

Abstract Submitted  
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**Camera Tests for IceCube Upgrade**<sup>1</sup> VICTORIA SNYDER, Presbyterian College — The IceCube Neutrino Observatory is a cubic-kilometer neutrino detector embedded into the ice of the South Pole. The detector consists of a 3D array of photomultiplier tubes (PMTs) grouped in spherical glass spheres called Digital Optical Modules (DOMs). The detector is designed to detect Cherenkov radiation emitted in neutrino interactions in ice. The charge, spatial and temporal distribution of the Cherenkov radiation is used to measure the energy and direction of the incident neutrino. Antarctic ice is ideal for measurements of this nature because the scattering length of light is much longer in pure ice than other mediums. A low energy extension of the detector consisting of 7 additional strings is planned in the near future. The upgrade will also include a better calibrated system in order to understand the optical properties of the ice and how the detector interacts with the ice. Cameras are an integral part of the new calibration system. This project explores the behavior of a camera system developed by the IceCube collaboration and characterizes the dark noise introduced in the setup. A further study with illuminated sources is in progress.

<sup>1</sup>Camera Tests For IceCube Upgrade

Victoria Snyder  
Presbyterian College

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