

Abstract Submitted
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The development of LENS JEFF BLACKMON¹, Louisiana State University — The Low-Energy Neutrino Spectroscopy (LENS) Collaboration aims to precisely measure the entire energy spectrum of solar neutrinos, including low-energy neutrinos from $p+p$ fusion, through charged-current neutrino interactions on indium in real time. Such a measurement would provide important insights into our understanding of the sun and of neutrino properties. To achieve this goal, we have developed a detector design based on a large, highly-segmented volume of liquid scintillator, which we call the *scintillation lattice*. The spatial segmentation of the scintillation lattice allows even low-energy neutrino interactions to be distinguished from background sources. We are currently constructing an approximately 1 m³ prototype instrument, *miniLENS*, that will demonstrate the detector performance and determine the optimum route to scale to an ≈ 200 ton instrument. The detector design, the status of the R&D program, and plans to deploy a full-scale instrument underground will be discussed.

¹on behalf of the LENS Collaboration

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