

Abstract Submitted  
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**Low Temperature Performance of Silicon-based Photo-sensors**

RYAN WASSERMAN, NORM BUCHANAN, Colorado State University — The Long Baseline Neutrino Experiment (LBNE) has been proposed to use an intense neutrino beam to study neutrino properties, as well as rare and yet unseen events in particle physics. In order to maximize the physics potential of this experiment a liquid argon far detector will need to be equipped a photon detector which can reduce cosmic ray background (for a surface located detector) and provide a trigger for non beam-related events such as supernovae neutrinos and proton decay. I will describe an effort under way to design and fabricate a photon detection system based on wavelength-shifter coated optical fibers sensitive to liquid argon scintillation light and utilizing silicon-based photo-sensors. Plans for future large scale testing and simulation of the photon detection system will also be discussed.

Ryan Wasserman  
Colorado State University

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