

Hybrid Meson Search

LD2 Workshop

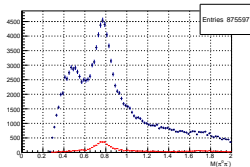
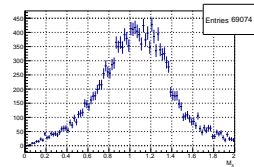
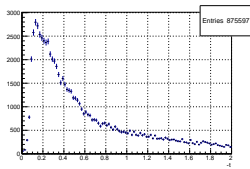
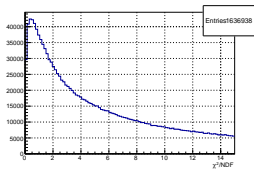
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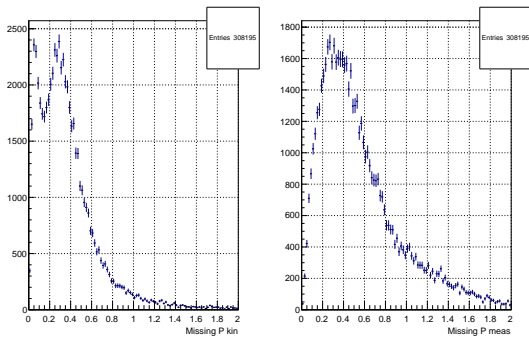
Overview

- Goal: Extract spin density matrix elements of ρ^- from $\gamma d \rightarrow \pi^- \pi^0 p(p)$
- One proton detected, one treated as “missing”
- Show some basic distributions



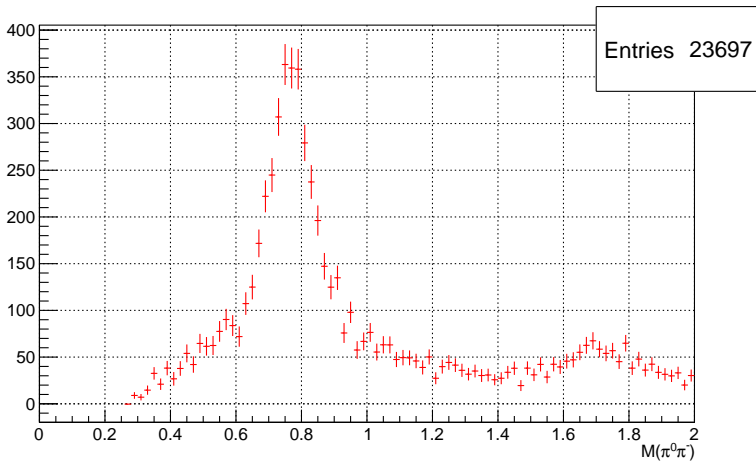
- $\chi^2/NDF < 5$
- $-t < 1$
- Missing mass peak of proton is broad, mean above proton mass
- $p_X = (p_\gamma + p_d) - (p_\pi^- + p_\pi^0 + p_p)$

Missing Momentum



- $p_X = (p_\gamma + p_d) - (p_{\pi^-} + p_\pi^0 + p_p)$
- Calculate missing \vec{p} of the spectator
- Also have the missing mass constrained in the kinematic fit
- Plots show missing momentum of the spectator using the kinematic fit (left) and measured variables (right)

ρ^- Mass



Questions and Next Steps

- What's going on with the missing mass and missing momentum distributions?
- Simulation to do SDMEs? Will need a generated and accepted file