

$$e^+ + e^- \rightarrow \gamma + \gamma + (\gamma)$$

- BOSS (BESIII Offline Software System) 7.1.0
- Babayaga 3.5 (00-01-01 in BOSS)
- Higgs mode, $\sqrt{s} = 240 \text{ GeV}$
- 10^5 events
- Cuts : $8^\circ < \theta < 172^\circ$ (Generation)

$$0.141546 \text{ rad} < \theta < 3.000046 \text{ rad} \text{ (XS calculation)}$$

$$E_\gamma > 50 \text{ MeV} \text{ for additional photon}$$

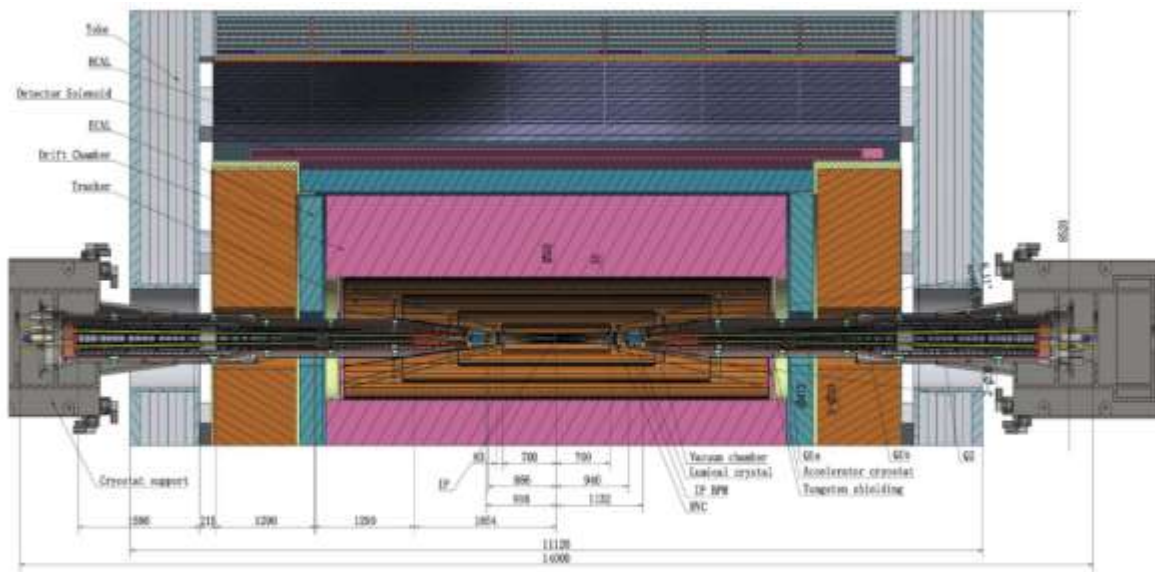
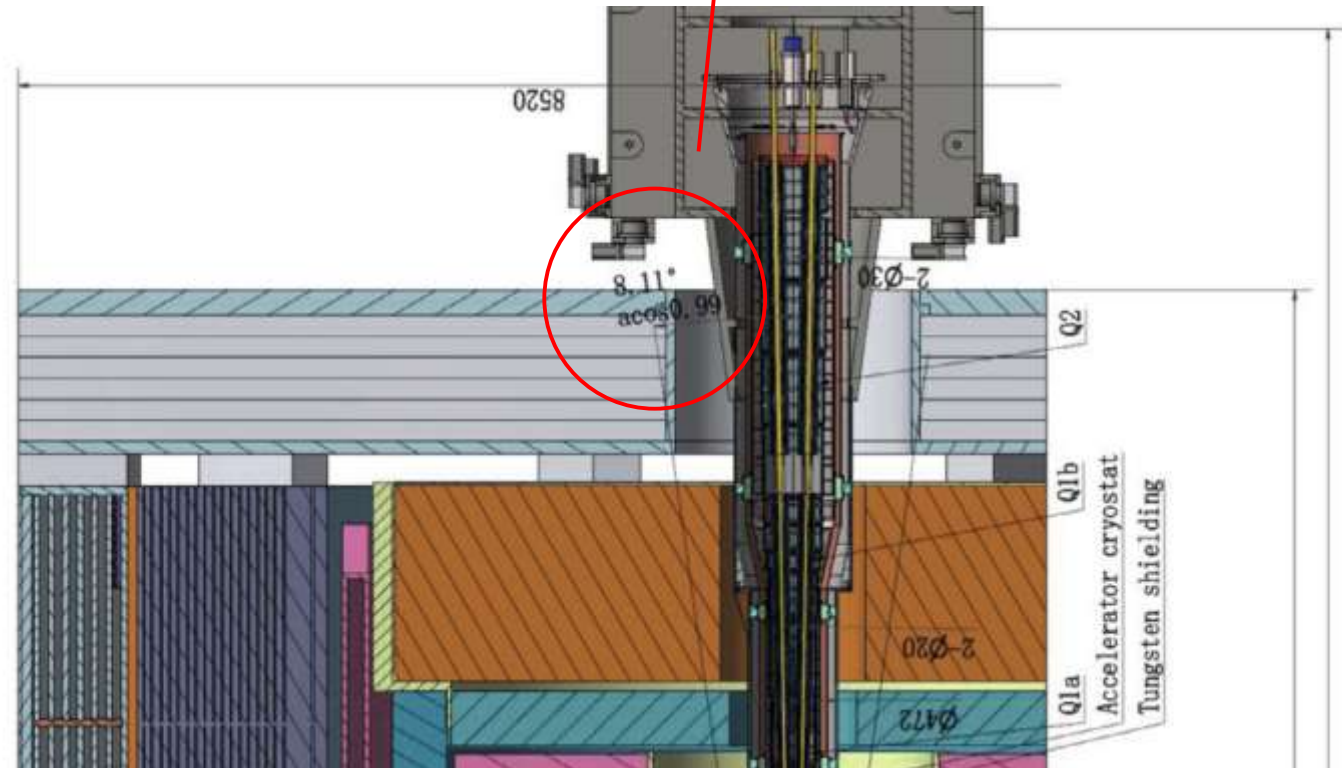


Fig 4.2.6.1: CEPC MDI layout.

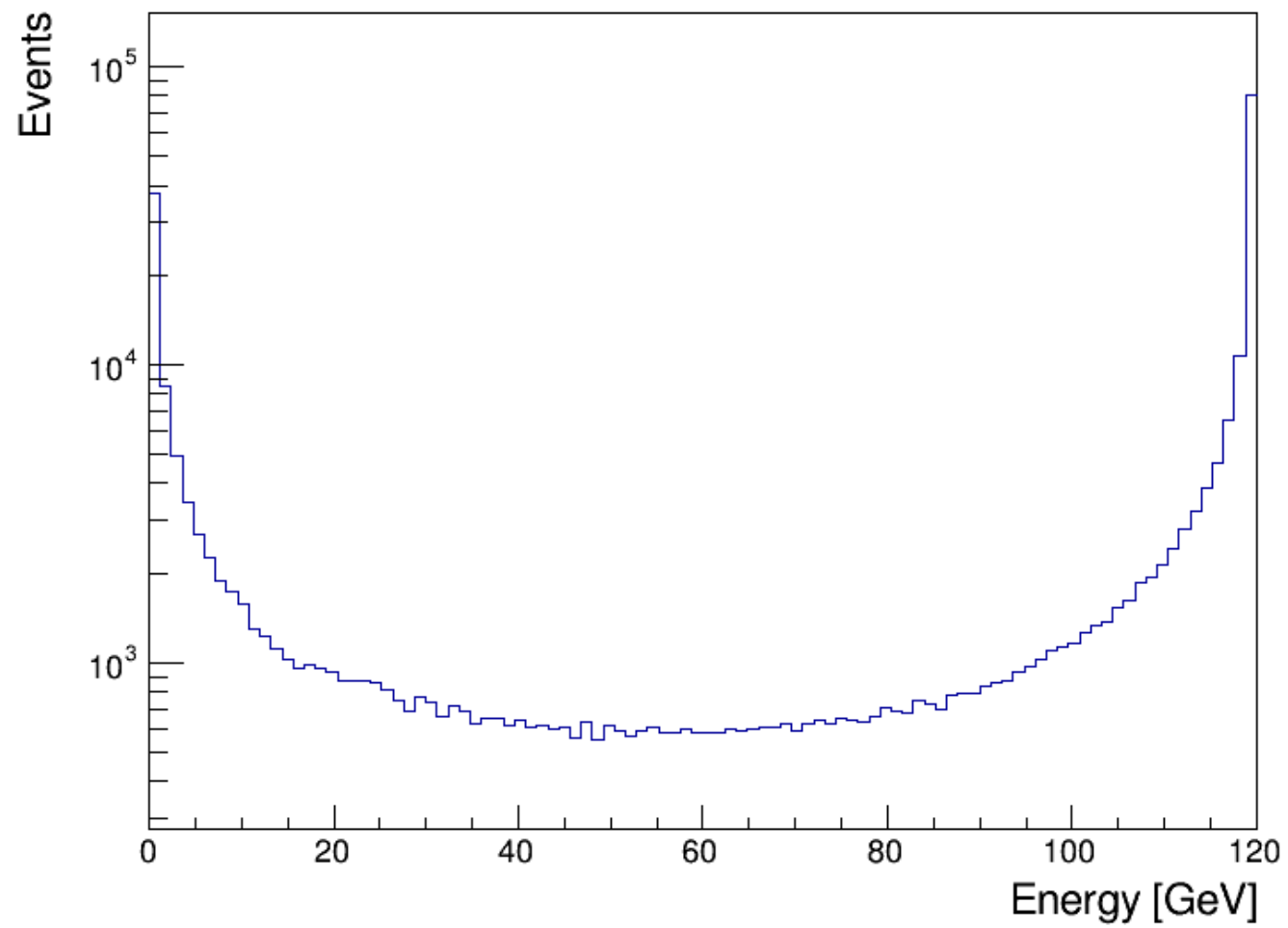
$$8.11^\circ \approx 0.141546 \text{ rad}$$



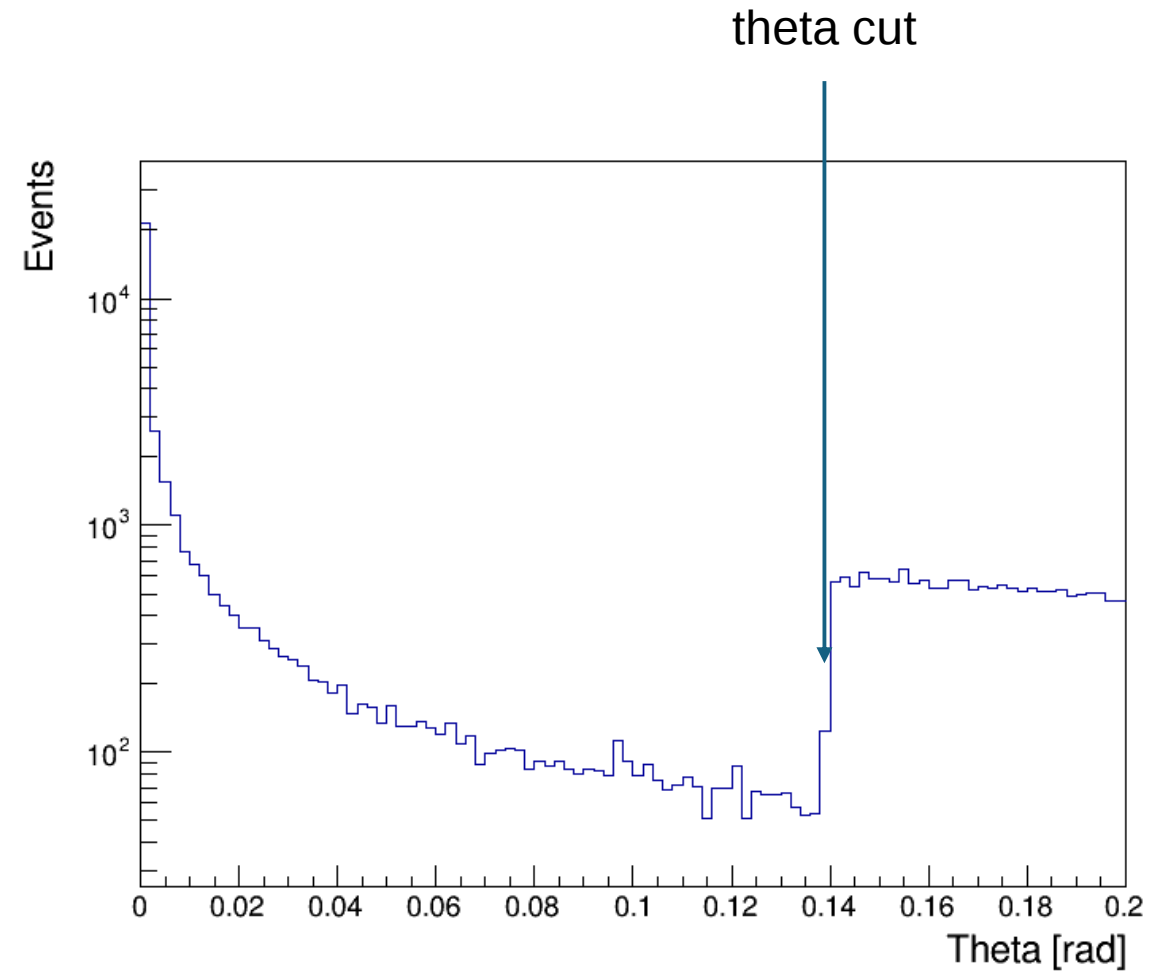
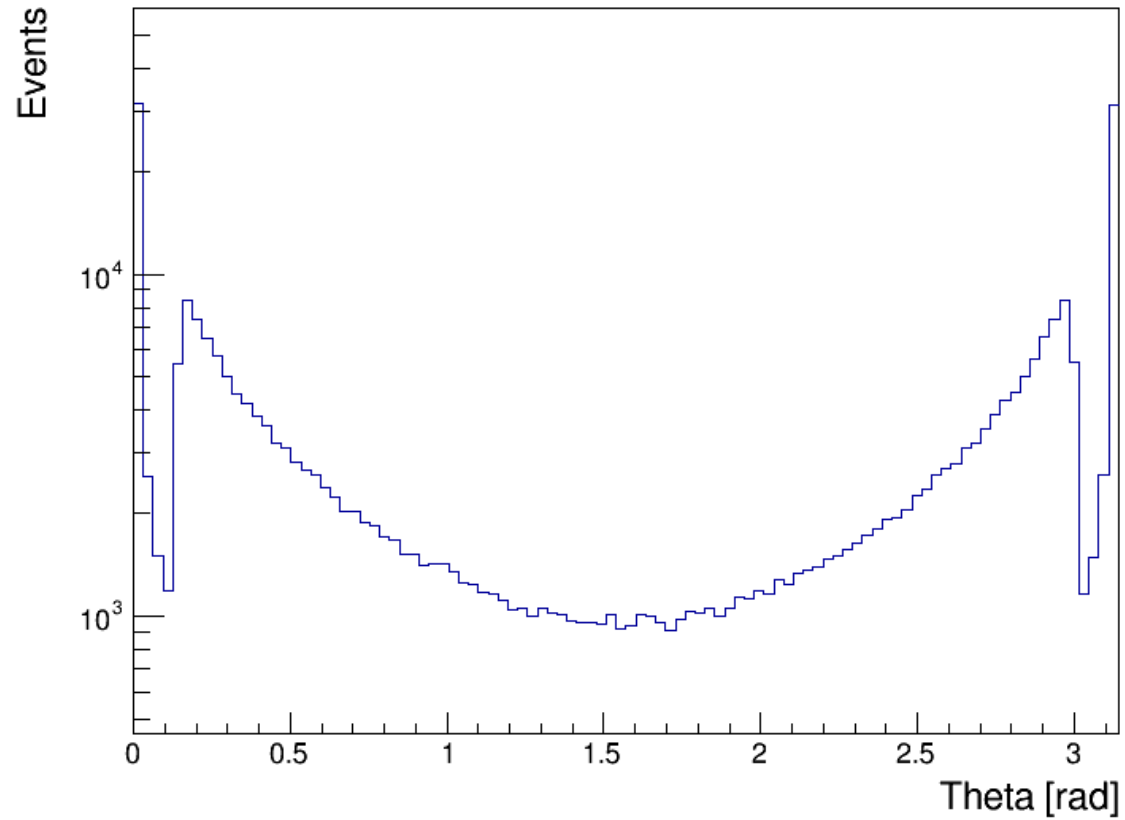
Cross-Section

- 10^6 events in total, $\sigma = 0.0114684 \text{ nb}$
- All photons in range $0.141546 \text{ rad} < \theta < 3.000046 \text{ rad}$,
47020 events remaining, $\sigma = 0.0053924 \text{ nb}$

Energy



Theta



Theta & Energy

