



# Kpi scattering study for KLF

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# Outline

- **Kpi study; CG coefficient for charge and neutral pion exchange**

$$K_L \pi^+ \rightarrow K_L \pi^+ : \frac{a^2}{3} + \frac{2b^2}{3}$$

$$K_L \pi^+ \rightarrow K_S \pi^+ : \frac{a^2}{3} - \frac{b^2}{3}$$

$$K_L \pi^+ \rightarrow K^+ \pi^0 : -\frac{a^2}{3} + \frac{b^2}{3}$$

$$K_L \pi^0 \rightarrow K_L \pi^0 : \frac{a^2}{3} + \frac{2b^2}{3}$$

$$K_L \pi^0 \rightarrow K^+ \pi^- : -\frac{a^2}{3} + \frac{b^2}{3}$$

$$K_L \pi^0 \rightarrow K^- \pi^+ : -\frac{a^2}{3} + \frac{b^2}{3}$$

$$K_L \pi^- \rightarrow K_L \pi^- : \frac{a^2}{3} + \frac{2b^2}{3}$$

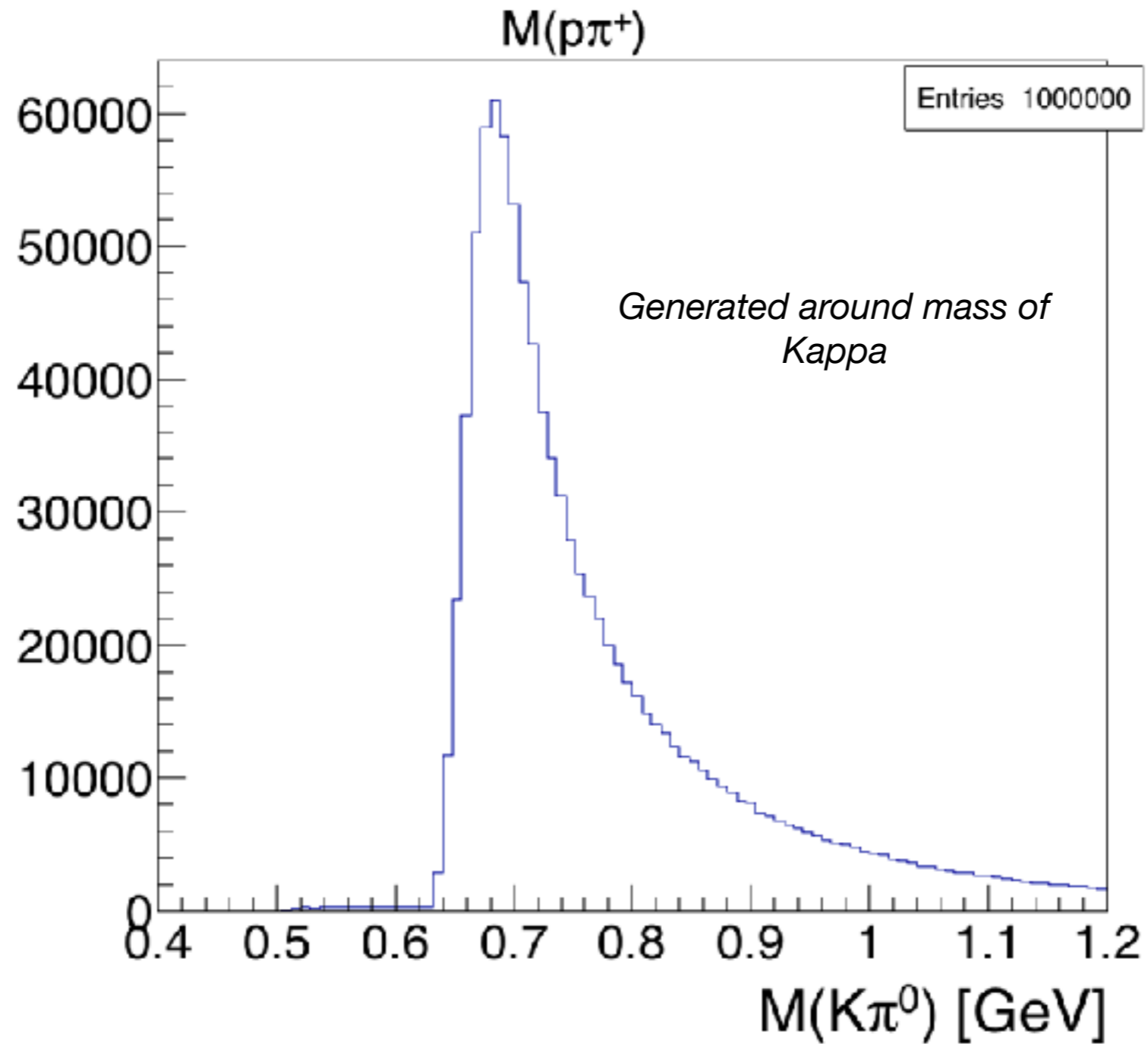
$$K_L \pi^- \rightarrow K_S \pi^- : -\frac{a^2}{3} + \frac{b^2}{3}$$

$$K_L \pi^- \rightarrow K^- \pi^0 : -\frac{a^2}{3} + \frac{b^2}{3}$$

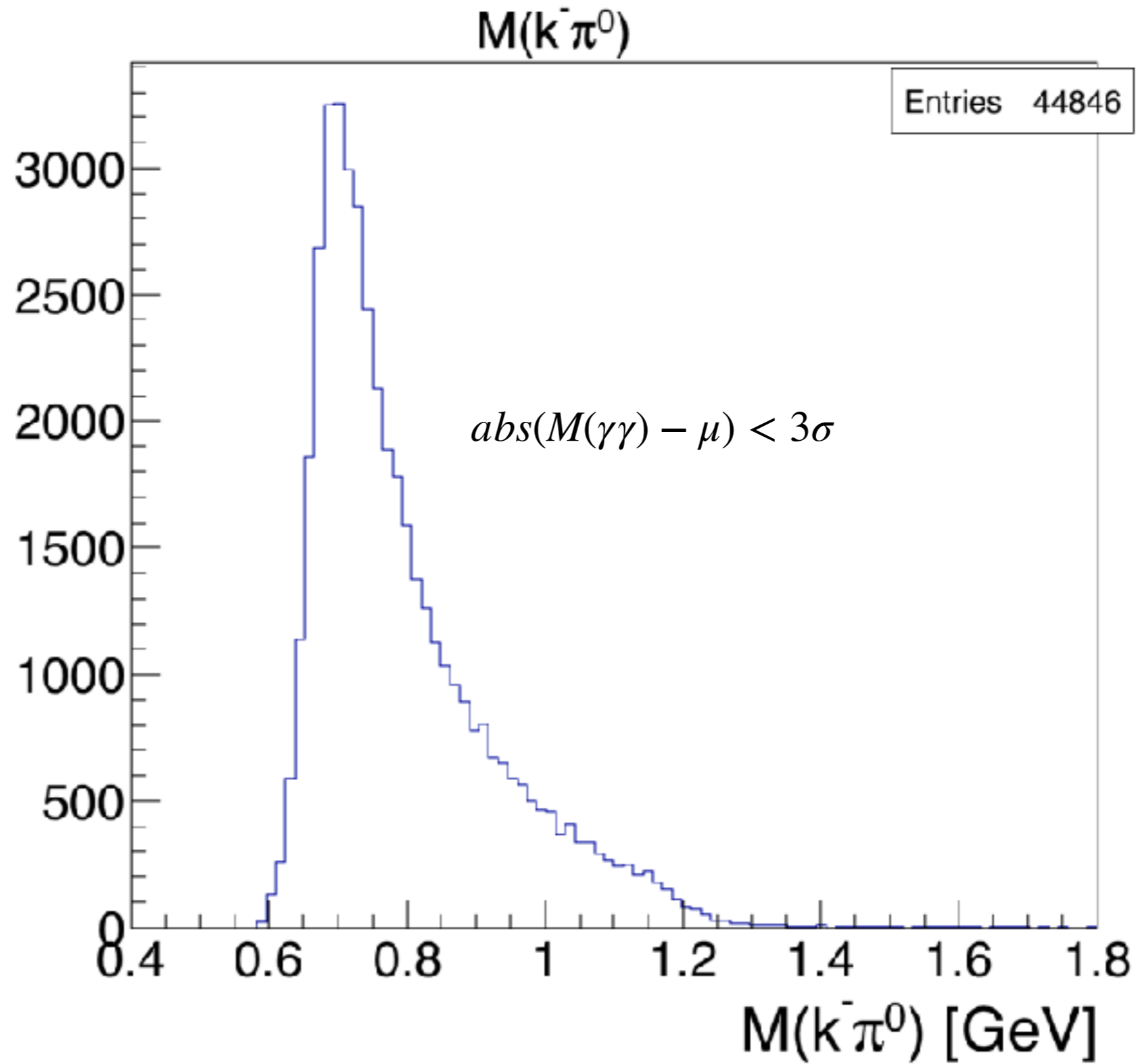
$$K_L p \rightarrow K_L \pi^- \Delta^{++} (p \pi^+)$$

$$K_L p \rightarrow K^- \pi^0 \Delta^{++} (p \pi^+)$$

# Thrown $K\pi$ Distribution for s-wave

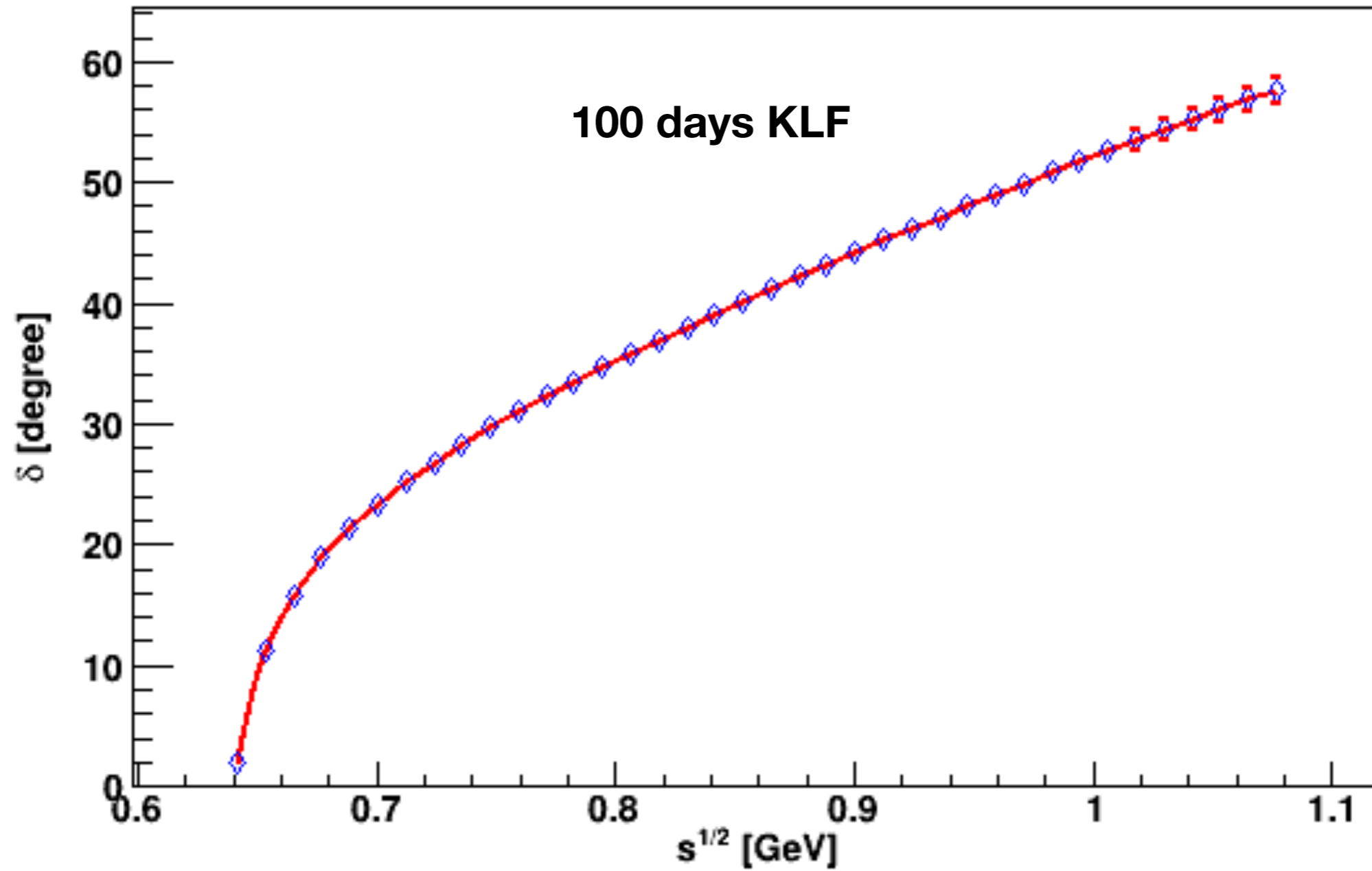


# Reconstructed $K\pi$

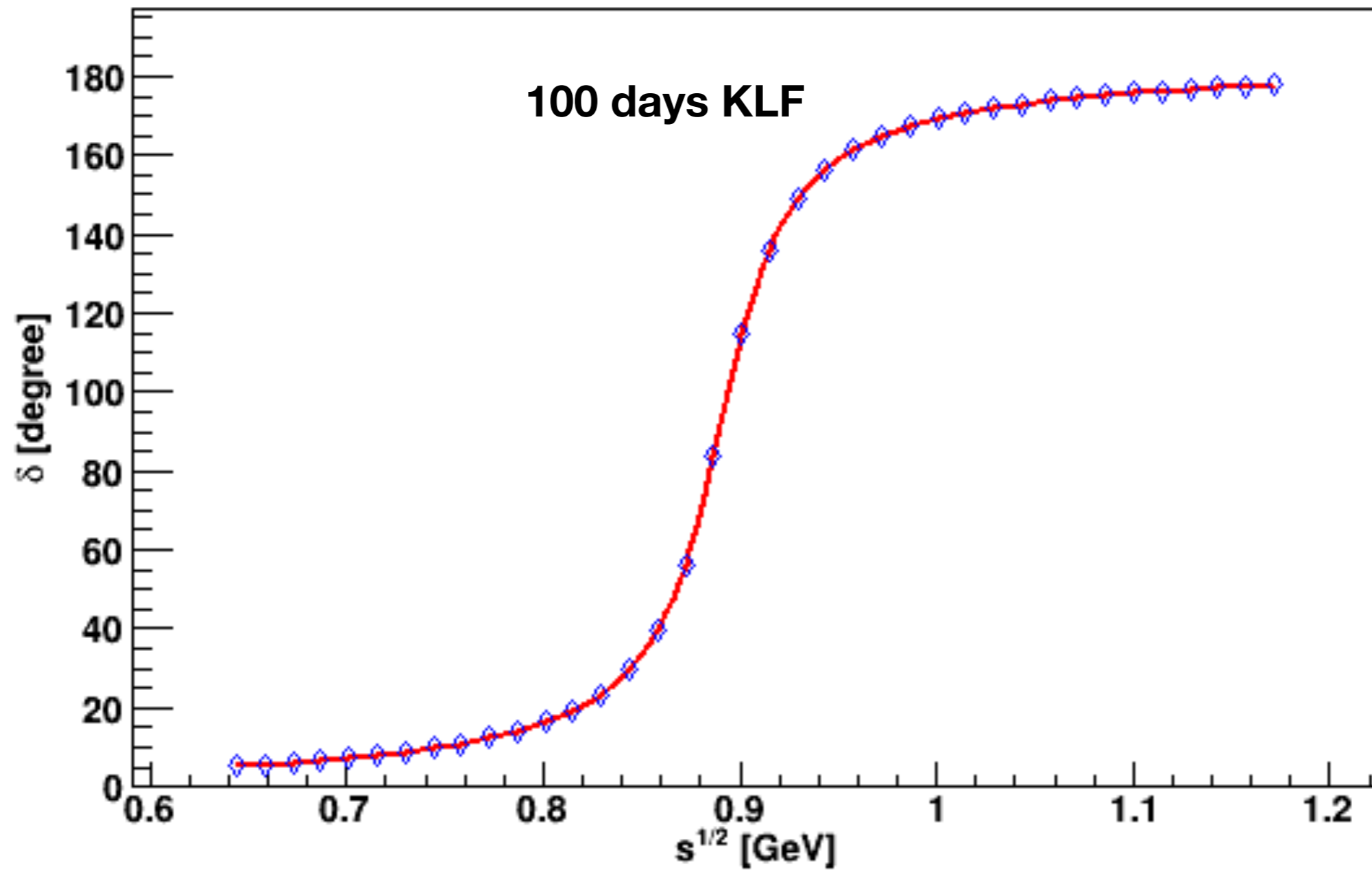


# Phase Shift for $t' < 0.2$ : s-wave

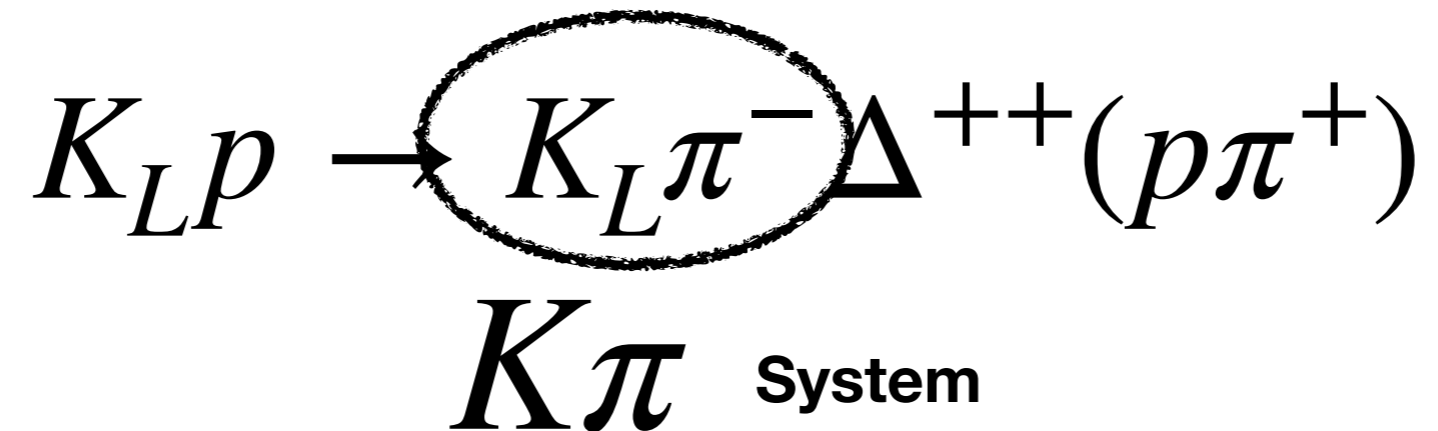
Graph



# Phase Shift for $t' < 0.2$ : p-wave

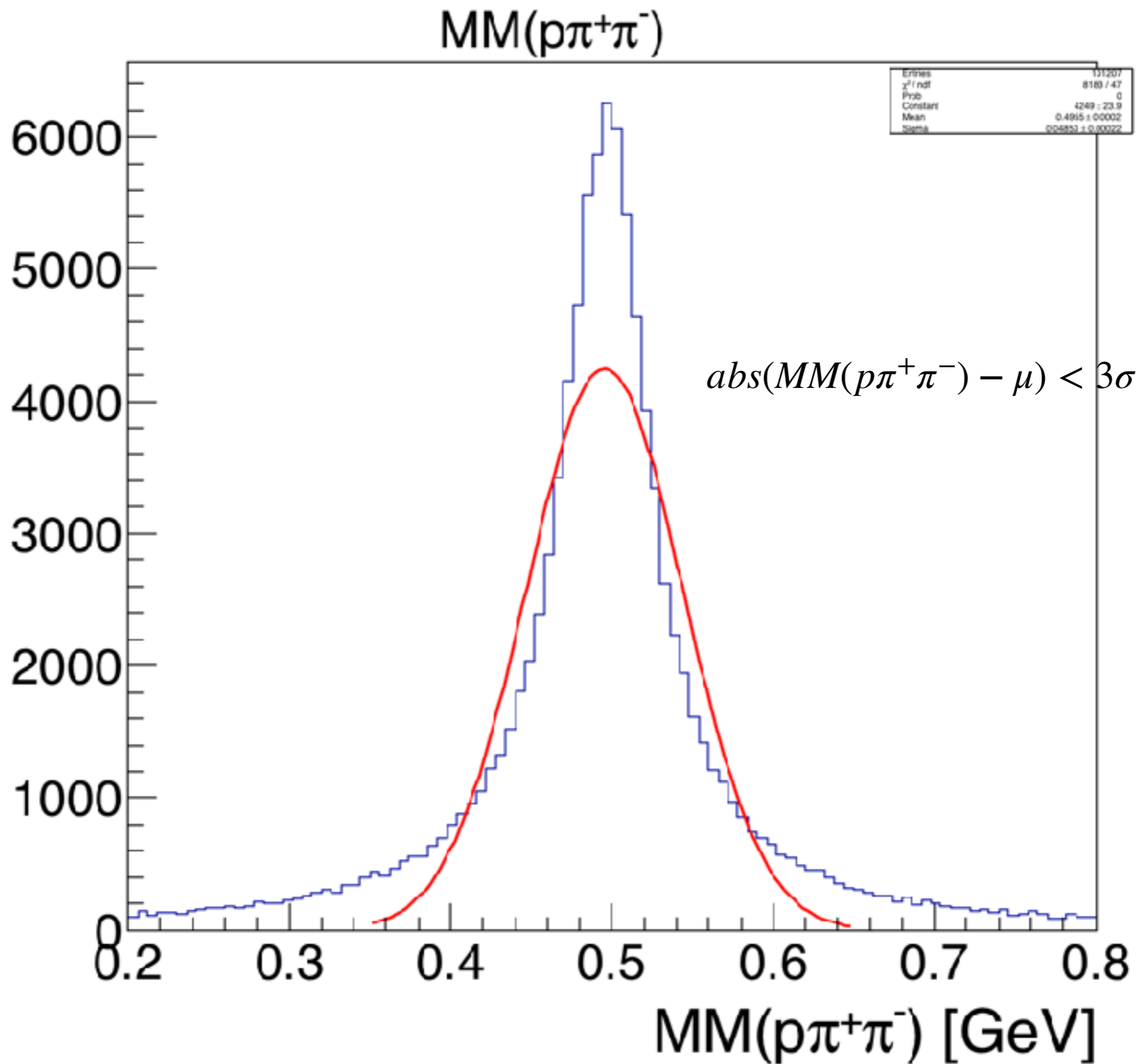


**I = 3/2 reaction**



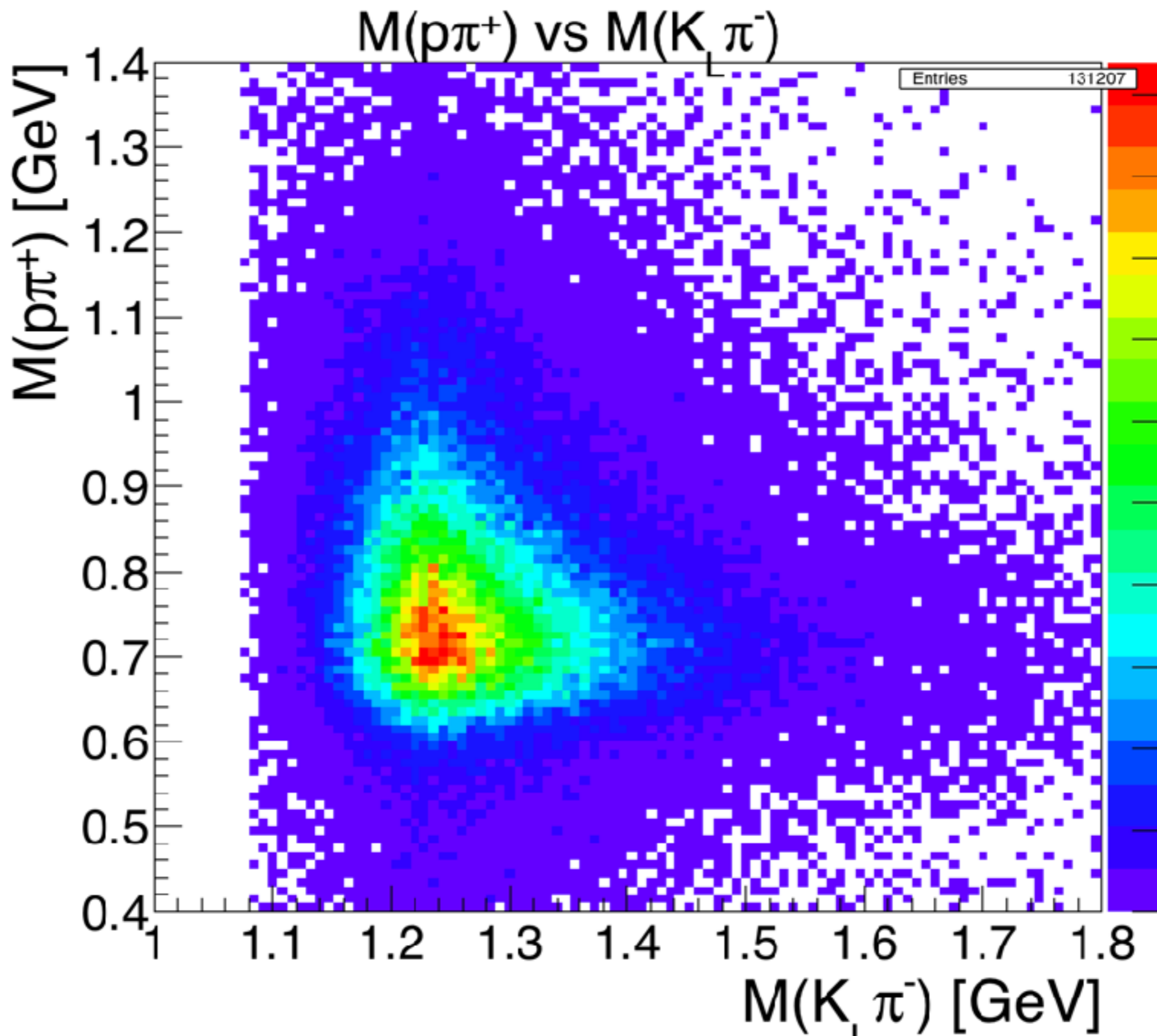
**Generated s-wave, and reconstructed with missing K-long**

# Reconstructed Kinematics

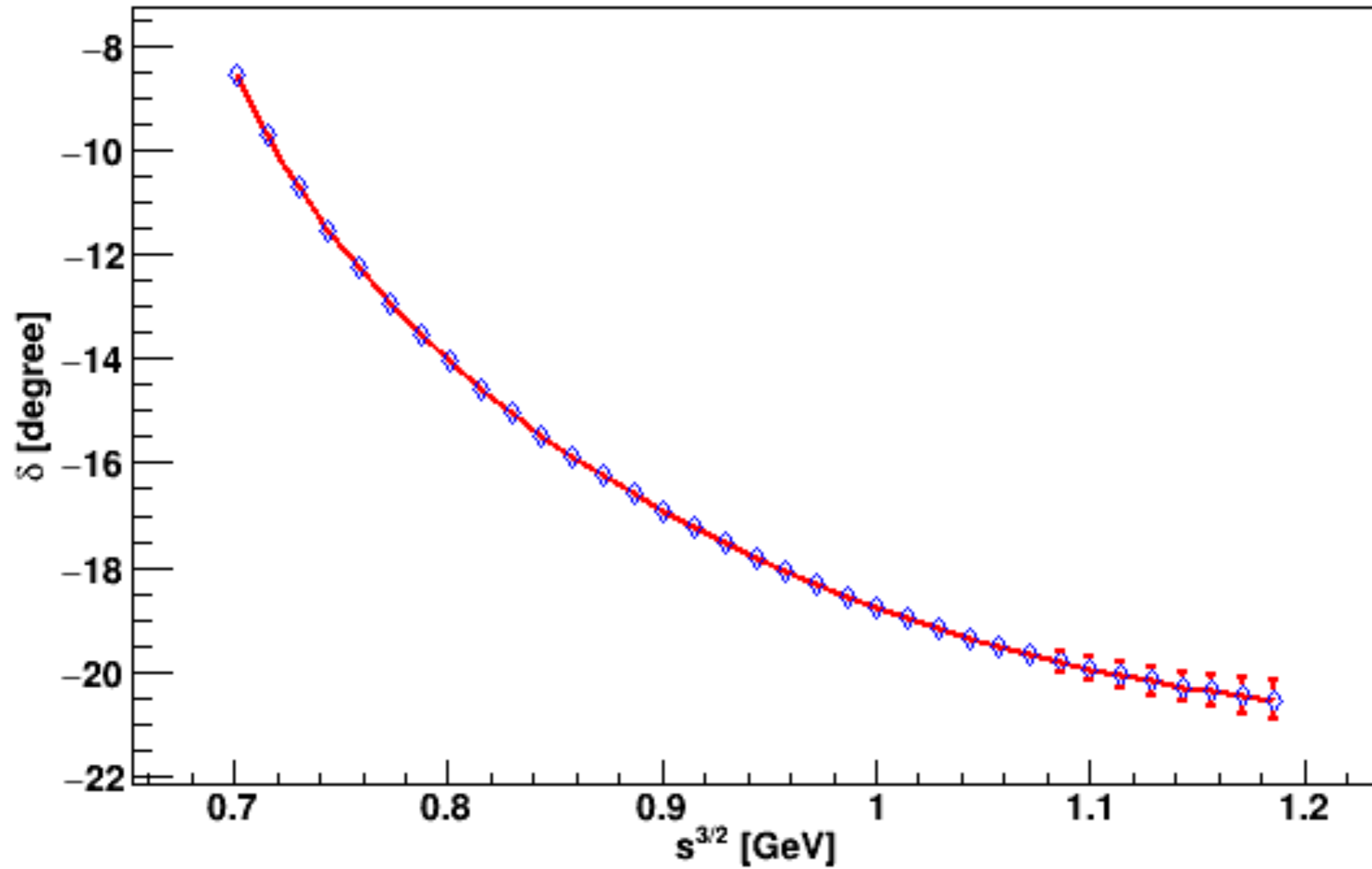




# Reconstructed Kinematics



# Phase Shift for $t' < 0.2$ : s-wave



# E vs t

