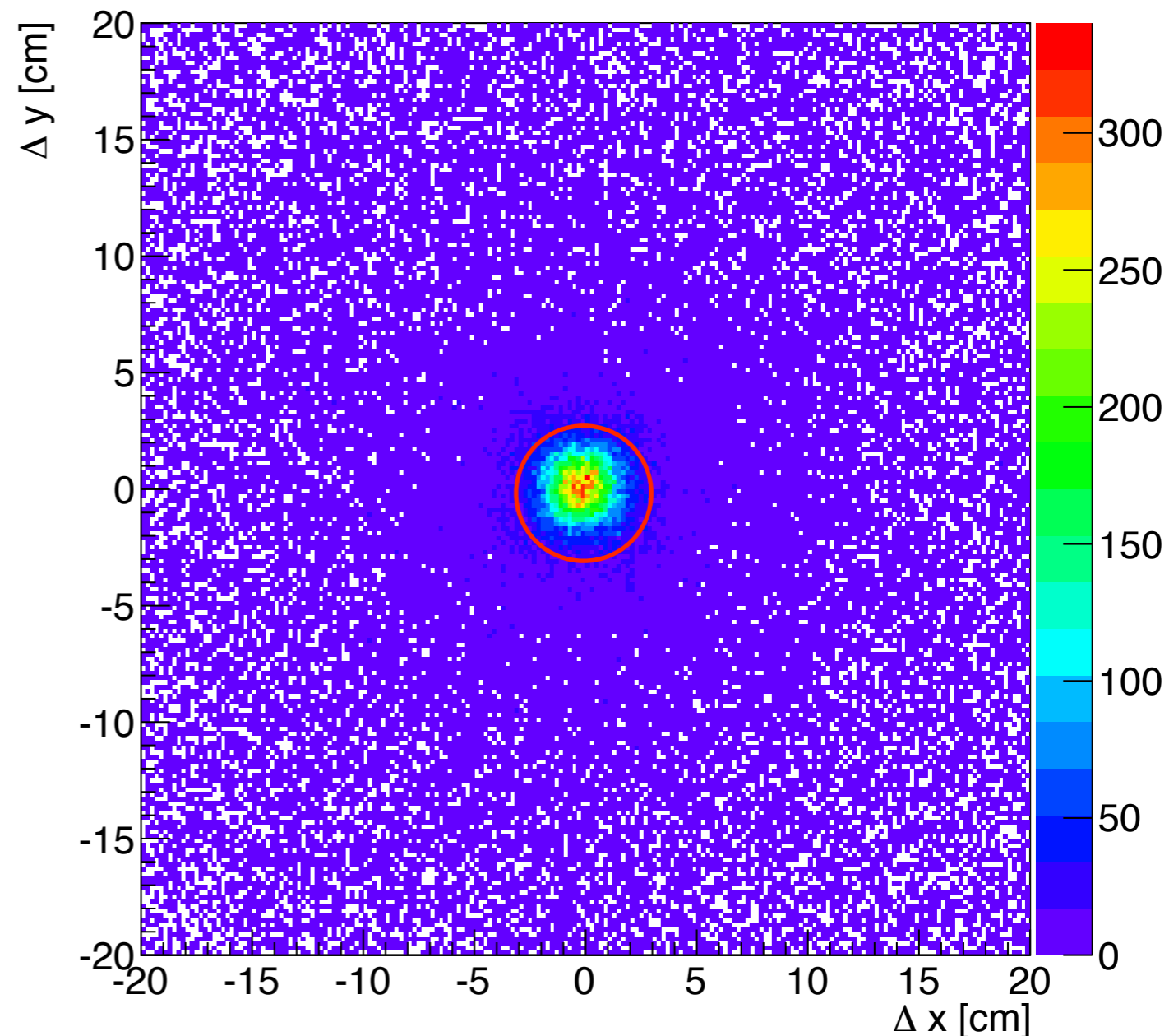
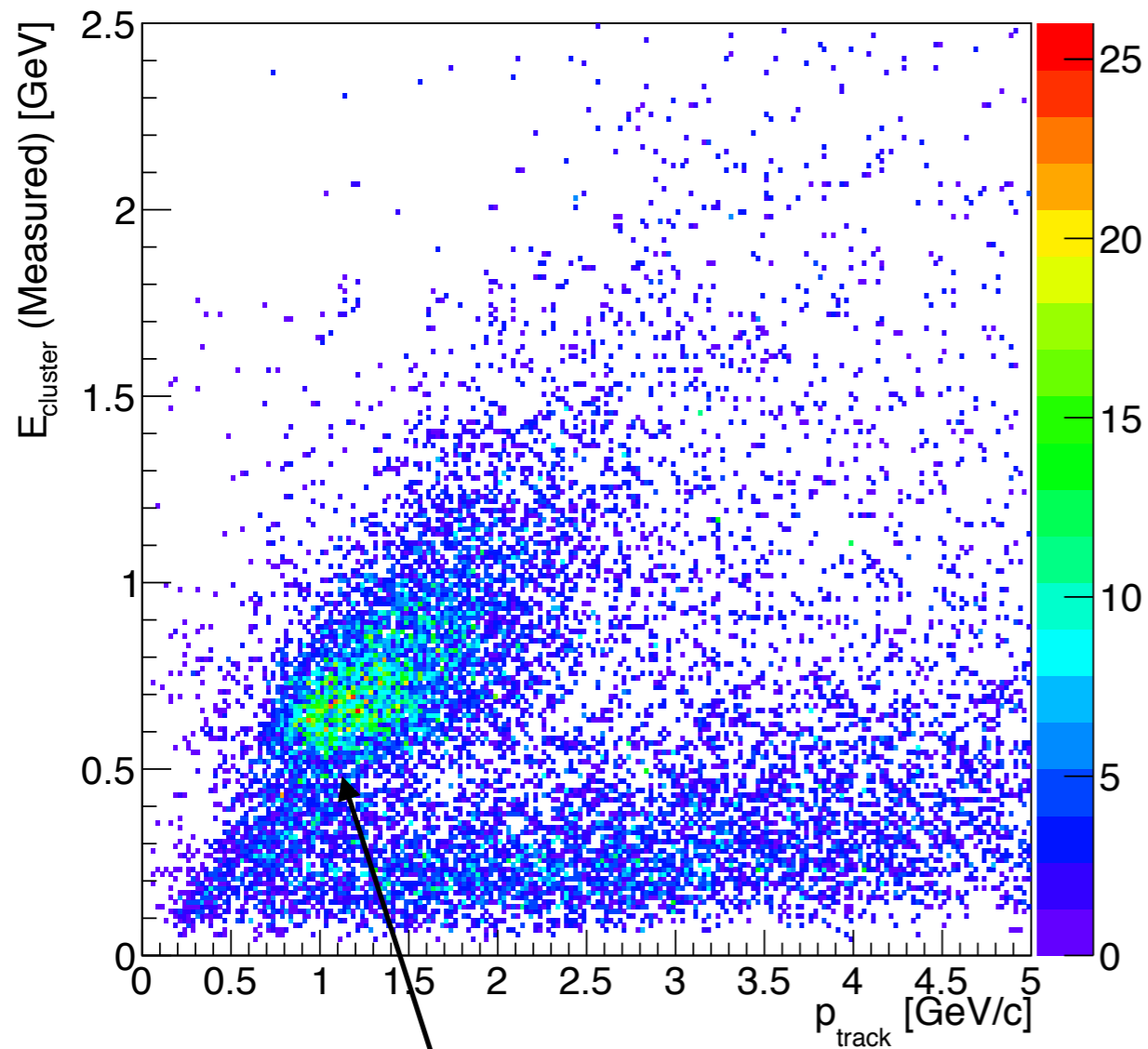


Track to FCAL Match Requirements

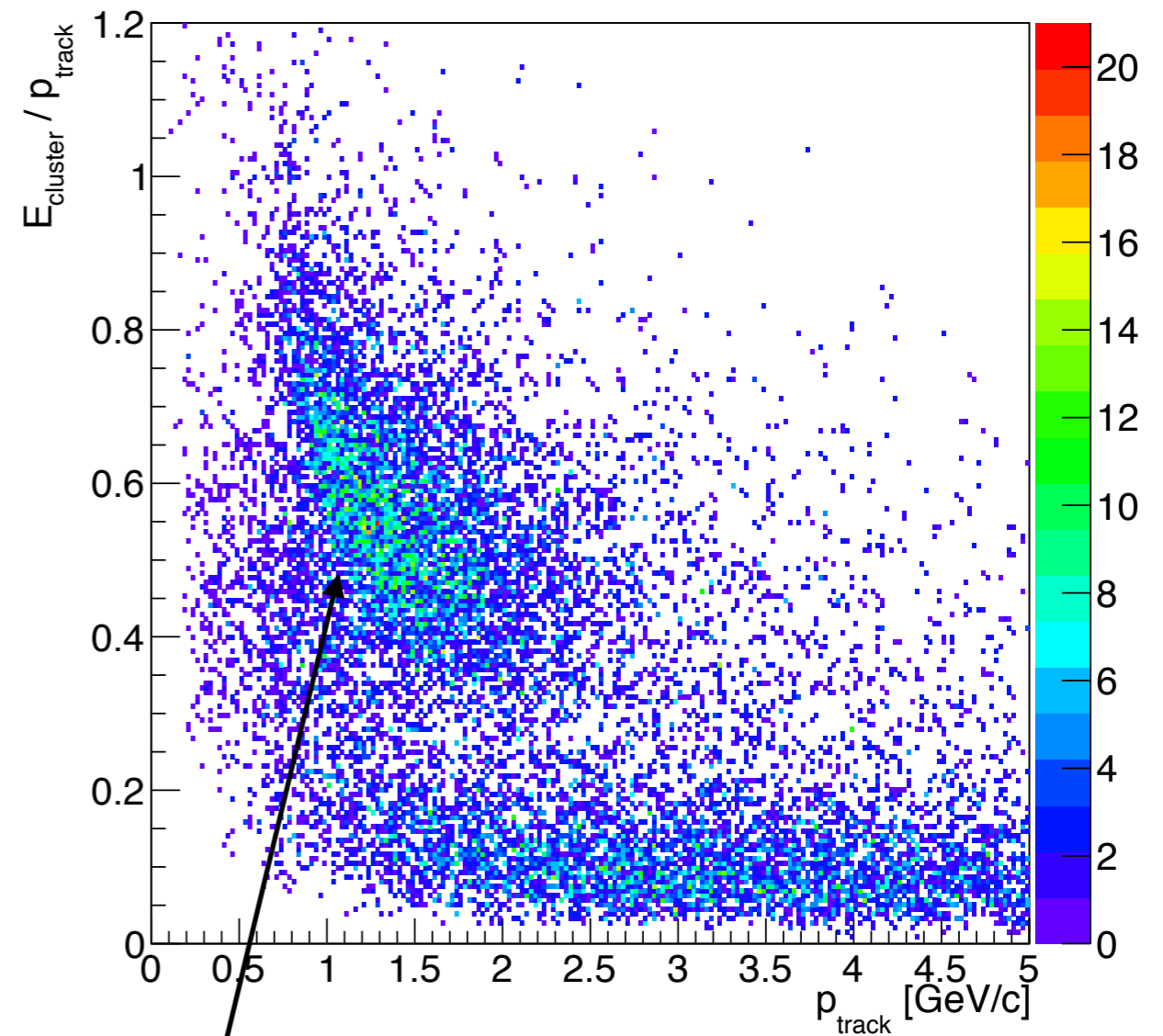
- Use 177K events from Run 1518
- For all tracks
 - project to face of FCAL
 - plot Δy vs. Δx for all clusters
- Cluster to track match is very clear
 - (nice work tracking gurus, field mappers, surveyors, ...wow)
 - track match criteria: radius < 3 cm
- Additional cluster requirements
 - number of blocks > 1
 - distance from beam line > 20 cm



Cluster Energy and Track Momentum



There appears to be a cutoff in E around 500 MeV.
(Related to trigger threshold?)
Events pile up against this threshold.



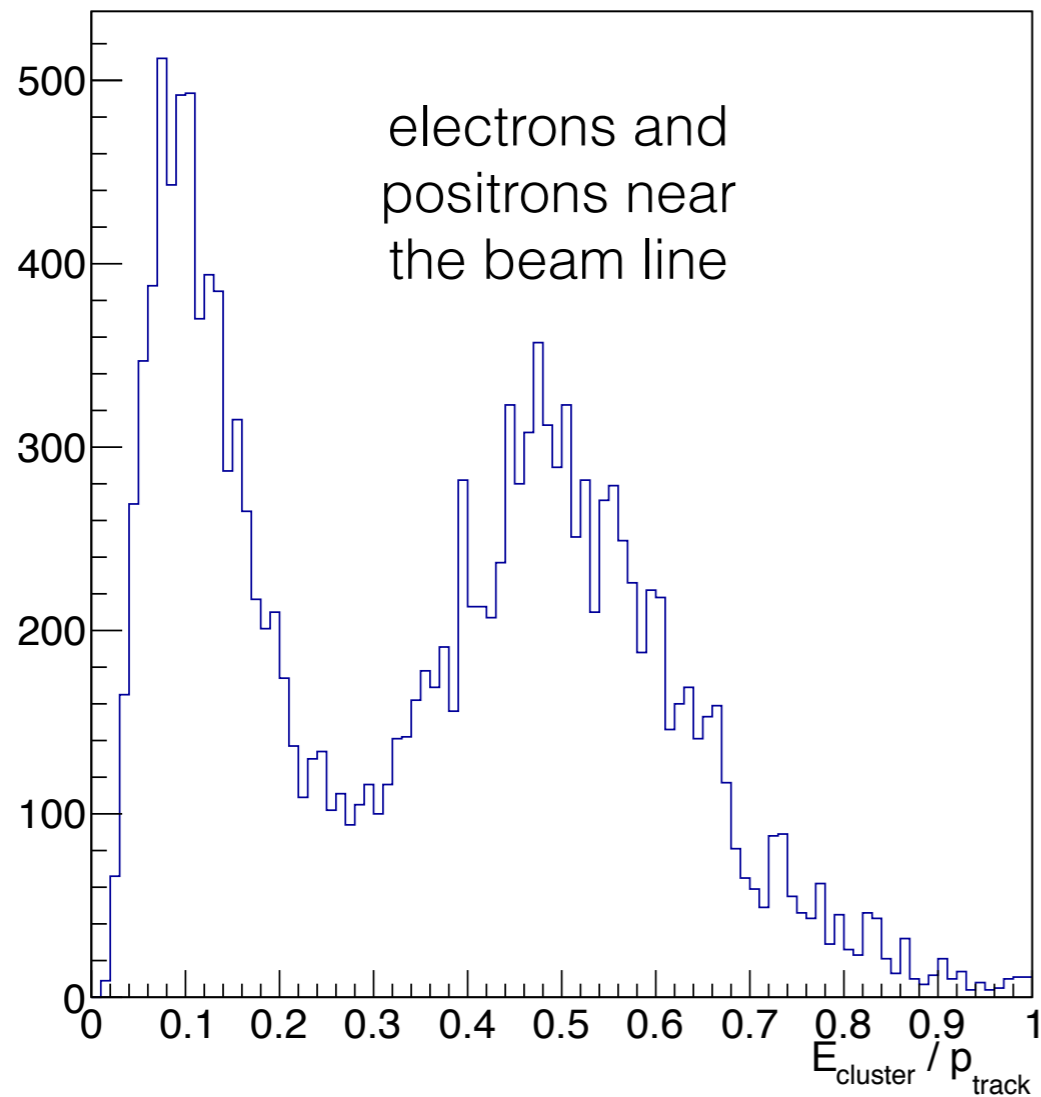
This cutoff produces an artificial
curve in E/p vs. p

Consider E/p just for $p > 1.3$ GeV

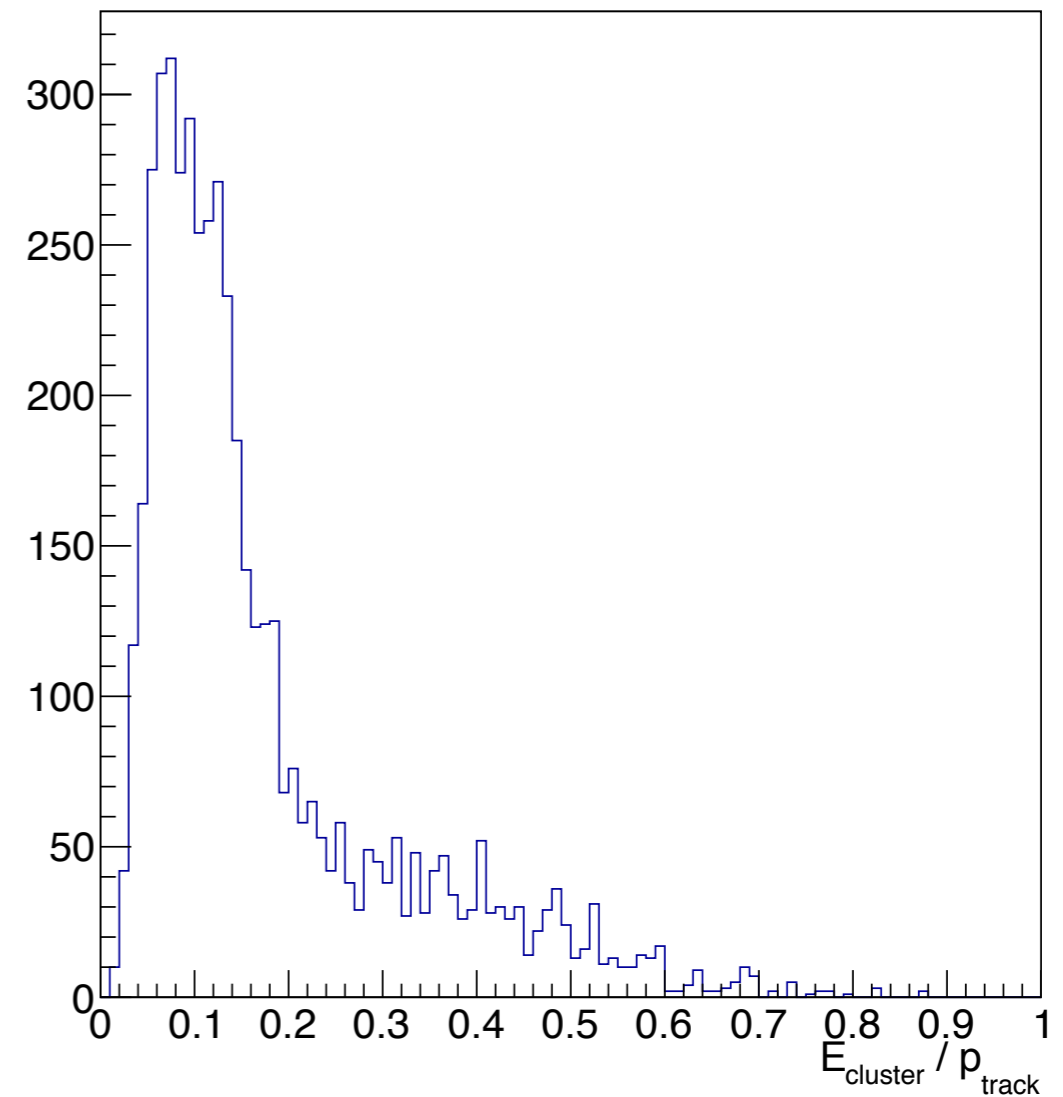
E/p for Different FCAL Regions

(requiring $p > 1.3$ GeV)

$20 \text{ cm} < r_{\text{cluster}} < 60 \text{ cm}$



$r_{\text{cluster}} > 60 \text{ cm}$



If p_{track} is the true electron or positron momentum at the calorimeter
then $E_{\text{true}} \approx 2 E_{\text{measured}}$

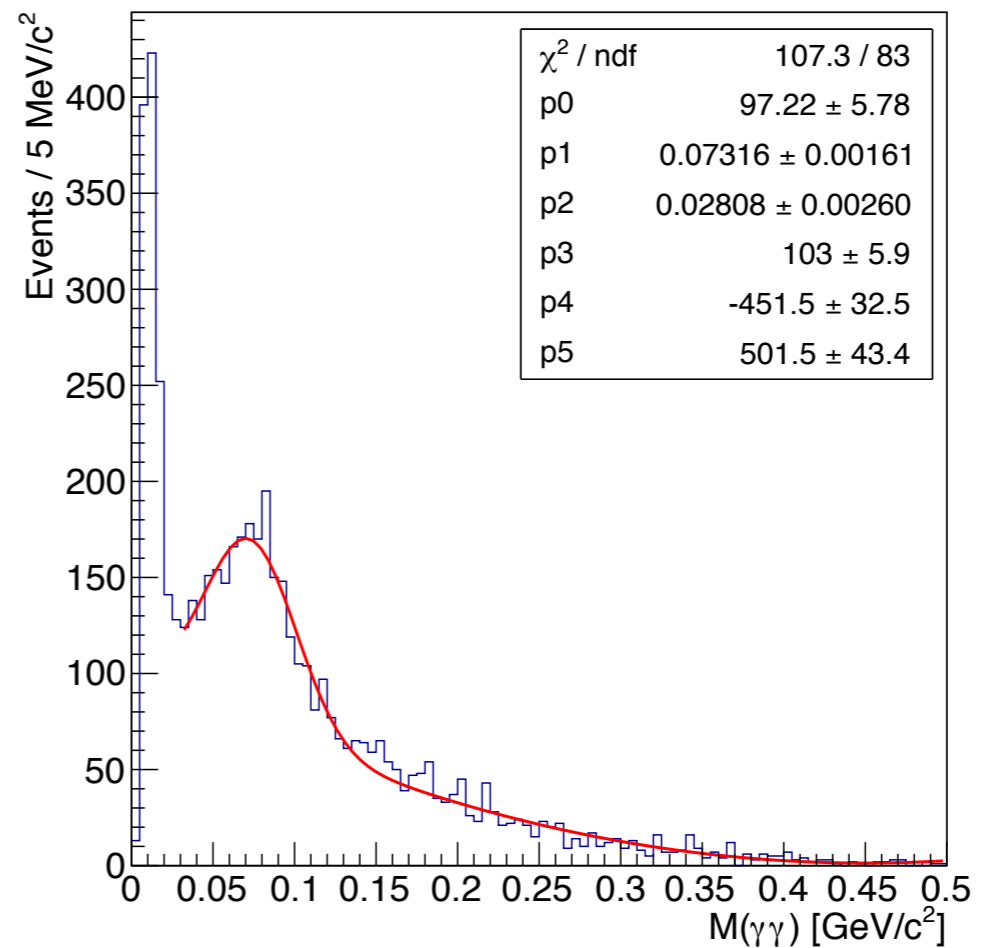


or



?

- 177K events from Run 1518
- Requirements:
 - lowest energy cluster > 500 MeV
 - two or more blocks hit in both the high and low energy cluster
 - cluster time difference < 5 ns
 - both clusters > 20 cm from beam line
 - FCAL energy < 6 GeV
- Notes:
 - low mass background strongly dependent on cluster separation cut (no cut made)
 - clusters in peak come from all over FCAL
 - need to verify energy scale by either E/p or second (η or ω) peak



Shown at Run Coordination Meeting 25-Nov-2014



!!

- Use 177K events from Run 1518
- Requirements
 - lowest energy cluster > 500 MeV (measured)
 - two or more blocks used in both clusters
 - both clusters > 20 cm from beam line
 - cluster time difference < 5 ns
 - FCAL energy < 6 GeV
- Set $E_\gamma \rightarrow 2E_\gamma$
...and squash a 65 cm-long bug I found along the way
- Spend Thanksgiving eating pie (and turkey, too)

