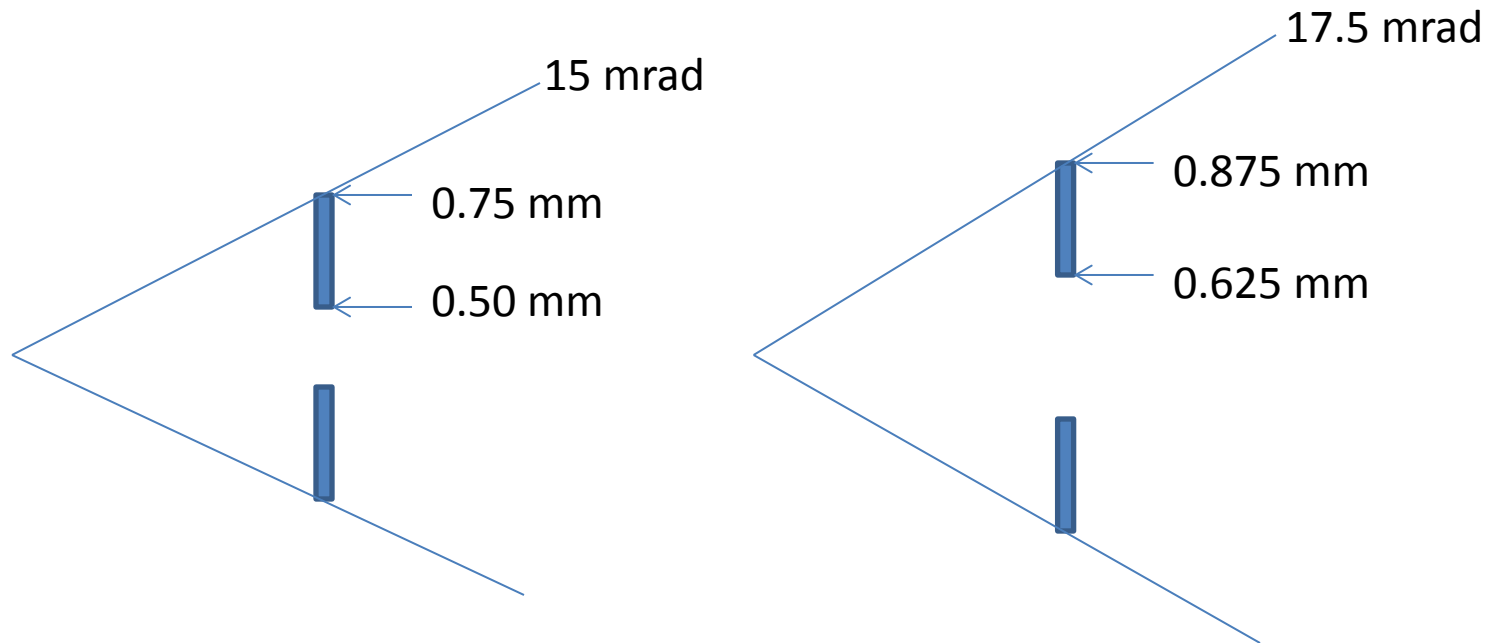


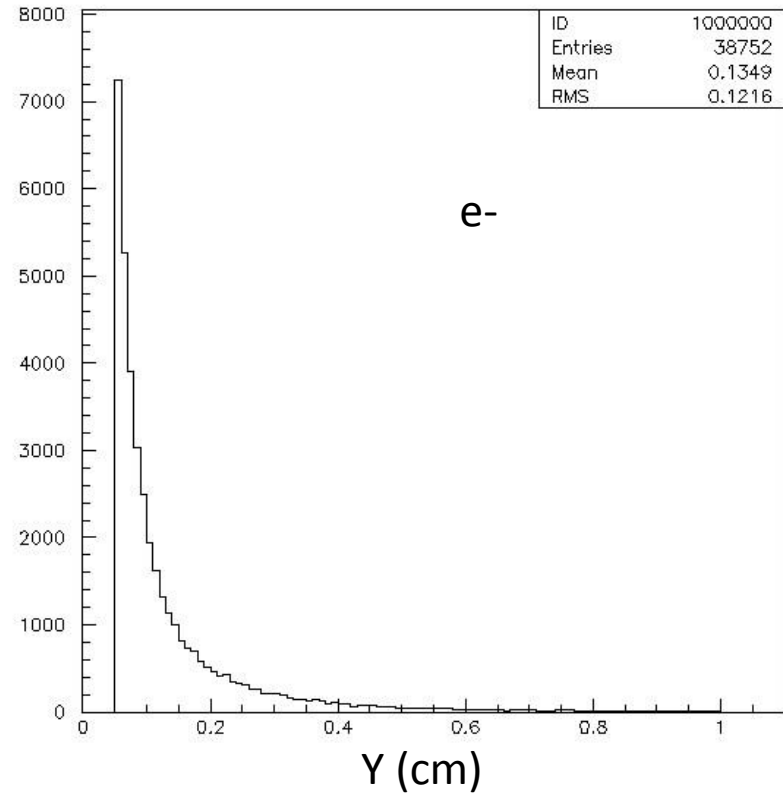
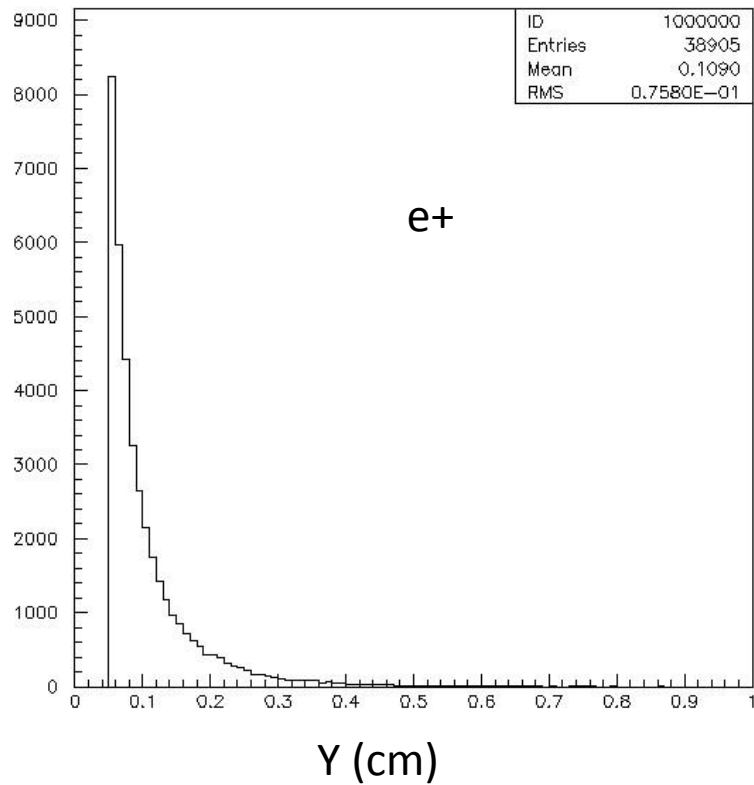
Trident rates in the L0 inactive Si region

- L0 inactive region at $Z = 5\text{cm}$



Consider only axial layer for simplicity.

- 4.4 GeV trident cuts in MadGraph5
 - $E(e^+) > 0.2 \text{ GeV}$, $E(\text{at least one } e^-) > 0.2 \text{ GeV}$
 - $E_{\text{sum}}(e^+ \text{ and at least one } e^-) > 2 \text{ GeV}$
 - $\Theta_y > 8 \text{ mrad}$
 - $\text{Mass}(e^+, e^-) > 10 \text{ MeV}$
- Trident event selection
 - $E(e^+) > 0.7 \text{ GeV}$ to reach Ecal
 - $E(e^-) > 0.2 \text{ GeV}$ to reach L4 (5 SVT hits)
 - $E(e^+) + E(e^-) > 2 \text{ GeV}$
 - e^+ / e^- in top-bottom



Both e+ and e- are in the inactive region.

15 mrad : 6375 events/100K

17.5 mrad : 2926 events/100K × 1.5 = 4389 events



Beam current