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## **XeBrA: Characterizing Dependence of Electric Field Breakdown on Electrode Area in Noble Liquids**

*Friday, 22 September 2017 11:45 (15 minutes)*

The Xenon Breakdown Apparatus (XeBrA) is a detector containing 5 liters of liquid argon or liquid xenon designed to study high voltage behavior in noble liquids located at the Lawrence Berkeley National Laboratory. Experimental evidence suggests a correlation between breakdown field and electrode area in liquid argon. XeBrA is designed to explore this relationship in liquid xenon with its ability to test electrodes up to 30 cm<sup>2</sup> in area, while varying cathode-anode separation from 0 to 10 mm, with cathode voltages up to -75 kV. XeBrA's design will also allow for a direct comparison between measurements in liquid xenon and liquid argon. XeBrA is currently in the assembly phase with first results expected by the end of 2017. This talk will present the motivation for this detector and highlight the detector design and electric field simulations.

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