Abstract Submitted
for the DNP20 Meeting of
The American Physical Society

Development of Capacitively Coupled LAPPD^{TM} MCP-PMT For Nuclear Physics Experiments[1] MICHAEL FOLEY, M. AVILES, S. BUTLER, T. CREMER, C. ERTLEY, C. HAMEL, A. LYASHENKO, M. MINOT, M. POPECKI, M. STOCHAJ, T. RIVERA, Incom Inc, E. ANGELICO, H. FRISCH, A. ELAGIN, E. SPIEGLAN, University of Chicago, B, ADAMS, Dragonfly Devices — Incom Inc is producing a capacitively coupled version of the Large Area Picosecond Photo-Detector (LAPPD). It is the largest commercially-available MCP-PMT, with a 350 cm2 active planar area. The LAPPD features an internal ground plane capacitively coupled to an external pixelated signal board. Pixelation can improve photon detection of in high rate environments and of Cherenkov light. Patterns are easily changed by the customer. These devices show electron gains of 10E7, low dark noise rates (15-30 Hz/cm2), SPE temporal resolution of 71 picoseconds RMS, single photoelectron spatial resolution of 2.8 mm RMS, uniform photocathodes with QE ˜28%, and low sensitivity to magnetic fields. Examples will be shown for a variety of signal board patterns down to 3 mm in size. LAPPDs can be employed in particle collider experiments (e.g. SoLID, future EIC), neutrinoless double-beta decay experiments (e.g. THEIA), neutrino experiments (e.g. ANNIE, WATCHMAN) and medical (PET).

[1]We wish to acknowledge our Program Manager, Michelle Shinn, Nuclear Physics Office of The US DOE Office of Energy.

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Date submitted: 22 Oct 2020 Electronic form version 1.4