

$$\gamma p \rightarrow p K^- K^+ \gamma \gamma$$

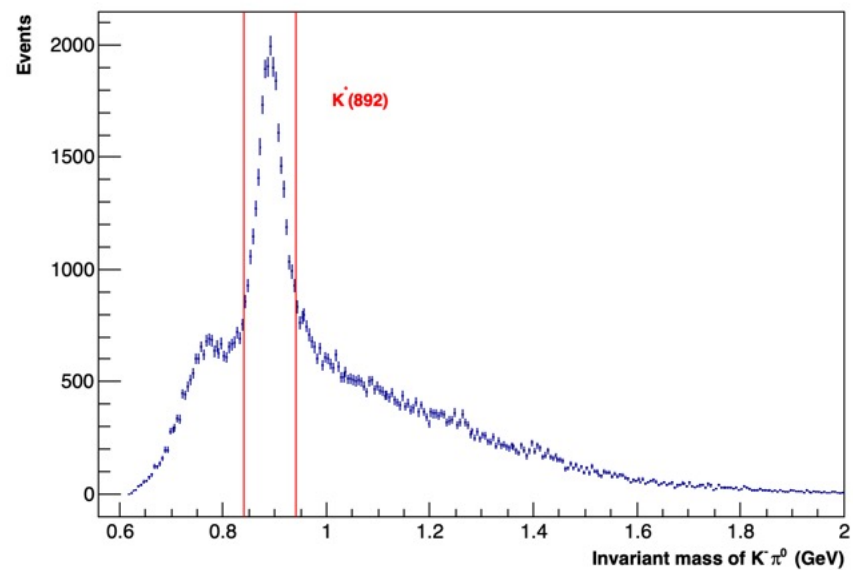
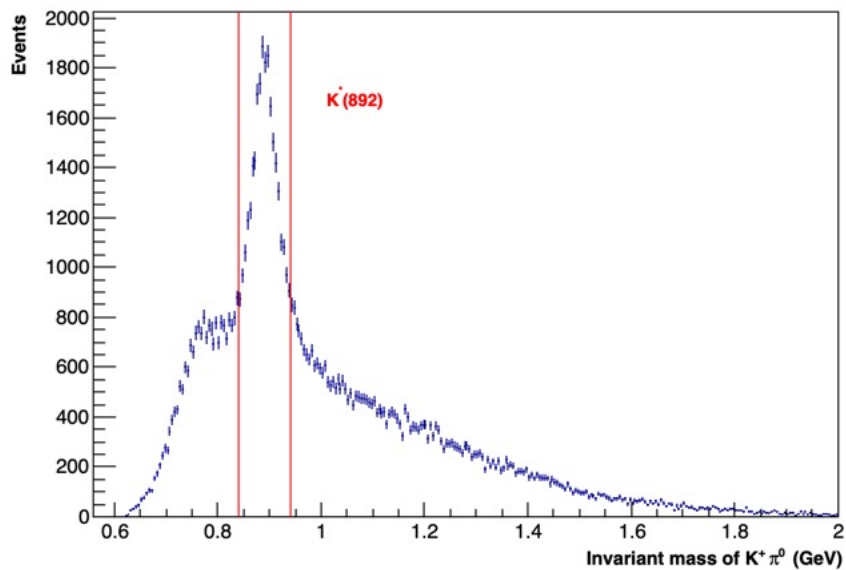
# Background Analysis

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September 21<sup>st</sup>, 2021

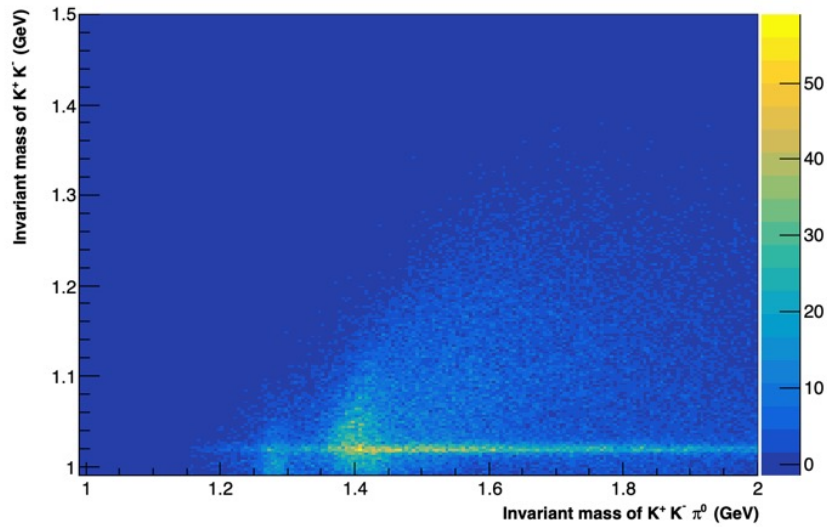
# Event Selection

- $K^\pm$  hit in the TOF
- $K^\pm$  momentum is  $< 3.0$  GeV
- Measured mass of  $p$  is  $>$  measured mass of  $K^+$
- $\pi^0$  reconstructed from  $\gamma \gamma$

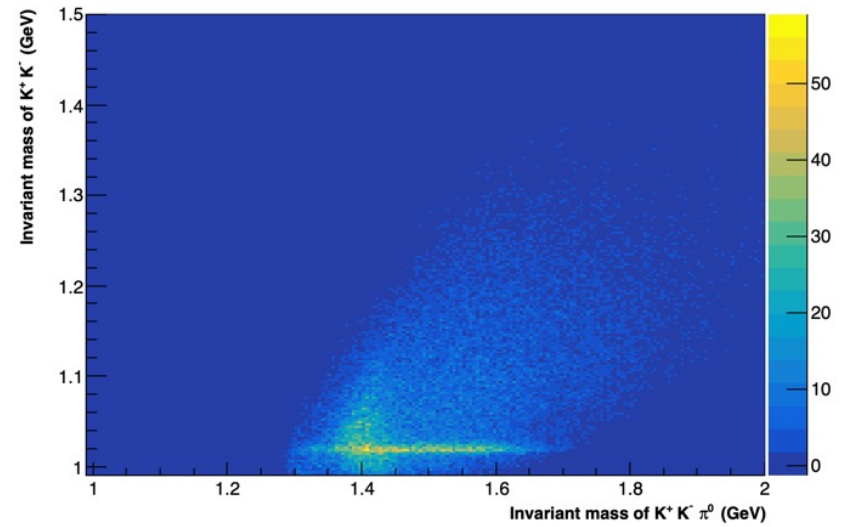
# $K^*(892)$ Reconstruction



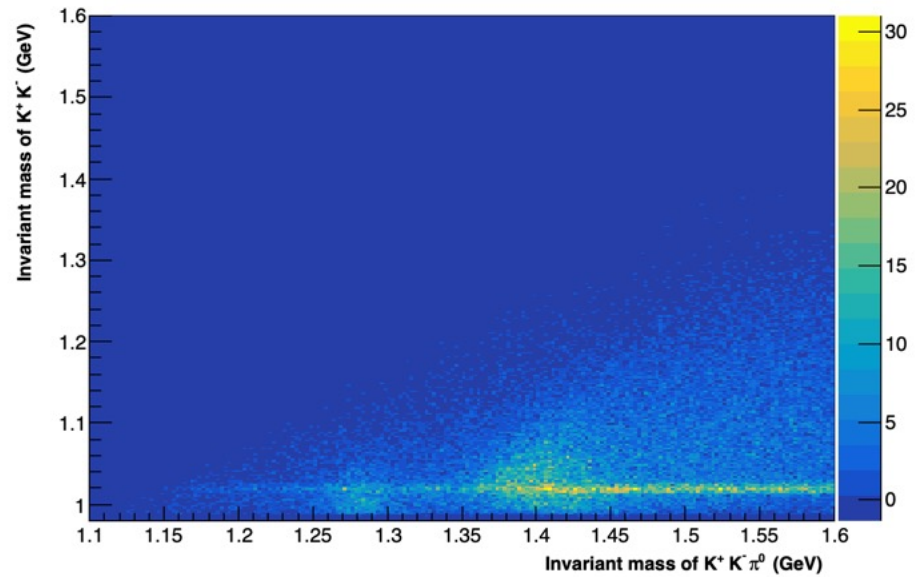
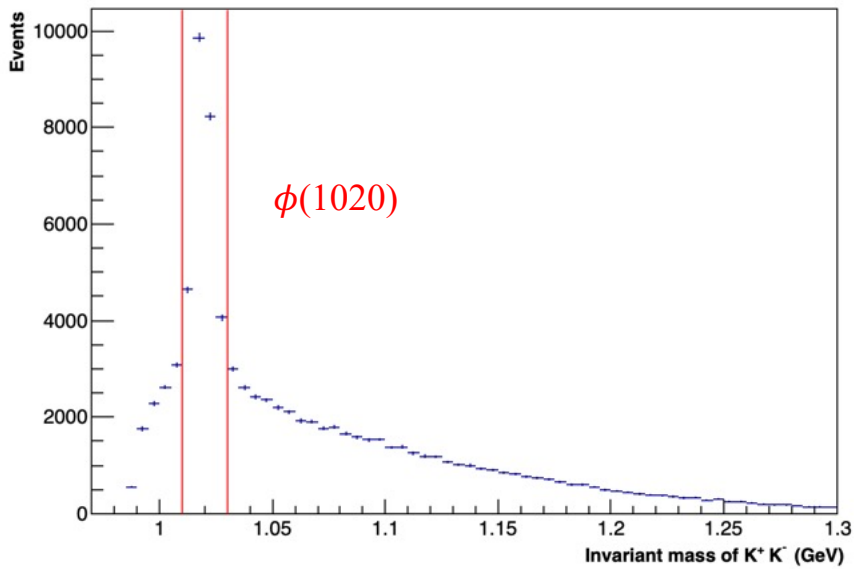
No  $K^*(892)$  required



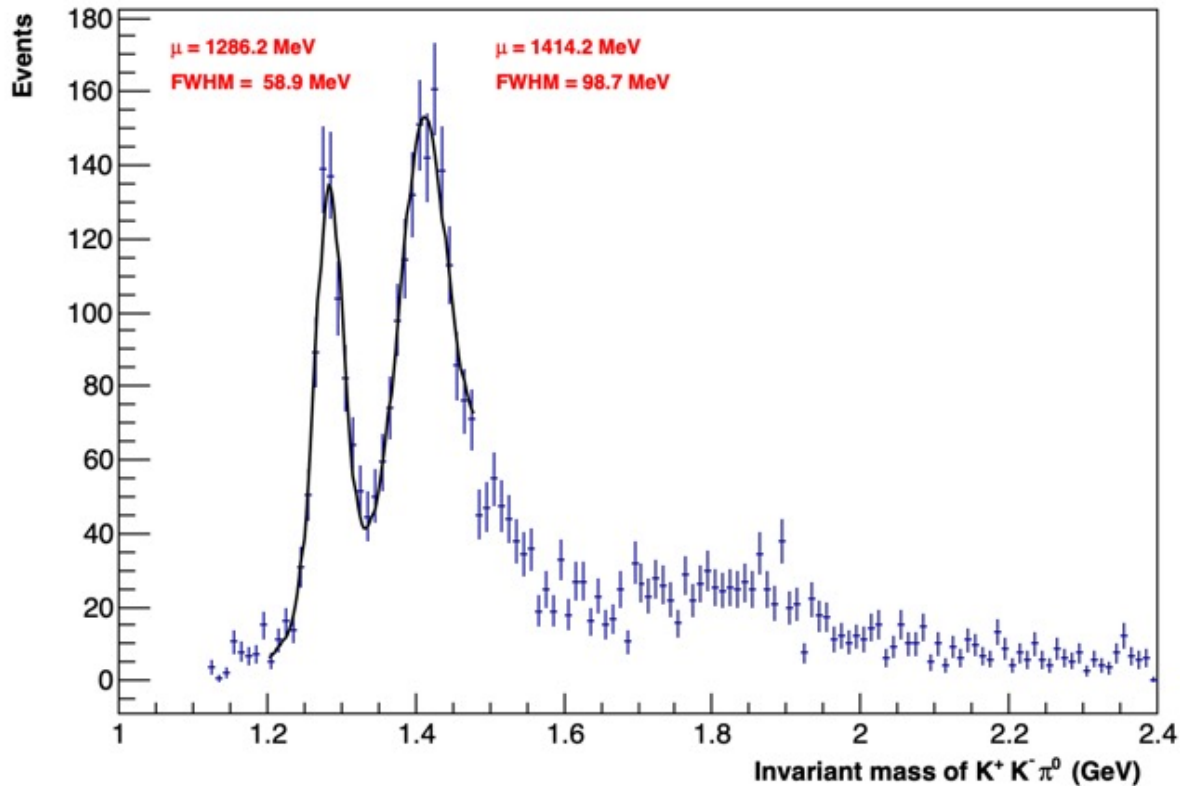
$K^*(892)$  required



# $\phi(1020)$ Background



# Invariant Mass of $K^+K^- < 1.0$ GeV



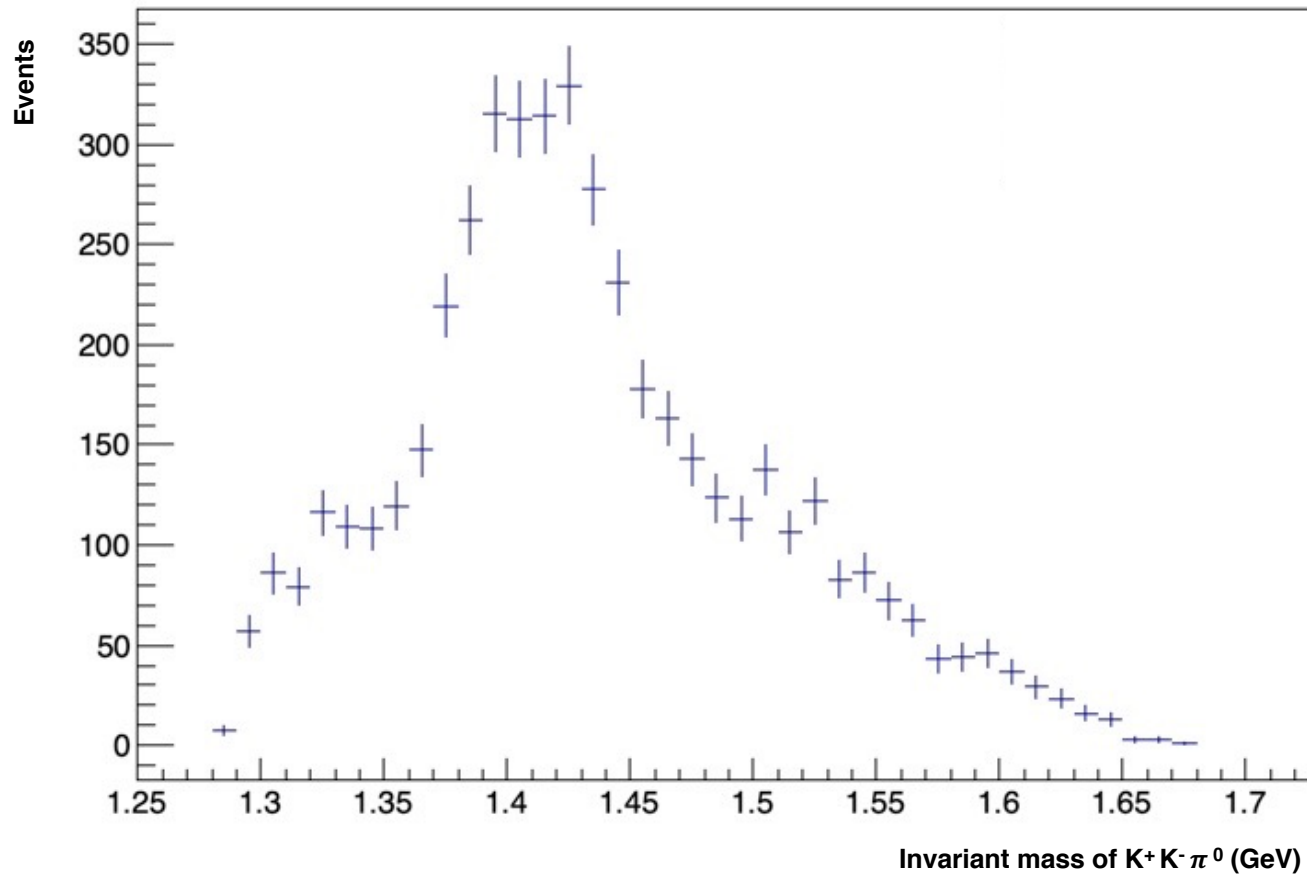
$f_1(1285)$  width =  $22.7 \pm 1.1$  MeV

$\eta(1405)$  width =  $50.1 \pm 2.6$  MeV

$f_1(1420)$  width =  $54.5 \pm 2.6$  MeV

$\eta(1475)$  width =  $90.9 \pm 9$  MeV

# Invariant Mass of $K^+K^- < 1.0$ GeV, $K^*(892)$ required



$f_1(1510)?$

$f_2(1525)?$