

Measurement of the Light and Charge Yield of Low Energy Nuclear Recoils in Liquid Xenon at Different Electric Fields

Liquid xenon detectors continue to lead in the search for the direct detection of dark matter. Still, very few measurements have studied the response of liquid xenon to low-energy nuclear recoils (≤ 10 keV) at different applied electric fields. The neriX detector at Columbia University is a dual-phase time projection chamber that is optimized for simultaneous measurements of light and charge from these low-energy interactions. A coincidence technique is employed to extract the light and charge yields from nuclear recoils in liquid xenon as a function of energy deposited and applied electric field. In this talk, we will discuss preliminary results of the light and charge yield measurements.