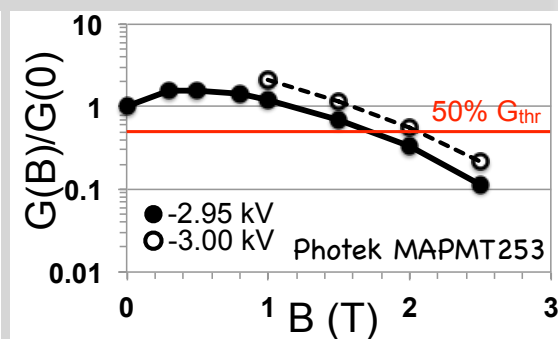
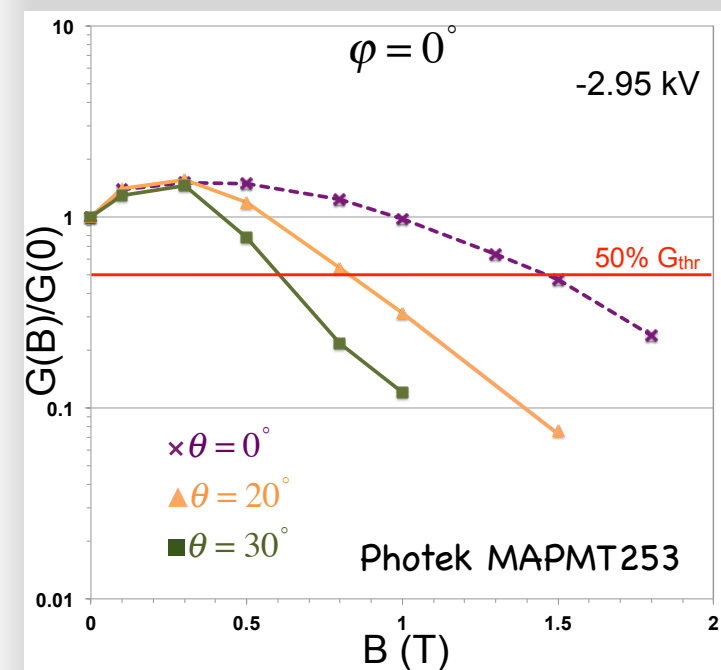


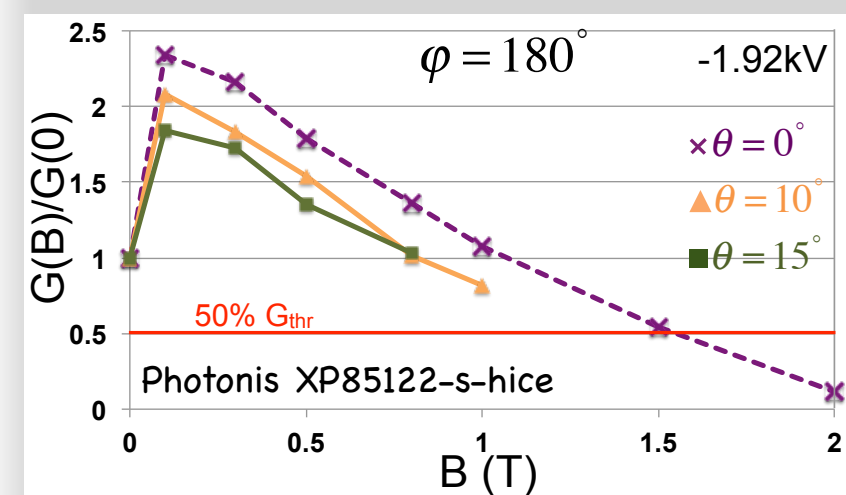
## R&D and Detector Phase

Participants since 2013, Until FY21 funded by the generic R&D Program

**Scope:** Characterization of MCP PMTs for the EIC Cherenkov detectors (eRD14): B-field performance; cross talk, uniformity



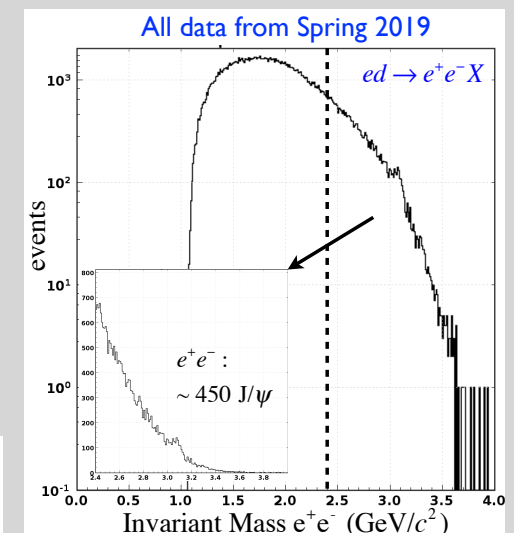
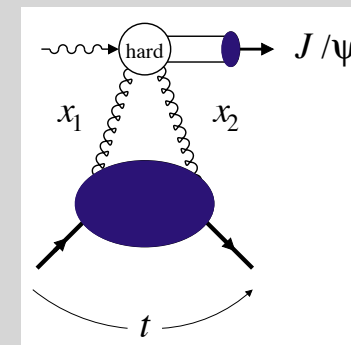
Photek MAPMT253 and Photonis XP85122-s-hice are viable candidates for  $B \leq 2$  T and normal incidence. Relative orientation in the B-field is important.



## Physics Scope of Research

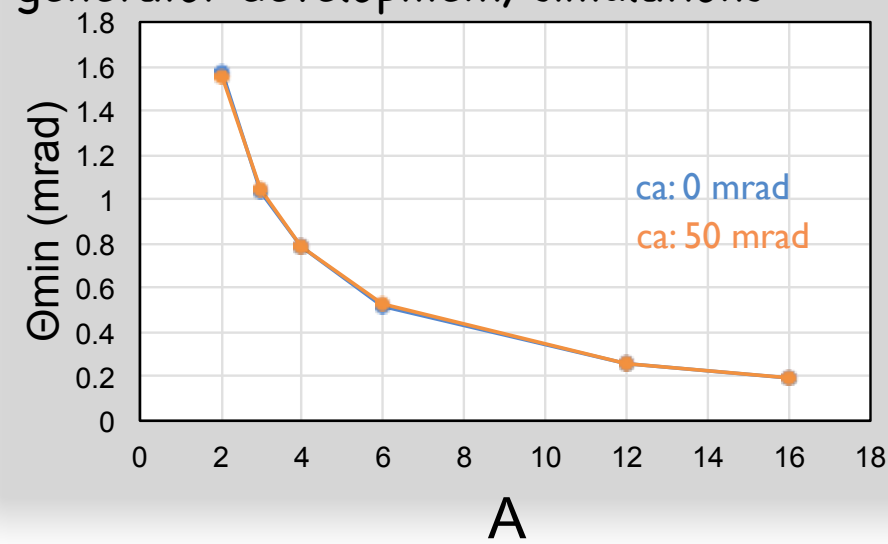
### Gluon Imaging of Light Nuclei via Coherent $J/\psi$ Photoproduction

Builds on techniques we have developed for deuteron in past research and is a natural extension of our current research with CLAS12: *PR12-11-003B: Study of  $J/\psi$  Photoproduction off Deuteron*



$$\frac{d\sigma}{dt} \sim |F_{gg}(x_1, x_2, t, \mu^2)|^2 = \frac{1}{(1 - t/m_{2g}^2)^4}$$

**Current EIC Effort:** kinematics studies, event generator development, simulations



No practical impact of the beam crossing angle (ca) for the detection of the recoil nucleus.