

Abstract Submitted
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A Wavelength-shifting Light Collector for the LBNE Far Detector WILLIAM JOHNSTON, NORM BUCHANAN, Colorado State University — The Long Baseline Neutrino Experiment (LBNE) is a proposed neutrino oscillation experiment designed to look for CP-violation in the neutrino sector as well as to measure the neutrino mixing angle θ_{13} . In addition, the far detector has the goals of measuring neutrinos from supernovae as well as being able to search for proton decay with sensitivity beyond current limits. One proposed far detector is a 200 kton water Cerenkov detector. A light collection system is being investigated for this detector that will enable a reduction in the number of photomultiplier tubes needed, resulting in a considerable cost reduction while preserving the physics potential of the experiment. Measurements and simulations of one light collector design, based on flat wavelength-shifting plates, will be presented.

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