

Abstract Submitted  
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**Characterizing Perovskite Nanoplatelets for Liquid Scintillator Detectors**<sup>1</sup> ELEANOR GRAHAM, Massachusetts Institute of Technology, NUDOT COLLABORATION — The next generation of liquid scintillator neutrinoless double beta decay experiments will require stable loading of candidate isotopes on the kiloton scale, representing a significant chemical challenge. Nanoparticles containing the candidate isotopes provide a promising method for this loading. Additionally, the unique optical properties of nanoparticles can also enhance detection and background discrimination. Perovskite nanoplatelets are particularly attractive due to the reliability of their crystal structure and their easily-scalable synthesis. We investigate the latest generation of perovskite nanoplatelets, targeting properties relevant to detector applications: emission, light yield, maximum loading, and stability. Informed by these results, we present a plan for future development of perovskite nanoplatelets for use in particle detectors.

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