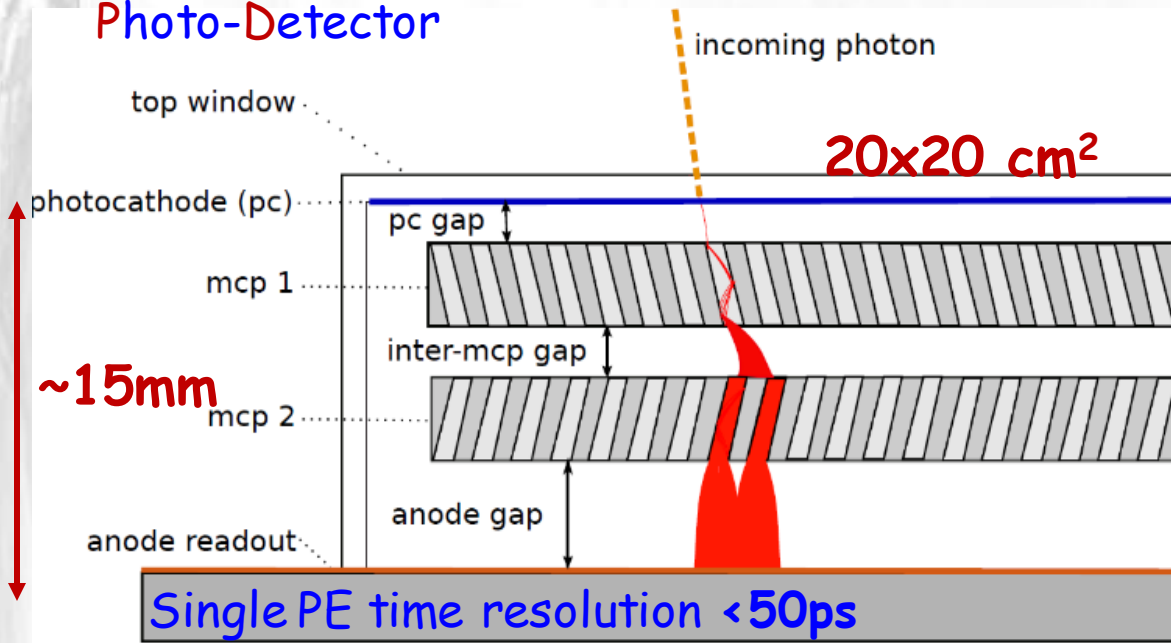


# The "Gen-II" LAPPD™: Large-Area Ceramic-Body Planar MCP-based Photo-Detectors

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## Large-Area Picosecond Photo-Detector



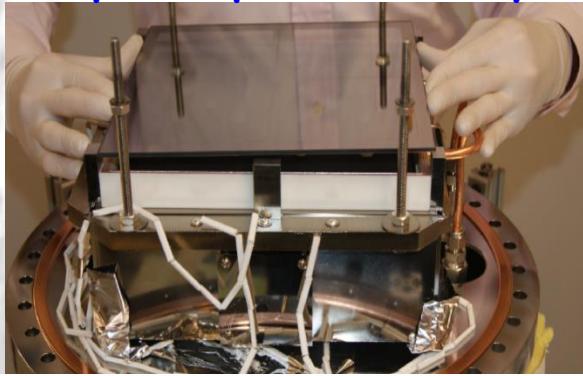
Gen-I LAPPDs are now commercially available through Incom Inc.

Gen-II LAPPD development is a joint program between the University of Chicago and Incom Inc.

	Gen-I	Gen-II
Detector base	Glass	Ceramic
Anode	Delay line	Capacitively-coupled
Assembly process	Vacuum transfer	Air-transfer (Chicago effort)

# PMT-like Batch Production

Air transfer of the window  
with pre-deposited Sb layer



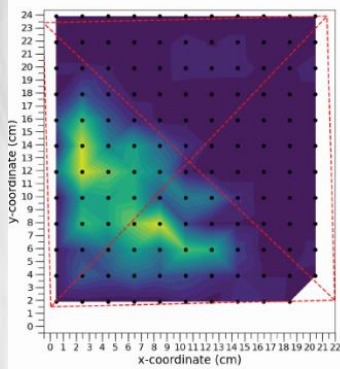
The goal is to develop an inexpensive process  
scalable to a production rate of > 50 LAPPDs/week

- Indium seal and bake-out are done at the same time
- Cs vapors are introduced from an external source
- Many devices can be processed at the same time using shared vacuum distribution system

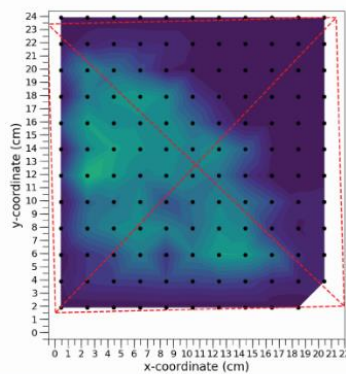
After 24 hours of cesiation

After 48 hours of cesiation

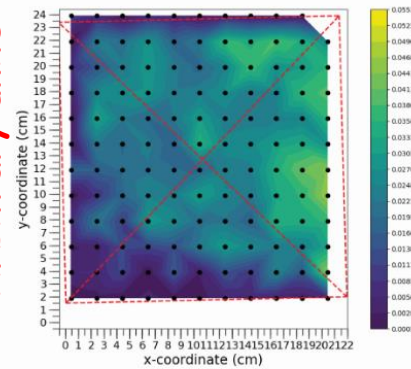
Increase j-tube from 145C-190C,  
cesiate for 2 hours then close source,  
and sit for 50 hours



Arbitrary units

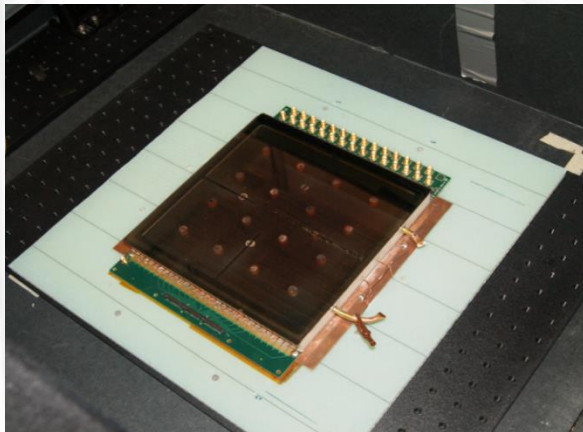


Arbitrary units

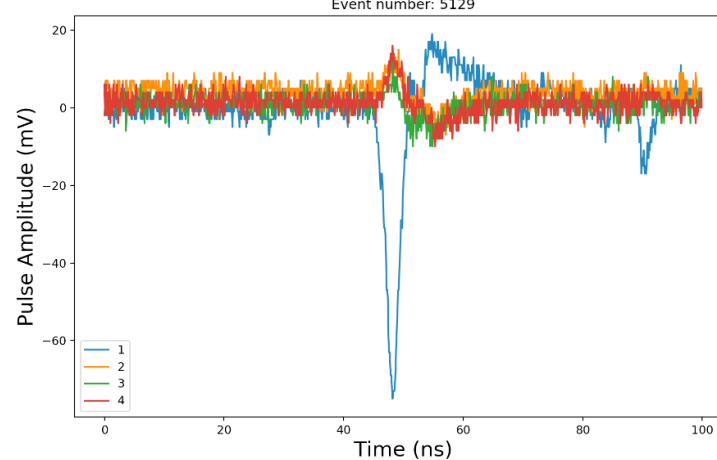


A photo-sensitive material  
(Cs-Sb) is formed over the  
entire 20x20cm<sup>2</sup> surface  
of the window

Gen-II LAPPD tile #21



Pulses from tile #21



MCPs work after  
exposure to Cs