Abstract Submitted
for the APR15 Meeting of
The American Physical Society

Production of 6cm x 6cm Micro-channel Plate Based Picosecond Photodetectors with the Argonne Small Tile Processing System (STPS)[1] LEI XIA, KAREN BYRUM, MARCEL DEMARTEAU, ROBERT WAGNER, DEAN WALTERS, JINGBO WANG, JUNQI XIE, HUYUE ZHAO, Argonne Natl Lab — Microchannel plate (MCP) based photodetectors feature fast timing, good position resolution and compact form factor. However, traditional MCP photodetectors suffer from limited charge lifetime and high cost. The LAPPD collaboration, over the years, developed Atomic Layer Deposition (ALD) coated new generation MCP's and low cost glass packaging technology. Recently, the Argonne group commissioned its small form factor tile processing system and produced the first fully processed sealed photodetectors with glass packaging, using the ALD coated MCP's. We report the design, construction and commissioning of the system, and production of the first devices.

[1]Supported by the U. S. Department of Energy, Office of Science, Office of Basic Energy Sciences and Office of High Energy Physics under contract DE-AC02-06CH11357.

Robert Wagner
Argonne Natl Lab

Date submitted: 09 Jan 2015 Electronic form version 1.4