

Abstract Submitted
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Reflectance measurements of PTFE, Kapton, and PEEK for xenon scintillation light for the LZ detector.¹ M. ARTHURS, E. BATISTA, J. HAEFNER, W. LORENZON, D. MORTON, A. NEFF, M. OKUNAWO, K. PUSHKIN, A. SANDER, S. STEPHENSON, Y. WANG, Univ of Michigan - Ann Arbor, LZ COLLABORATION — LZ (LUX-Zeplin) is an international collaboration that will look for dark matter candidates, WIMPs (Weakly Interacting Massive Particles), through direct detection by dual-phase time projection chamber (TPC) using liquid xenon. The LZ detector will be located nearly a mile underground at SURF, South Dakota, shielded from cosmic background radiation. Seven tons active mass of liquid xenon will be used for detecting the weak interaction of WIMPs with ordinary matter. Over three years of operation it is expected to reach the ultimate sensitivity of 2×10^{-48} cm² for a WIMP mass of 50 GeV. As for many other rare event searches, high light collection efficiency is essential for LZ detector. Moreover, in order to achieve greater active volume for detection as well as reduce potential backgrounds, thinner detector walls without significant loss in reflectance are desired. Reflectance measurements of polytetrafluoroethylene (PTFE), Kapton, and PEEK for xenon scintillation light (178 nm), conducted at the University of Michigan using the Michigan Xenon Detector (MiX) will be presented.

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