

Abstract Submitted
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Comparative Analysis of Cherenkov Light Detectors in an Oil Drum¹ REXAVALMAR NIDUAZA, ZACHARY WEDEL, JUAN CASTRO, FAVIAN ZAVALA, SEWAN FAN, LAURA FATUZZO, Hartnell College — The multipixel photon counters (MPPC) has been used in a number of research development in astro-particle physics and particle physics. In an effort to further implement the MPPC detector, we constructed a modular experimental setup using a 16-inch tall acrylic cylinder filled with distilled water as the light producing medium to determine its feasibility as a possible detector for weak Cherenkov light. We have since progressed towards utilizing an oil drum (approximately 30 gallons) as our light-tight container replacing our prototype. In this talk, we would discuss the results regarding our investigation utilizing 1-inch and 3-inch photo-multiplier tubes (PMTs) in an oil drum as we did for our prototype. We would also present our experimental findings comparing our prototype and our oil drum setup using PMTs in coincidence with the MPPC coupled with wavelength-shifting fibers that are submerged in distilled water inside the oil drum vessel.

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