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Searching for Beyond-Standard-Model Physics with LEGEND-1000

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LEGEND-1000 is a next-generation experiment to search for neutrinoless double-beta decay of the Ge-76 isotope. This ton-scale experiment uses enriched high-purity Ge detectors surrounded by a large active liquid Ar shield, deployed deep underground. Because of the low noise and low energy thresholds of these detectors, along with the low background design of LEGEND-1000, this experiment provides an excellent opportunity for searches for new physics beyond neutrinoless double-beta decay. These include searches for dark matter candidates, exotic nuclear decays, tests of fundamental symmetries, emissions of additional particles during two-neutrino double-beta decays, and more. This poster will focus on the strategies and expected sensitivities of the experiment for these searches for physics beyond the standard model.

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Yes

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