

Abstract Submitted
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The Dynamic Range of LZ¹ JUN YIN, University of Rochester, LZ COLLABORATION — The electronics of the LZ experiment, the 7-ton dark matter detector to be installed at the Sanford Underground Research Facility (SURF), is designed to provide a 70% efficiency for events that produce three photoelectrons in the photomultiplier tubes (PMTs). This corresponds approximately to the lowest energy threshold achievable in such a detector, and drives the noise specifications for the front end. The upper limit of the LZ dynamic range is defined by the electroluminescence (S2) signals. The low-energy channels of the LZ amplifiers provide the dynamic range required for the tritium and krypton calibrations. The high-energy channels provide the dynamic range required to measure the activated Xe lines. S2 signals induced by alpha particles from radon decay will saturate one or more channels of the top PMT array but techniques are being developed to recover the information lost due to saturation.

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