

Analyzing Training Variables for Neural Network

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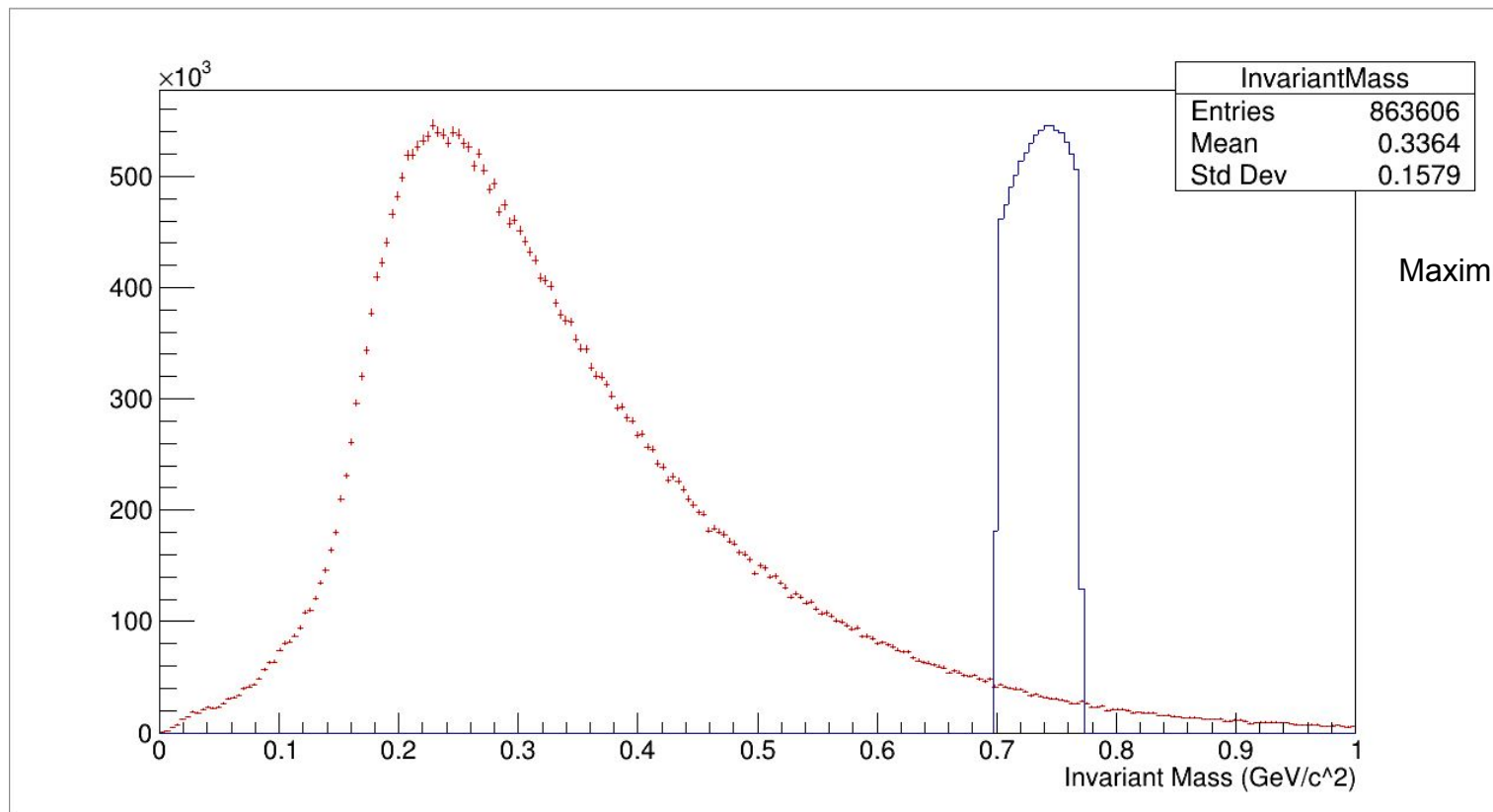
Motivation

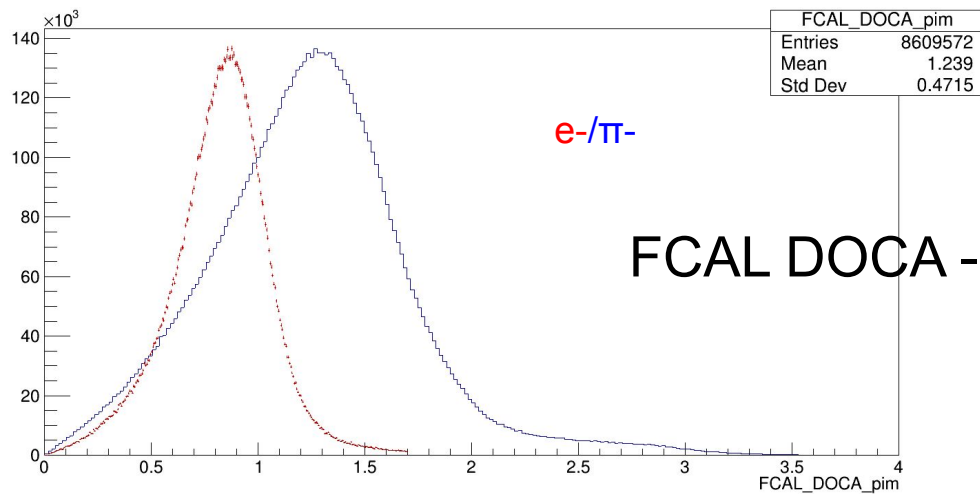
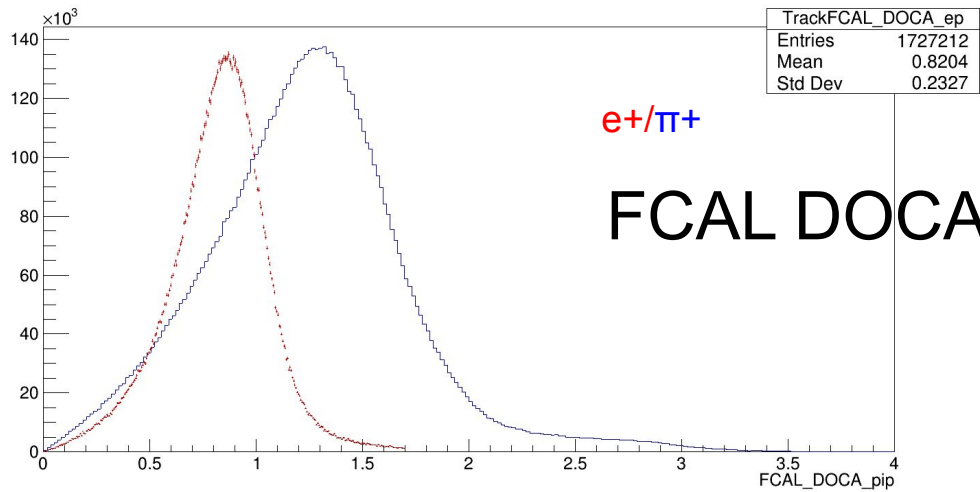
- Andrew is training me to use the neural nets he has developed
- The current system uses two separate NNs
 - A NN to classify negative tracks as either electron or π^-
 - A NN to classify positive tracks as either positron or π^+
 - Selects good events by making specified cuts on the NN responses
- The current NN can only train one track at a time
 - Training variables cannot be fed into the NN that are a composite of separate tracks
 - It would be ideal to figure out a new NN system to train on both tracks
 - Analyzing the training variables for differences to see if a NN of this type is viable

Invariant Mass

e+/e-

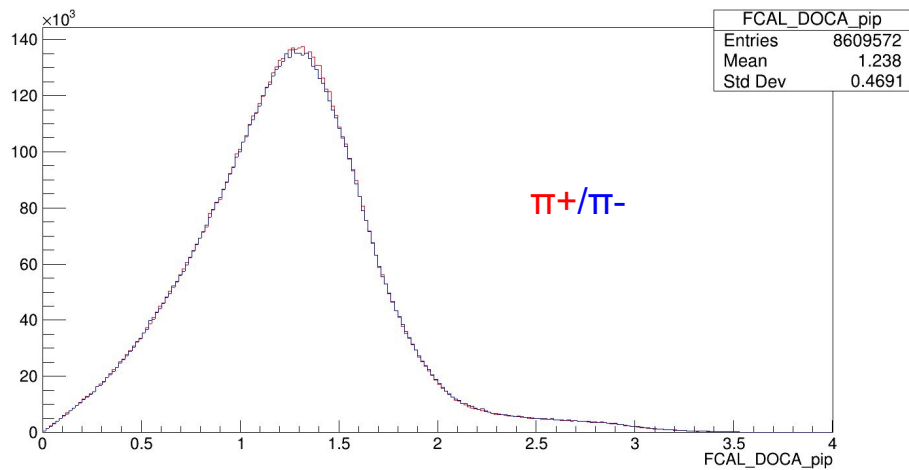
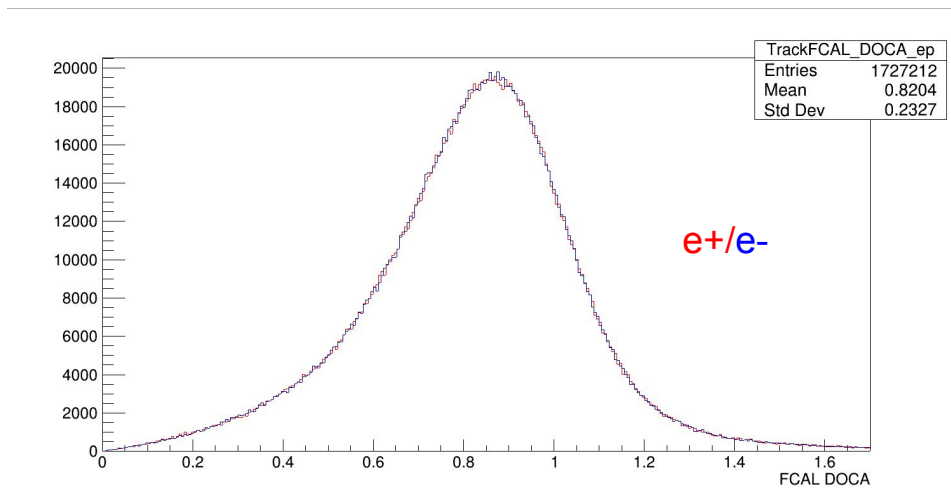
$\pi^+\pi^-$



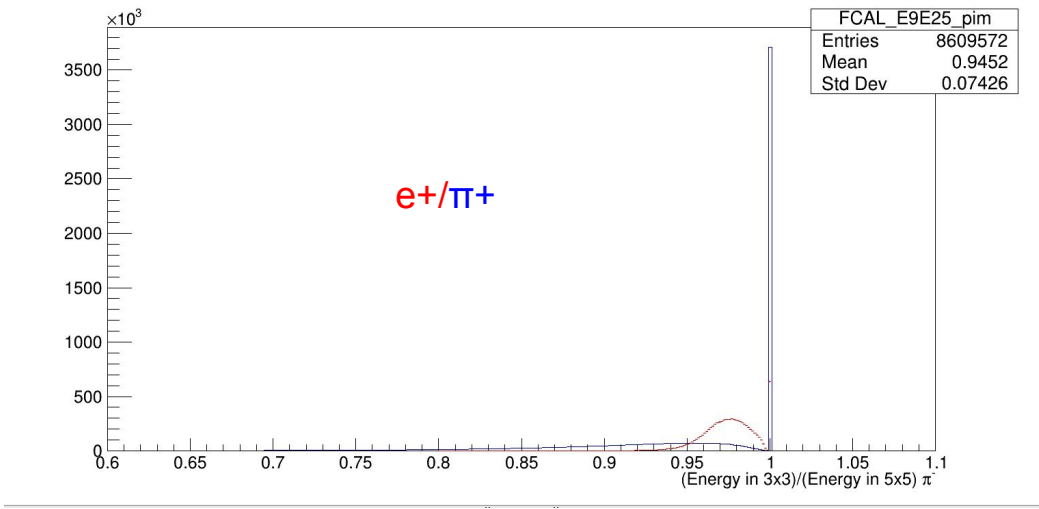


Maximum value scaling

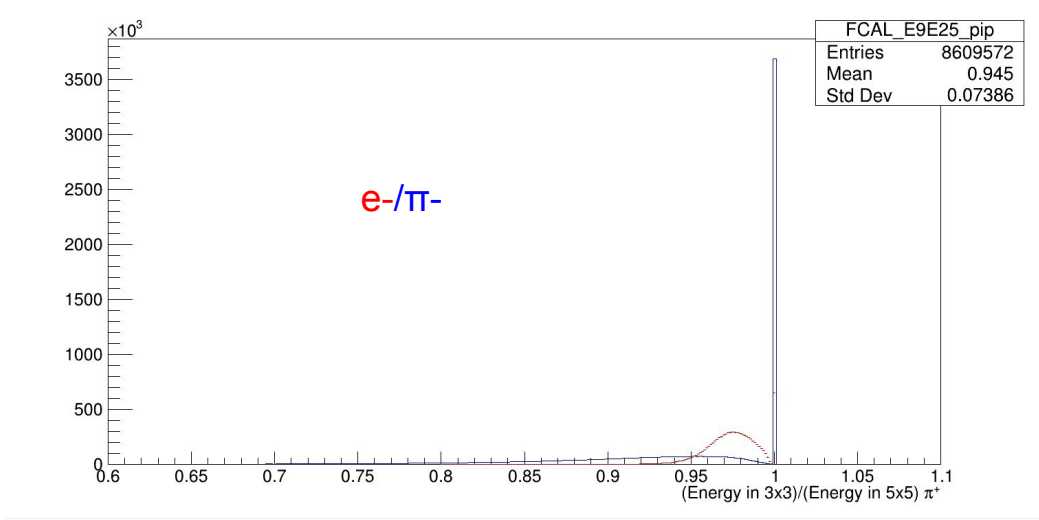
FCAL DOCA



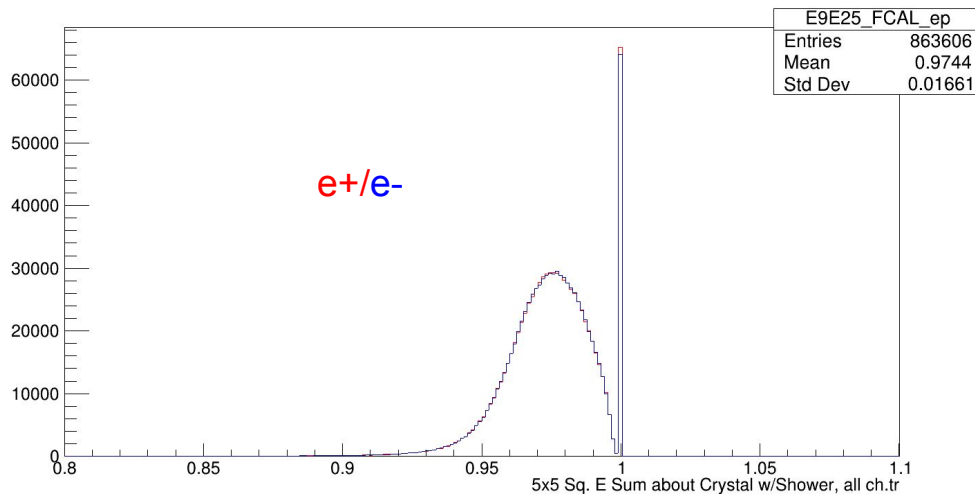
FCAL E9/E25 - Electron/Pi minus



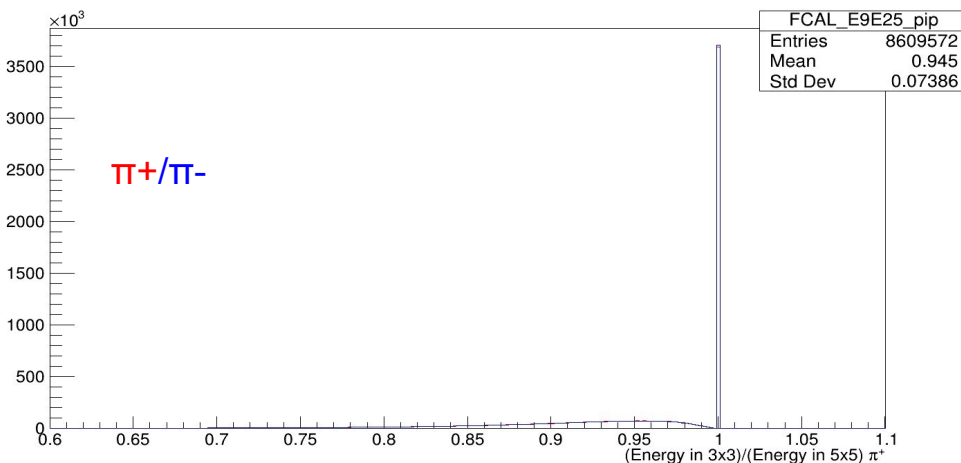
FCAL E9/E25 - Positron/Pi plus



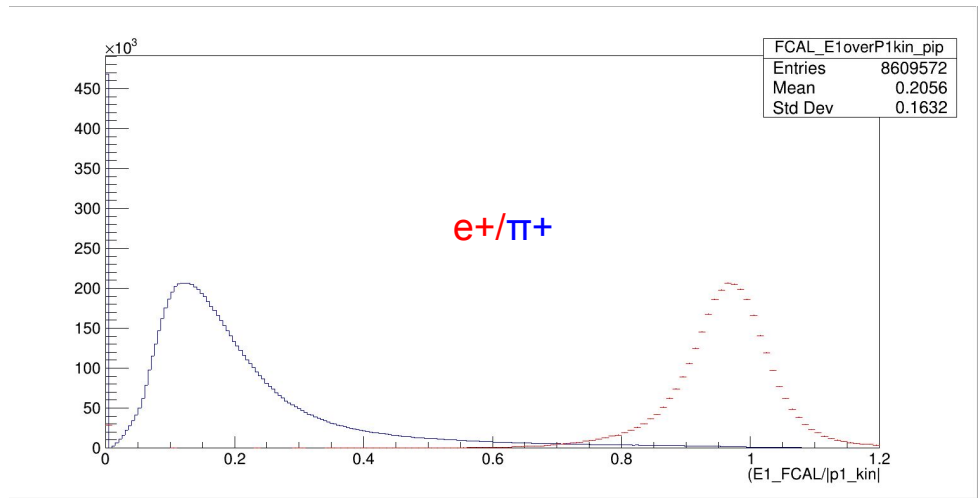
FCAL E9E25 electron/positron



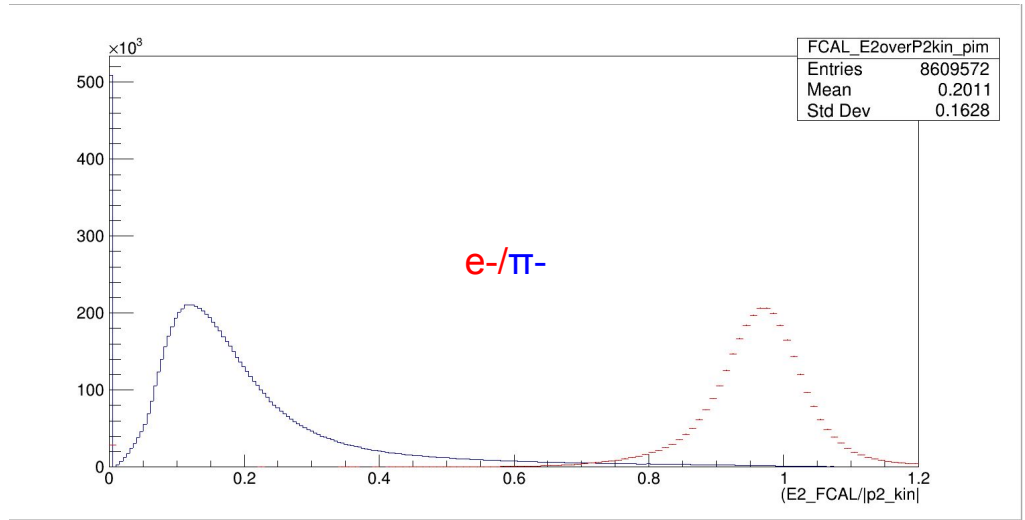
FCAL E9E25 pion +/ pion -



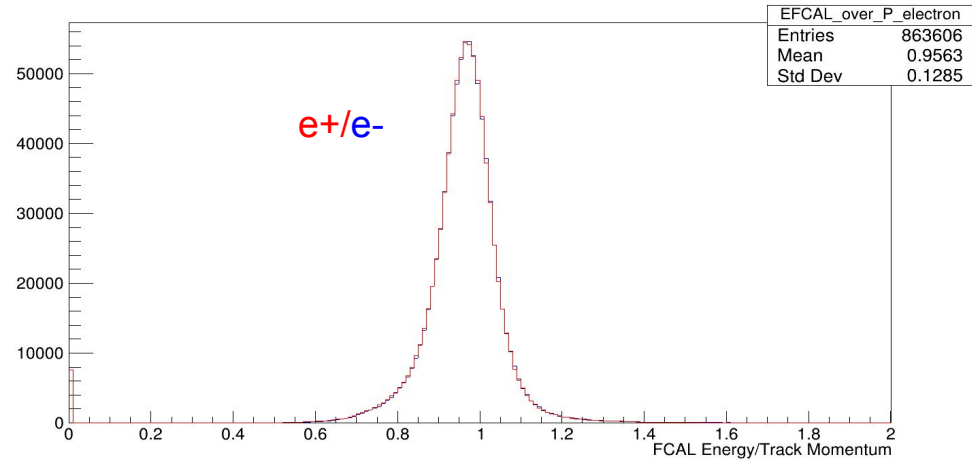
FCAL E/p kinfitted
positron/pion plus



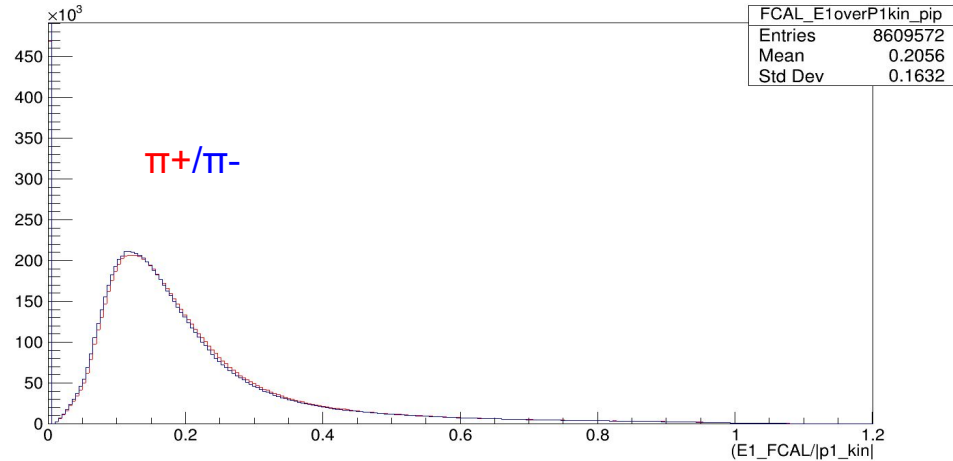
FCAL E/p kinfitted
electron/pion minus



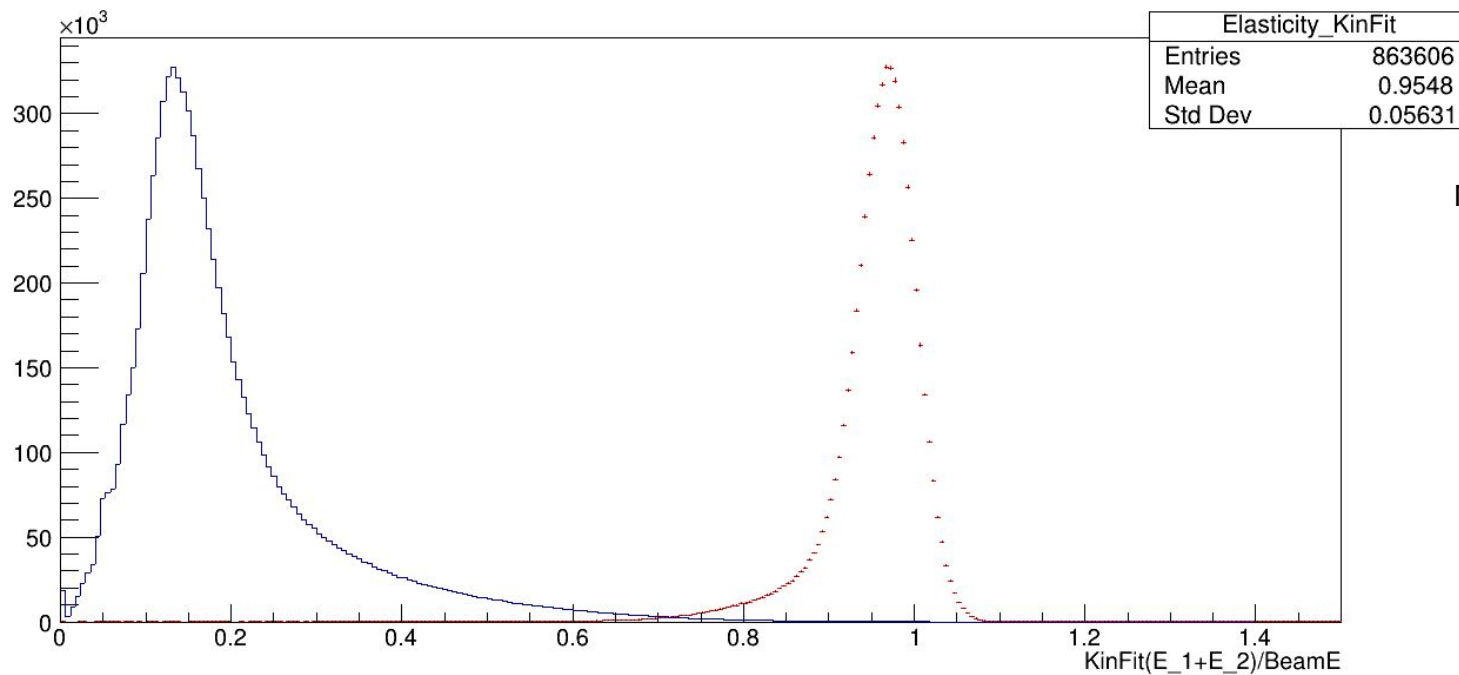
E/p electron/positron



E/p pion plus/pion minus



Elasticity - KinFit



Max Value Scaling