



Universidade Federal do ABC

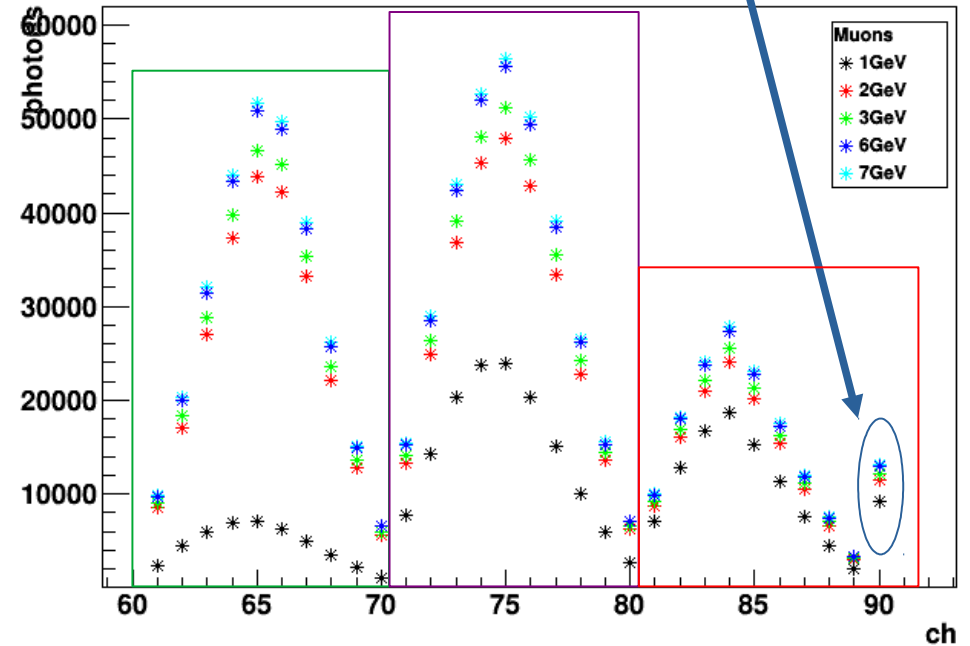
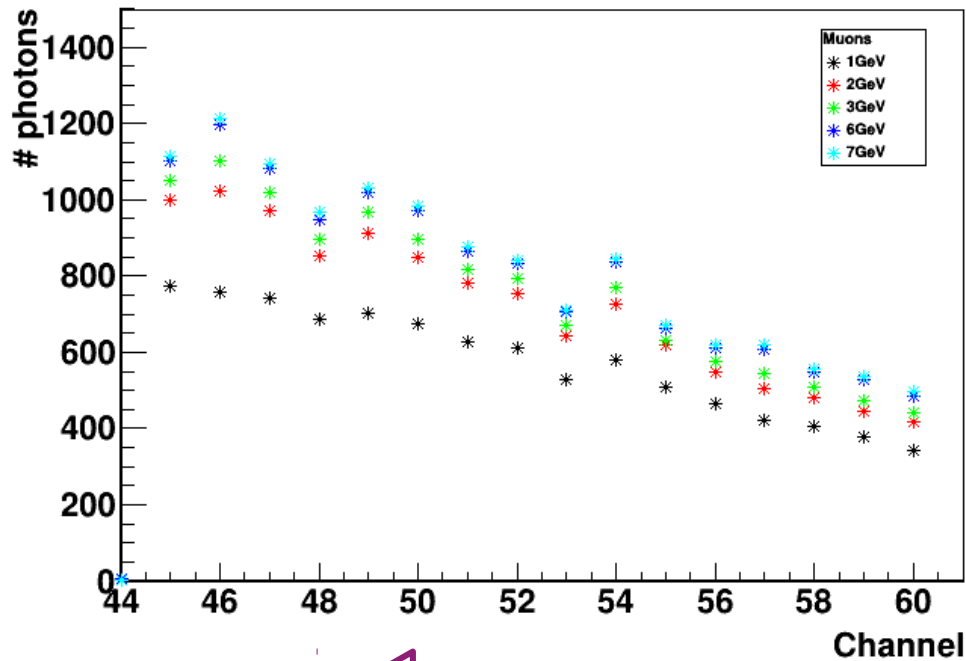


# Updates on Light Simulation for ProtoDUNE's ARAPUCAs

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# Energy scan runs

- Using “simple” library,  $z=0$ ,  $x=-32.2$  cm,  $y=422.4$ cm,  $\theta_{xz}=-10.56$ ,  $\theta_{yz}=-11.69$
- 1000 Muons



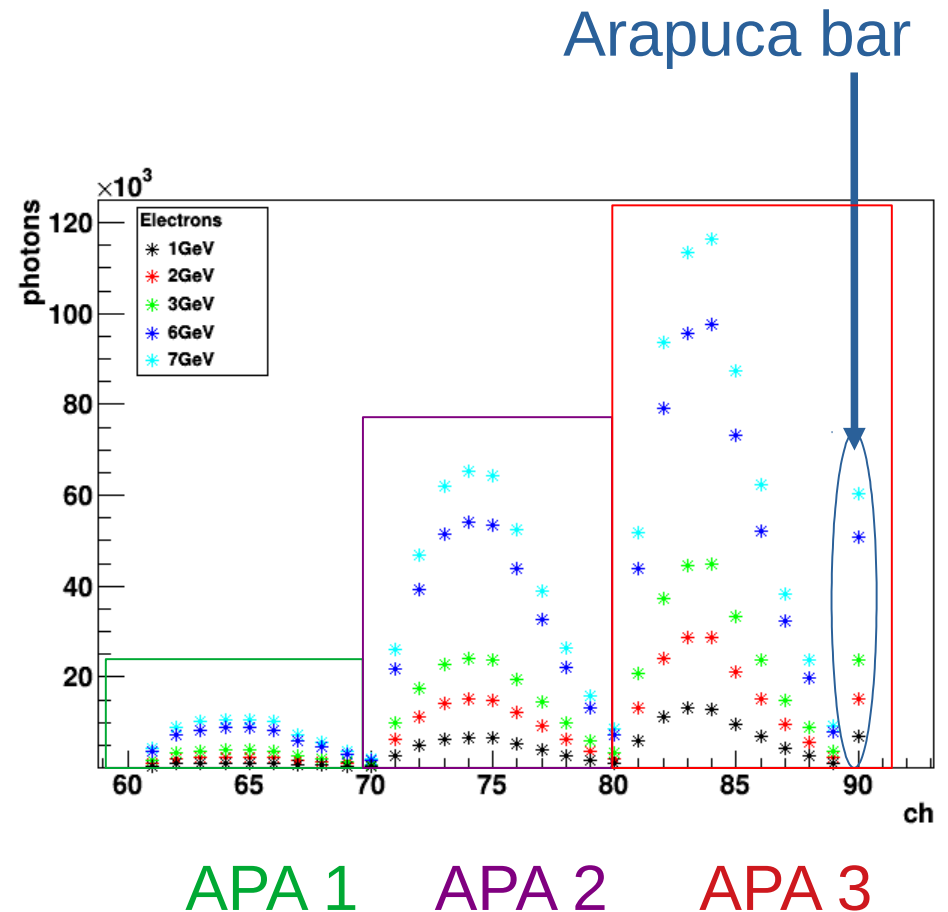
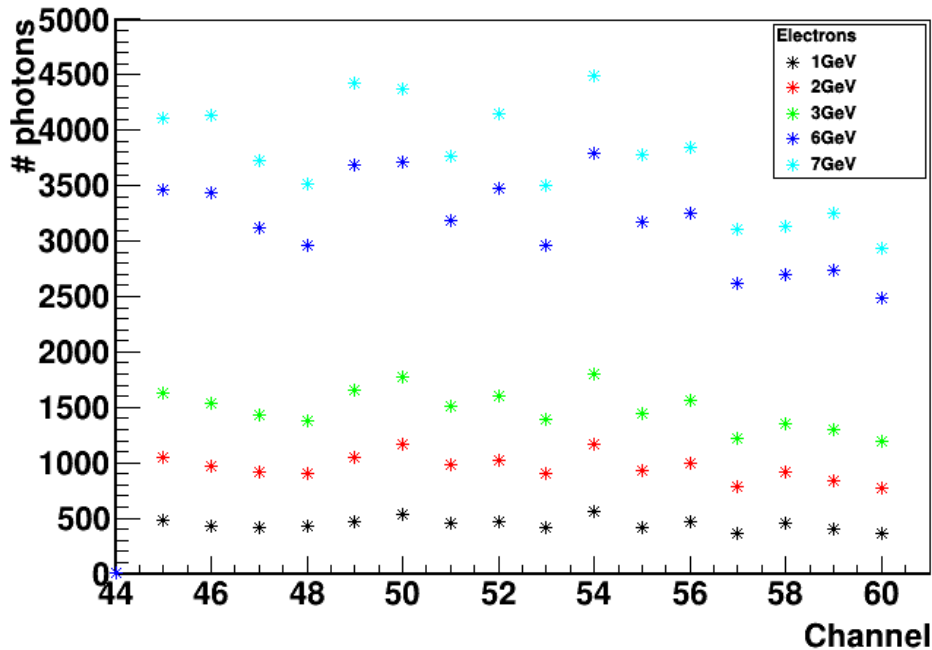
APA 1

APA 2

APA 3

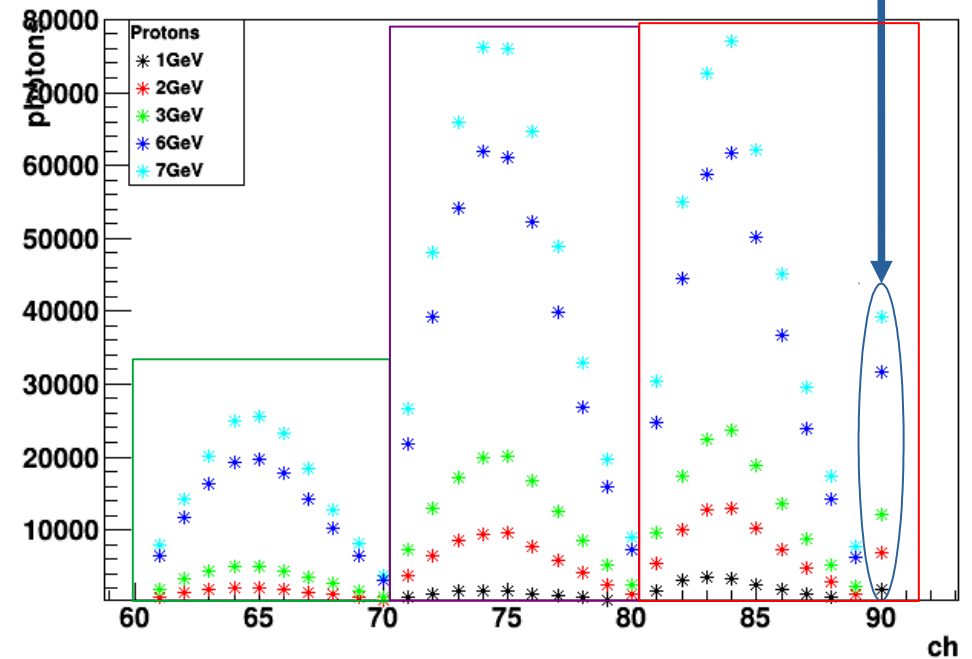
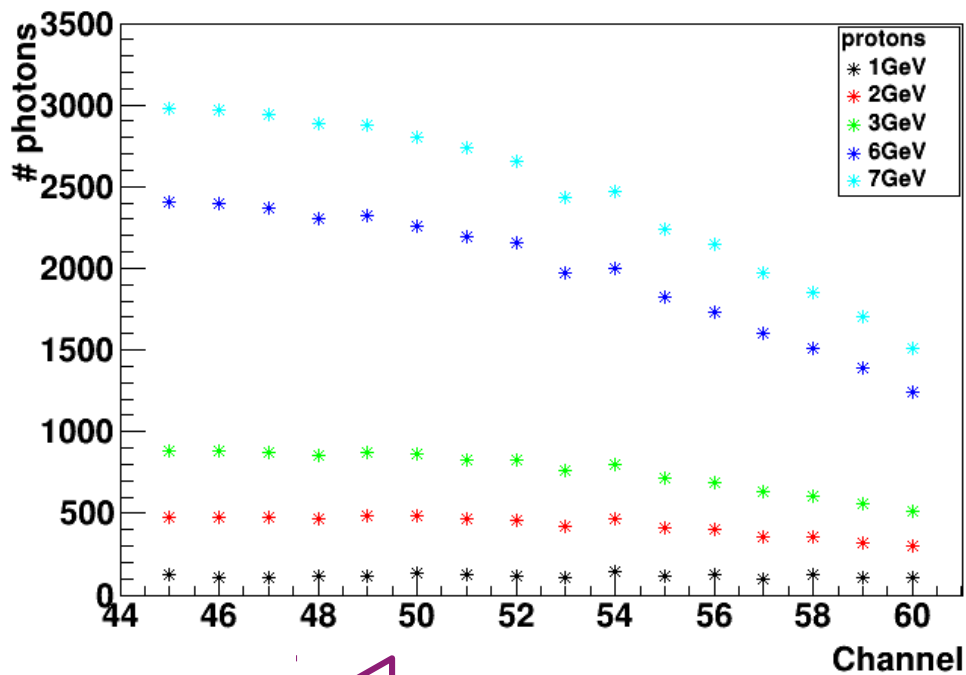
# Energy scan runs

- Using “simple” library,  $z=0$ ,  $x=-32.2$  cm,  $y=422.4$ cm,  $\theta_{xz}=-10.56$ ,  $\theta_{yz}=-11.69$
- 1000 Electrons



# Energy scan runs

- Using “simple” library,  $z=0$ ,  $x=-32.2$  cm,  $y=422.4$ cm,  $\theta_{xz}=-10.56$ ,  $\theta_{yz}=-11.69$
- 1000 Protons



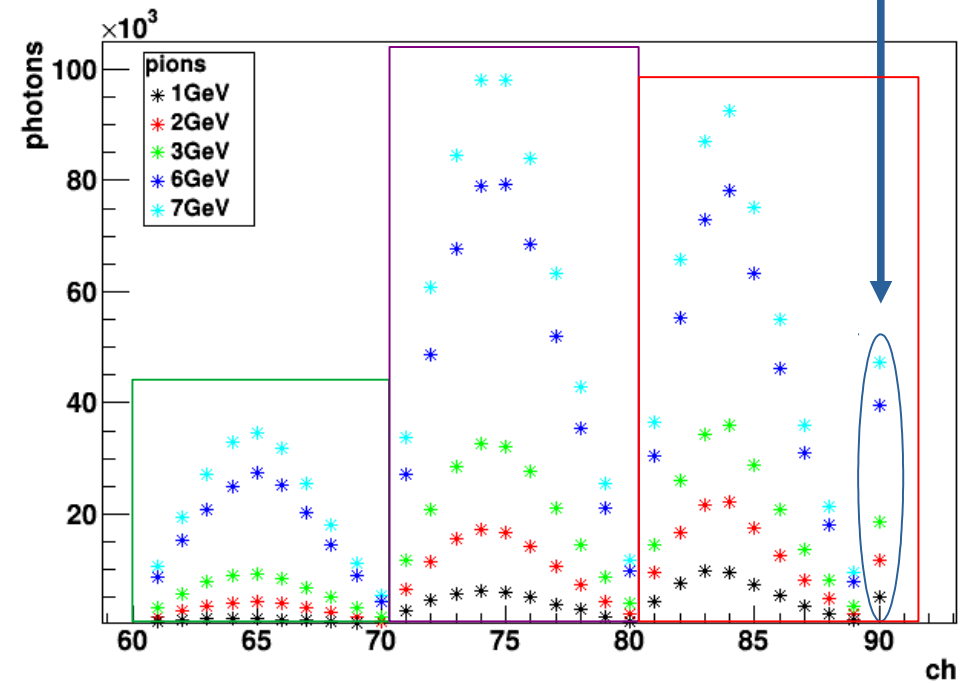
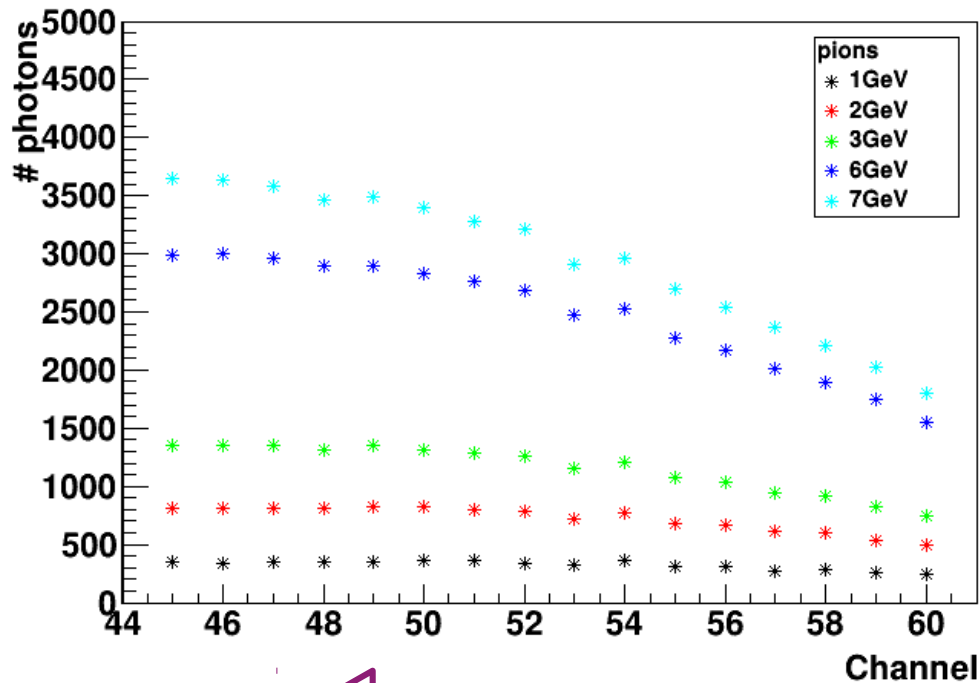
APA 1

APA 2

APA 3

# Energy scan runs

- Using “simple” library,  $z=0$ ,  $x=-32.2$  cm,  $y=422.4$ cm,  $\theta_{xz}=-10.56$ ,  $\theta_{yz}=-11.69$
- 1000 Pions



APA 1

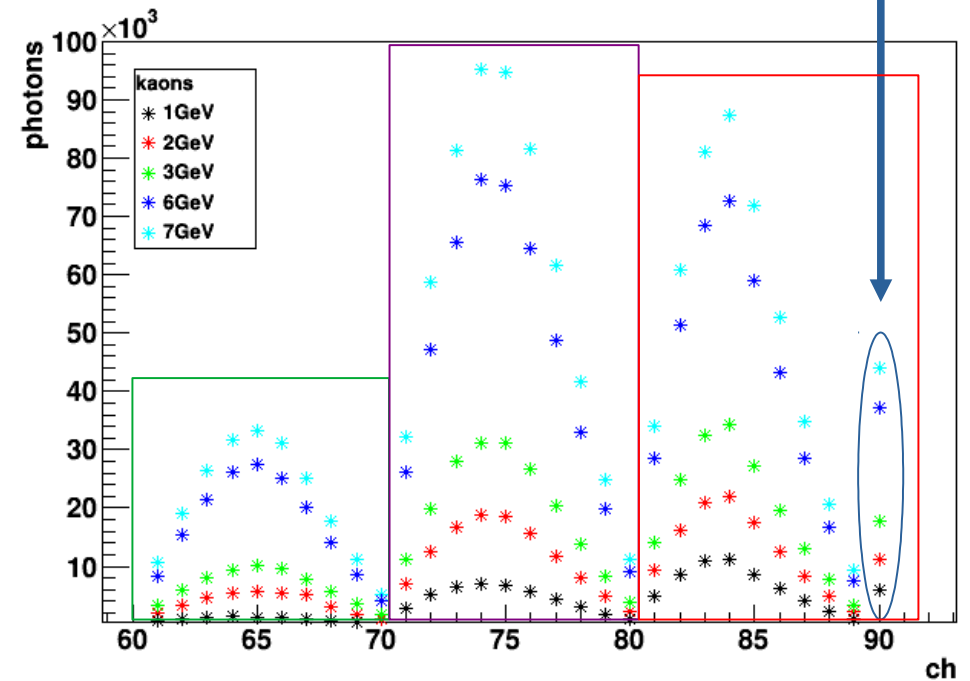
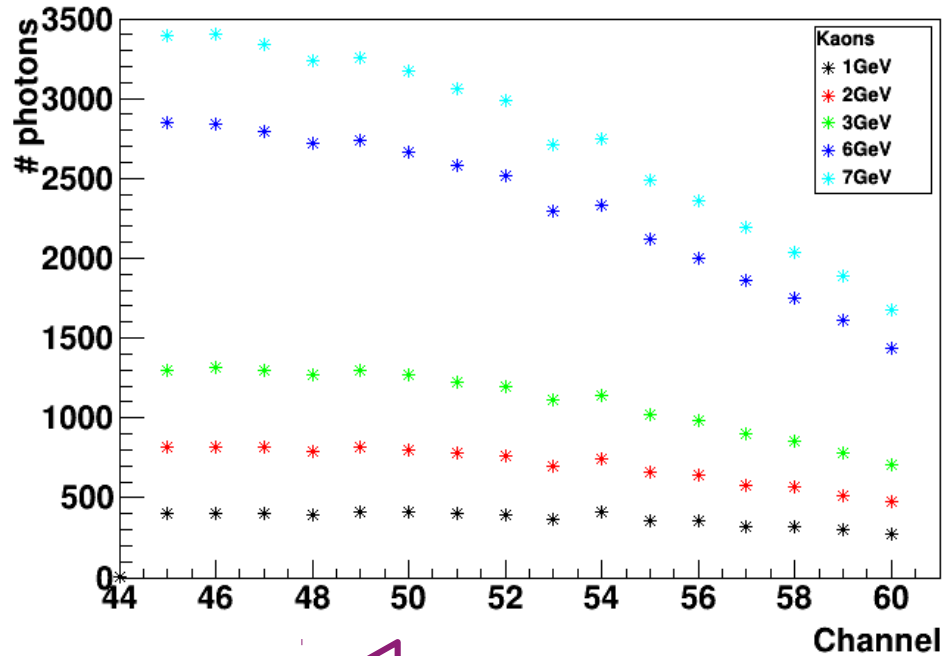
APA 2

APA 3

# Energy scan runs

- Using “simple” library,  $z=0$ ,  $x=-32.2$  cm,  $y=422.4$ cm,  $\theta_{xz}=-10.56$ ,  $\theta_{yz}=-11.69$
- 1000 Kaons

Arapuca bar

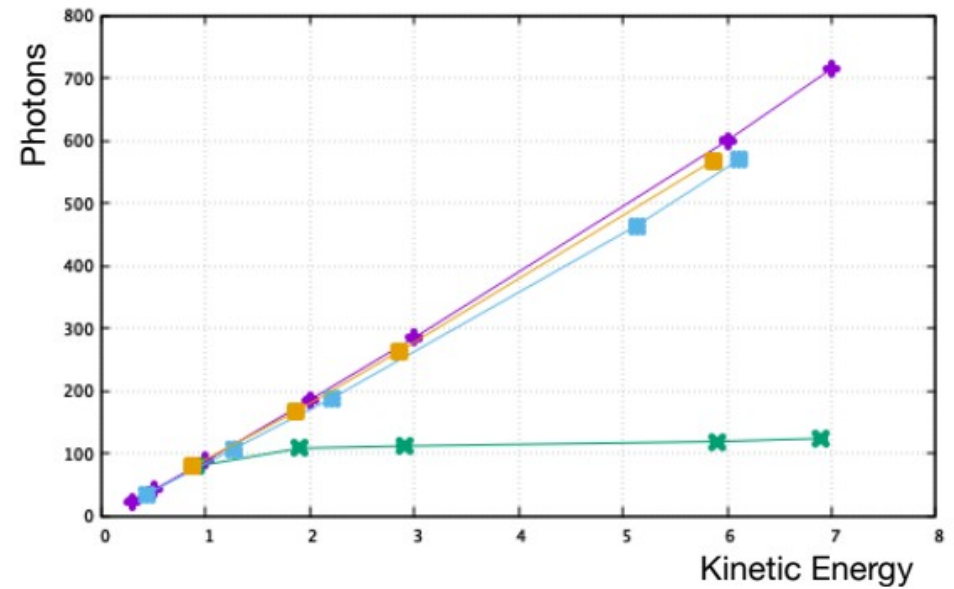
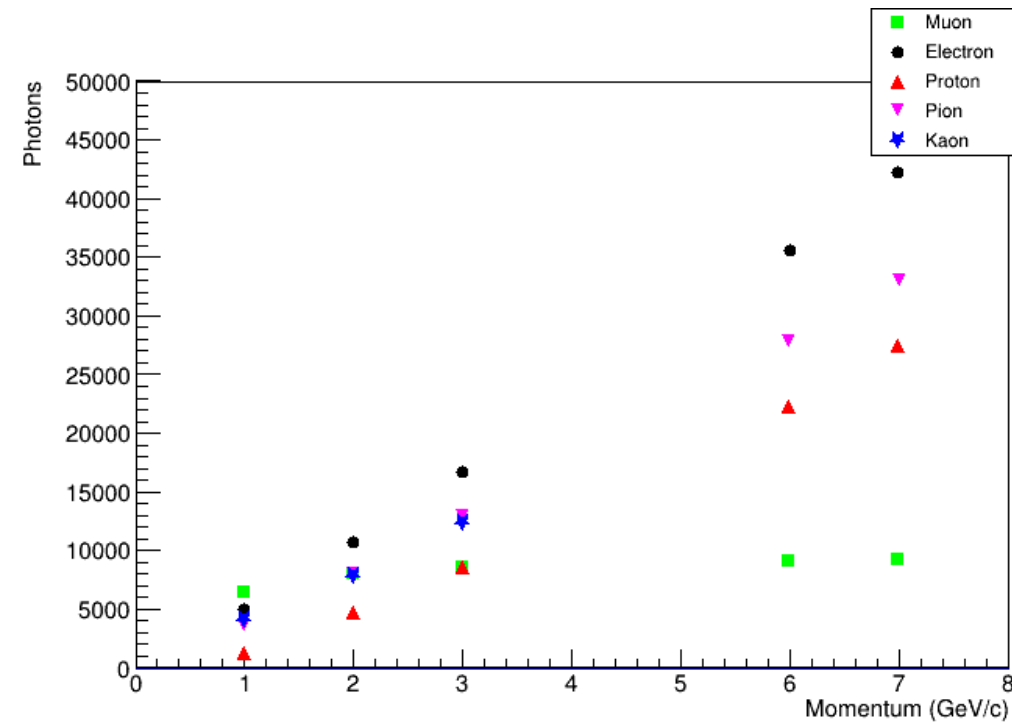


APA 1

APA 2

APA 3

# Number of photons



Green = Muons    Purple = Electrons    Blue = Protons    Yellow = Pions

# Energy scan runs

- Using “simple” library,  $z=0$ ,  $x=-32.2$  cm,  $y=422.4$ cm,  $\theta_{xz}=-10.56$ ,  $\theta_{yz}=-11.69$
- All channels

