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**Scintillation Efficiency of Liquid Xenon for Low Energy Nuclear Recoils** TARITREE WONGJIRAD, KAIXUAN NI, ANGEL MANZUR, LOUIS KASTENS, DANIEL MCKINSEY, Yale University — In early 2006, the XENON and ZEPLIN collaborations announced highly stringent upper limits on the WIMP-nucleon cross-section. However, the dominant systematic uncertainty in these limits is due to the uncertainty in the nuclear recoil scintillation efficiency (NRSE) for liquid xenon. The NRSE is defined as the amount of scintillation produced by nuclear recoils, divided by the amount of scintillation produced by electron recoils, per unit energy. Though the NRSE has been measured by several groups, its value at the low energies most important for the liquid xenon WIMP searches has a large uncertainty. Furthermore, the NRSE may vary with the strength of the electric field in the liquid xenon. In an attempt to reduce these uncertainties, we have measured the NRSE down to 5 keV nuclear recoil energy for various electric fields.

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