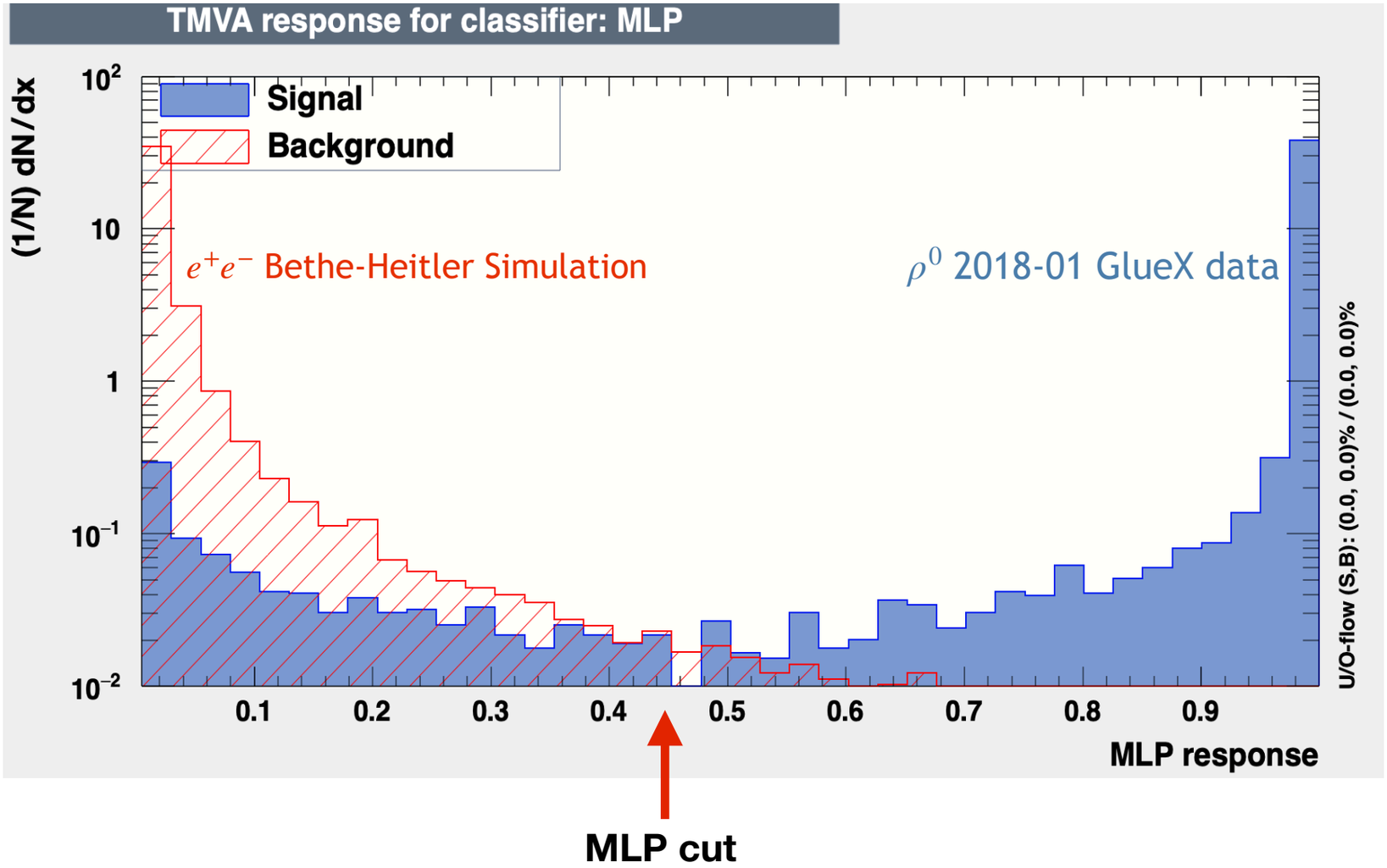
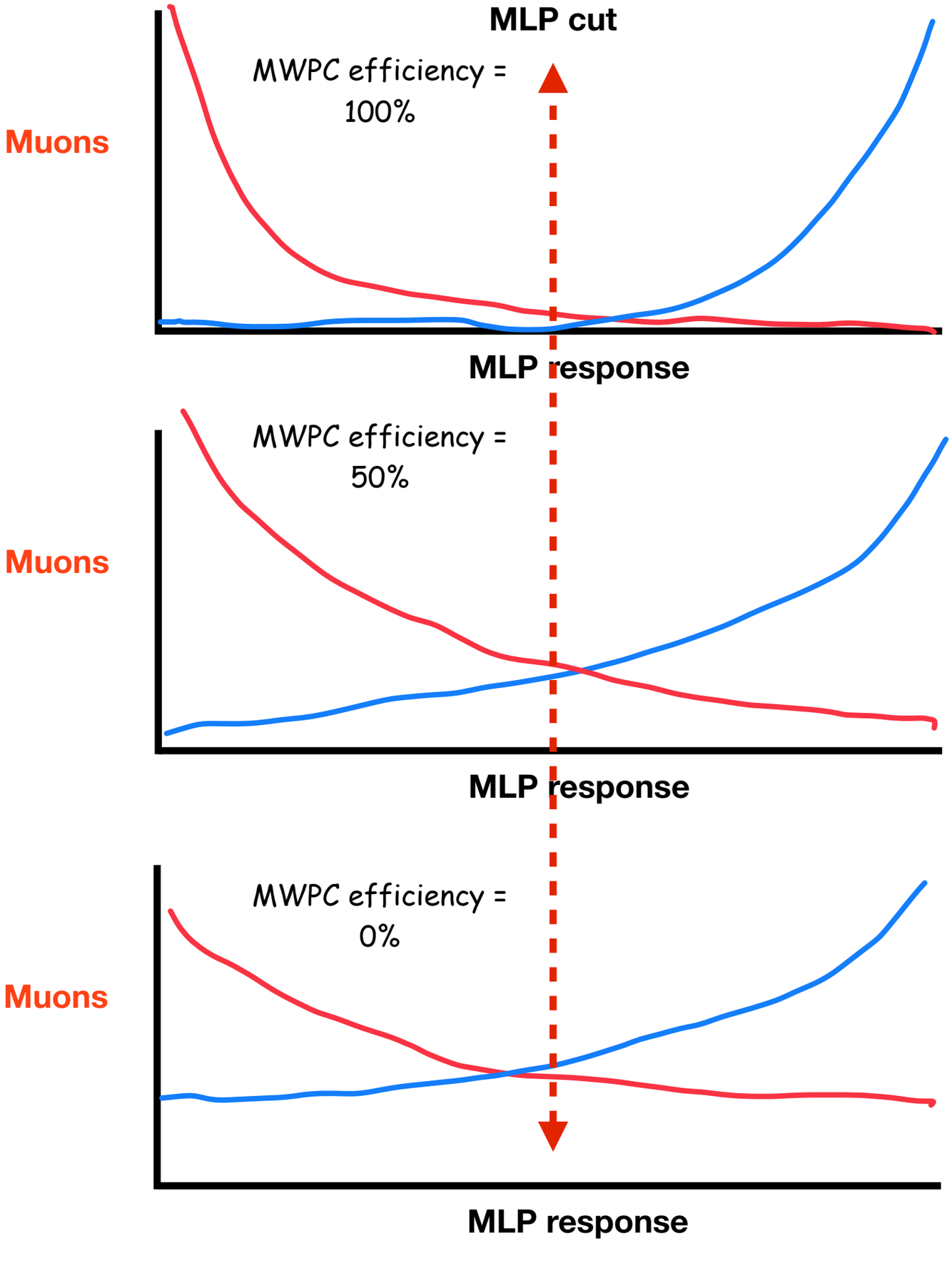


- f_π = fraction of true pion events identified as pions
- f_e = fraction of true electron events identified as electrons
- f_π and f_e obtained from NN response: test with $\omega \to \pi^0\pi^+\pi^-$ and $\pi^0 \to \gamma e^+e^-$ data

$$N_\pi = f_\pi N_\pi^{true} + (1 - f_e) N_e^{true}$$

$$N_e = (1 - f_\pi) N_\pi^{true} + f_e N_e^{true}$$

$$\begin{pmatrix} -f_e & 1-f_e \\ 1-f_\pi & -f_\pi \end{pmatrix} \begin{pmatrix} N_\pi \\ N_e \end{pmatrix} = \begin{pmatrix} N_\pi^{true} \\ N_e^{true} \end{pmatrix}$$



Note: the # of detected pions and the # of detected muons is independent of MWPC efficiency, depends only on the trigger efficiency

In this scenario FCAL and the FDCs provides remaining PID capability through E/p, DOCA and E9/E25.

Neural net training

- Pion tracks:

a. Andrew's analysis: $\gamma p \rightarrow \pi^+\pi^- p$ data at the ρ^0

b. CPP: $\gamma A \rightarrow \pi^+\pi^-$ data at the ρ^0, select t > 0.1 to minimize B.H. contamination

- Electron tracks: B.H. simulation for $\gamma A \rightarrow e^+e^-$

- Muon tracks: B.H. simulation for $\gamma A \rightarrow \mu^+\mu^-$

Where does MWPC efficiency enter the NN analysis?

Needed as input to the simulation for producing $\mu^+\mu^-$ tracks in the MWPCs