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Ion Studies Using Radon-222 in the EXO-200 Detector ERICA SMITH[1], Drexel Univ, EXO-200 COLLABORATION — EXO-200 is a double beta decay experiment that uses liquid xenon enriched in xenon-136. While oscillation experiments have confirmed that neutrinos have mass, the nature of the neutrino remains elusive. The observation of neutrinoless double beta decay would confirm that the neutrino is Majorana, rather than Dirac. While studying double beta decay is the primary goal, EXO-200 can also perform many other robust analyses. Ion mobility and neutralization studies in liquid xenon detectors are particularly interesting, as the ability to extract barium ions from the detection medium and identify them would increase sensitivity to the double beta decay. We utilize the radon decay chain to perform these studies, which will be discussed in this talk.

[1]for the EXO-200 Collaboration

Erica Smith
Drexel Univ

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