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Results of high voltage breakdown studies in liquid argon and xenon with XeBrA

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As noble liquid time projection chambers grow in size, their high voltage requirements increase, and detailed, reproducible studies of dielectric breakdown and the onset of electroluminescence are needed to inform their design. The Xenon Breakdown Apparatus (XeBrA) is a 5-liter cryogenic chamber at the Lawrence Berkeley National Laboratory built to characterize high voltage behavior of liquid xenon and liquid argon. This talk will present the motivation and results from XeBrA that will serve to inform the future of noble liquid detector engineering.

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