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Determining Thermal Shock Effects on Silicon Photo-Multipliers for use in DUNE CONNOR JOHNSON, NORM BUCHANAN, AURORA POPESCU, JUSTIN COLE, Colorado State Univ — The Deep Underground Neutrino Experiment (DUNE) is a next generation neutrino oscillation experiment that will utilize an intense beam of neutrinos produced at Fermilab. The beam will travel 1300 km through the earth to a 40 kton liquid argon detector located near Lead, SD. The far detector will consist of liquid argon Time Projection Chambers (TPCs) instrumented with photon detectors. The photo-sensors used to detect light collected by the photon detection system will be silicon photomultipliers (SiPMs). As the SiPMs will be operated at liquid argon temperature they must be qualified for operation in this environment. In this presentation I will discuss a program developed at CSU to qualify Sensl C-Series SiPMs, and corresponding readout boards, for the thermal shock survivability and post shock operation.

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