivity region of the SHiP and MATHUSLA experiments.

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