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Background model for the LUX experiment

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The Large Underground Xenon (LUX) experiment is a retired dual phase Liquid Xenon Time Projection Chamber (LXe TPC), designed for the direct detection of dark matter. In 2016, LUX published its final limit on the spin independent nuclear cross-section for the scattering of WIMPs with nucleons. Subsequently the collaboration's focus has shifted to exploring new physics beyond this energy range. Due to the possible complexity of such signals, additional attention has been given to the radiogenic backgrounds seen in dual phase TPCs. This presentation will focus on beta, gamma, and neutron backgrounds intrinsic to LUX, with a particular emphasis on electron recoil background events which can mimic nuclear recoil signals.

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