

Light Collection Efficiency in SUE, The Phase 1 of the SLAC LZ System Test Platform

Saturday, 2 December 2017 12:10 (20 minutes)

Phase 1 of the LZ system test platform is a two phase TPC used to test high voltage performance and other sub-systems for the LZ detector. The design and aspect ratio of this detector at ~ 50 cm in height and only 14 cm in diameter, make the photon detection efficiency vs. height highly sensitive to the reflectivity of the Teflon in both gas and liquid xenon. Using S1 only data taken with a Cs-137 source, at multiple positions along the TPC, I measured the photon detection efficiency as a function of the height in the TPC, and found a good match to simulations of the light propagation in the detector.

Session

Works in Progress (15+5 min)

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Session Classification: Works in Progress