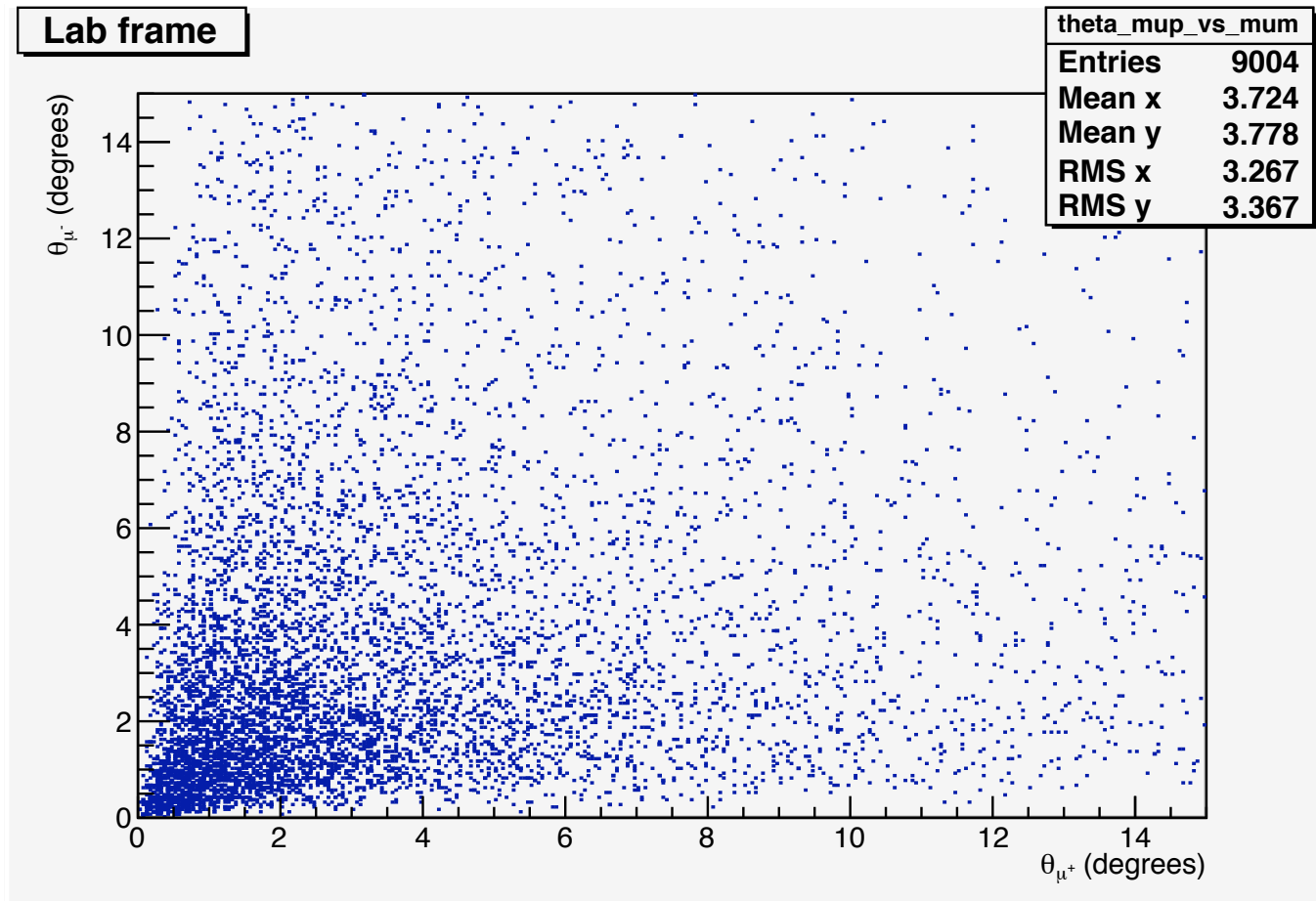
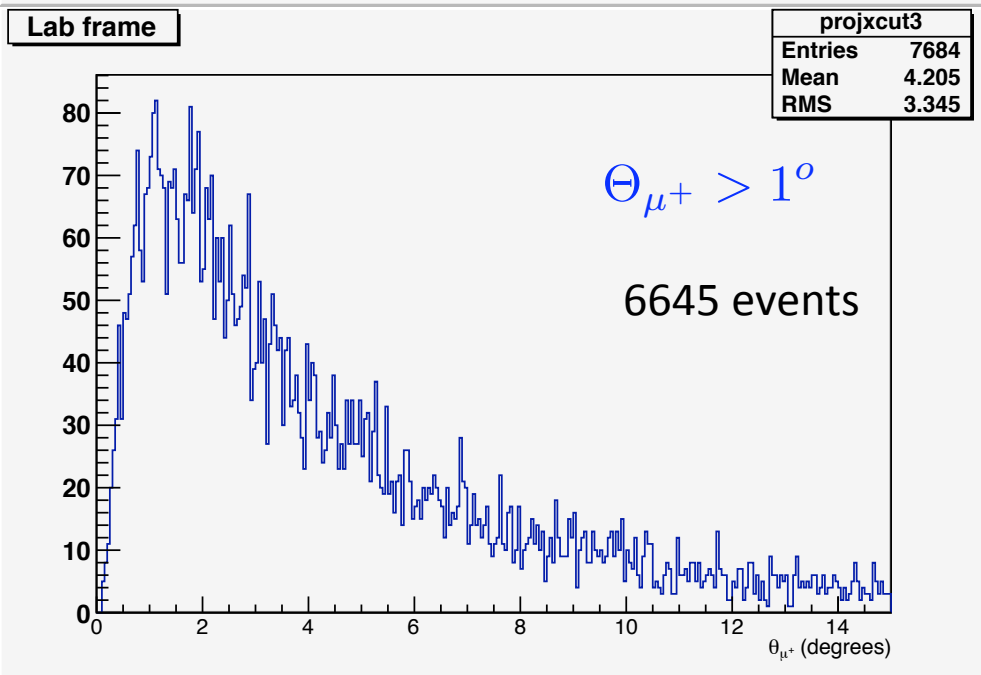
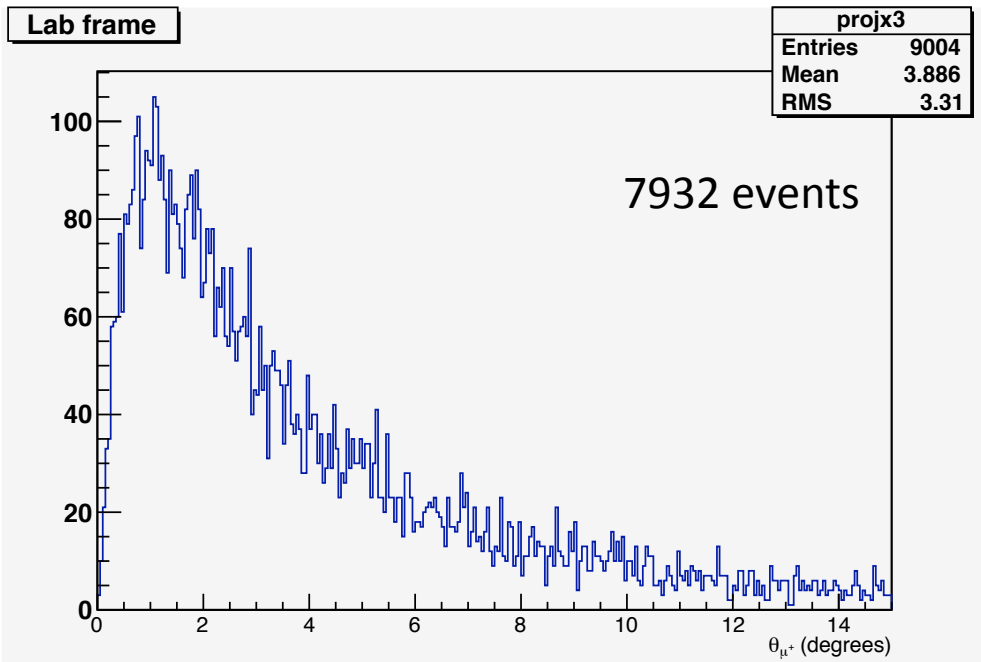


Muon missing MWPC2





$$\Theta_{\mu^+} > 1^\circ$$

$$\Theta_{\mu^-} > 1^\circ$$

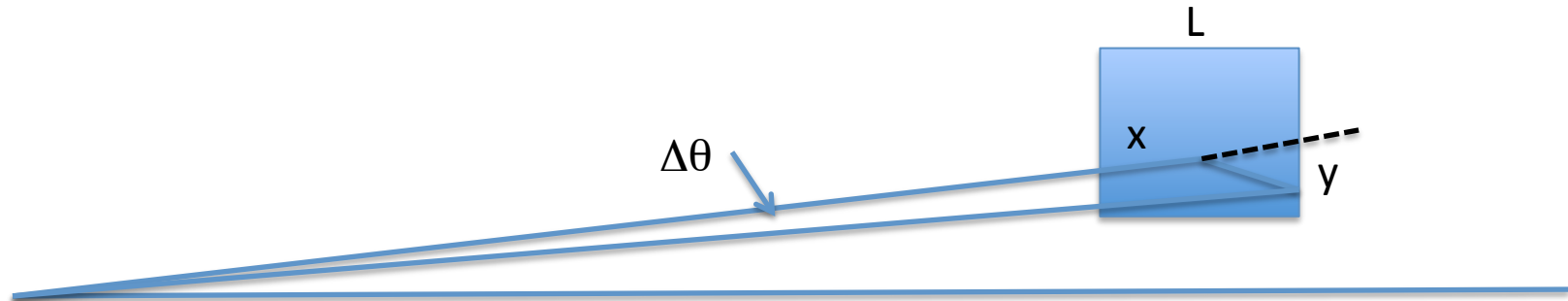
5809 events
Acc = 0.732

$$\Theta_{\mu^+} > 1.0^\circ$$

$$\Theta_{\mu^-} > 1.1^\circ$$

5647 events
Acc = 0.711

Change in acc = 0.021



$$y = \frac{13.6MeV}{1700MeV} \sqrt{\frac{x}{1.76cm}} (L - x)$$

$$\langle y \rangle = 0.56cm$$

$$\Delta\theta = \frac{0.56cm}{800cm} = 0.04^\circ$$

Fraction of muons scattering outside of one Gaussian sigma (one side) = 0.16

Acceptance change = $0.02 \times (0.04^\circ/0.1^\circ) \times 0.16 = 0.13\%$

Note: This estimate is conservative because it could be reduced by appropriate fiducial volume cuts in MWPC1

Pion Probability

$$P(\pi|1) = \frac{\epsilon \cdot \sigma_{\pi}}{P(1)}$$

$$P(1) = \epsilon \cdot \sigma_{\pi} + \alpha \cdot \sigma_{\mu}$$

$$P(\pi|2) = \frac{\epsilon \cdot P(\pi|1)}{P(2)}$$

$$P(2) = \epsilon \cdot P(\pi|1) + \alpha \cdot (1 - P(\pi|1))$$

$$\epsilon = \exp(-L/\gamma\beta c\tau), L = 800\text{cm}, c\tau = 780\text{cm}$$

$$\alpha = 0.013 \frac{1700\text{MeV}}{p}$$

