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LZ Projected Sensitivity to Neutrino Electromagnetic Properties
WINNIE WANG, Univ of Mass - Amherst, SCOTT HERTEL, UMass Amherst, 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 threshold, sensitive to electron recoils down to roughly 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 non-standard model effects that may enhance the neutrino-electron scattering cross section at low energies. We present a sensitivity study using simulation data, predicting LZ's significant sensitivity to neutrino magnetic moment and effective milli-charge.

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