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LZ Projected Sensitivity to New Physics Via Low-Energy Electron Recoils[1] WINNIE WANG, University of Wisconsin - Madison, LUX-ZEPLIN (LZ) COLLABORATION — LUX-ZEPLIN (LZ) is a new multi-ton liquid xenon time projection chamber for dark matter direct detection. The central volume of LZ will be both low background and low-energy threshold, sensitive to electron recoils down to ˜1 keV. At these energies, electron recoils of pp solar neutrinos will be a significant fraction of the total event rate, and LZ will be sensitive to any low-energy and low-rate Beyond the Standard Model physics. Using simulation data, we present studies of LZ's sensitivity to a BSM neutrino magnetic moments and millicharged neutrinos, as well as other signatures of new physics: axion-like particles, hidden photons, mirror dark matter, and leptophilic dark matter.

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