

Abstract Submitted  
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**A Search for Lorentz-Violation in Double Beta Decay with EXO-200** TESSA JOHNSON, Indiana University, EXO-200 COLLABORATION — The Standard-Model Extension (SME) framework assumes Lorentz-violation at the Planck scale, a result of certain theories uniting quantum mechanics to General Relativity. Lorentz-violating operators are added to the current Standard Model, potentially producing effects that could be observed on a macroscopic scale, for instance altering the standard spectrum of double beta decay. The EXO-200 experiment uses 175 kg of enriched liquid xenon to search for neutrinoless double beta decay in  $^{136}\text{Xe}$ , and the low background and high precision of the experiment create a good platform to search for other phenomena in double beta decay. The results of a search for deviations to the two-neutrino double beta decay spectrum of  $^{136}\text{Xe}$  that would indicate neutrino coupling to a Lorentz-violating operator in the SME are presented.

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