

## Exploring LXe's scintillation response at the 1 keV level

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Many dark-matter models have been invoked to attempt to explain the observed annual modulation in the event rate of the DAMA/LIBRA experiment. While most models focus on WIMP-like dark matter that produces nuclear recoil signals, axion-like particles have been proposed that could produce the observed ~2-5 keV peak in the data. Dark-matter searches using germanium have been able to exclude some, but not all, of the parameter space available under this interpretation. Liquid xenon (LXe) could, in principle, probe much of the remaining parameter space, but a direct measurement of LXe's scintillation response in this energy range has only recently been achieved. I present the results of a study that probes LXe's response to electronic recoils down to 1.5 keV, both with and without applied electric fields (as used in most LXe dark matter searches), and show how our results can be used to calculate the energy thresholds of some current LXe experiments.

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