

Monitoring

- 3 Target Channels:
 - $\gamma p \rightarrow \rho^0 p \rightarrow \pi^+ \pi^- p$
 - $\gamma p \rightarrow \omega p \rightarrow \gamma \gamma \pi^+ \pi^- p$
 - $\gamma n \rightarrow \rho^- p \rightarrow \gamma \gamma \pi^- p$
- Proposed Observables/Plots
- Proposed Cuts

$\gamma p \rightarrow \rho^0 p$ Target Plots

- Mandelstam t

- $p_{miss}^- = E_{miss} - p_{miss||beam}$

- $p_{miss,\perp}$

- $k_{miss} \equiv m_N \sqrt{\frac{p_{miss,\perp}^2 + m_N^2}{p_{miss}^-(2m_N - p_{miss}^-)} - 1}$

- $m_{\pi^+\pi^-}$

- E_{miss}

$\gamma p \rightarrow \rho^0 p$ Cuts (Still Tentative)

- 2 positive, 1 negative charged tracks
- $E_\gamma > 7$ GeV
- $|s|, |t|, |u| > 2$ GeV²
- 50.5 cm $< z_{vertex} < 79.5$ cm
- $|\Delta E| < 1$ GeV
- $|\Delta t_{beam}| < 2$ ns
- $0.6 < m_\rho < 1.0$ GeV
- $160^\circ < \Delta\phi_{p\rho} < 200^\circ$
- $m_{p\pi^-}^2 > 4$ GeV²
- $CL > 0.002$

$\gamma p \rightarrow \omega p$ Target Plots

- Mandelstam t
- P_{miss}^-
- $P_{miss,\perp}$
- k_{miss}

- $m_{2\gamma}$
- $m_{\pi^0\pi^+\pi^-}$
- E_{miss}

$\gamma p \rightarrow \omega p$ Cuts (Still Tentative)

- 2 positive, 1 negative charged tracks
- $E_\gamma > 7$ GeV
- $|s|, |t|, |u| > 2$ GeV²
- 50.5 cm $< z_{vertex} < 79.5$ cm
- $|\Delta E| < 1$ GeV
- $|\Delta t_{beam}| < 2$ ns
- $0.11 < m_{\gamma\gamma} < 0.16$ GeV
- $0.76 < m_\omega < 0.81$ GeV
- Shower Position+Timing Cuts
- $CL > 0.02$ (?)

$\gamma n \rightarrow \rho^- p$ Target Plots

- Mandelstam t
- P_{miss}^-
- $P_{miss,\perp}$
- k_{miss}

- $m_{2\gamma}$
- $m_{\pi^0\pi^-}$
- E_{miss}

Other Questions

- Are these the channels we want to look at? Do we want to focus on 1/2 or add more?
- How immediately do we want to look at data? What are our options?
 - If each datafile has 20-30 events in a channel (after cuts), can we combine files to look at e.g. 1 day's worth of data?
- Loosen cuts ($|t| > 1 \text{ GeV}^2$) and scale