

L1L1 Vertex Cuts

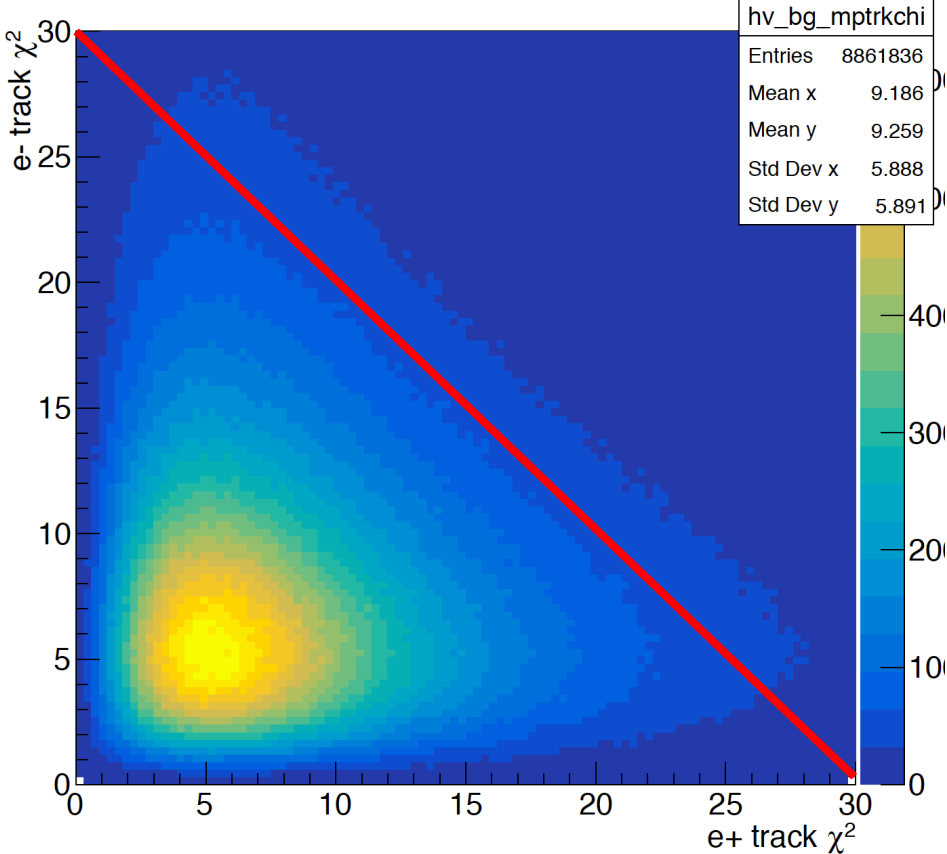
Initial Cuts:

Cut type	Cut	Cut Value
track	Fit quality	track $\chi^2 < 30$
track	Max track momentum	$P_{trk} < 75\%E_{beam}$
track	Isolation	
vertex	beamspot constraint	$bsc\chi^2 < 10$
vertex	beamspot - unconstrained	$bsc\chi^2 - unc\chi^2 < 5$
vertex	maximum P_{sum}	$< 115\%E_{beam}$
ecal	Ecal SVT matching	$\chi^2 < 10$
ecal	track Ecal timing	$< 4ns$
ecal	2 cluster time diff	$< 2ns$
physics	momentum asymmetry	< 0.4
physics	e+ track d0	$< 1.5mm$
event	max shared hits amongst tracks	< 5 shared hits

L2 isolation cut:

-same as L1, only looking for isolation in L2

Diagonal trkChisq cut:



Square kink cut:

Cut	Value
Layer 1: ϕ kink, λ kink	<0.0001,<0.002
Layer 2: ϕ kink, λ kink	<0.002,<0.004
Layer 3: ϕ kink, λ kink	<0.002,<0.004

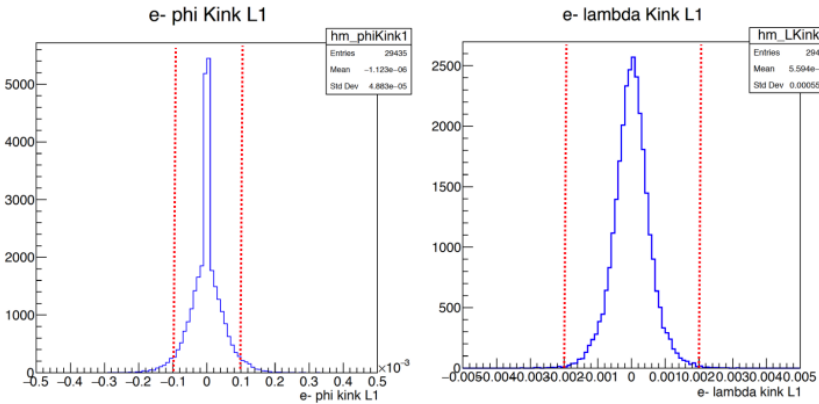


Figure 28: The kink distributions for tracks passing through Layer 1. The cut is shown at the red dashed line.

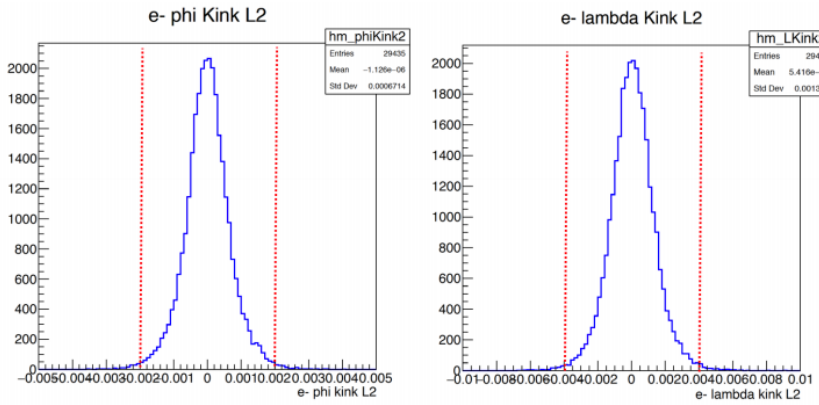
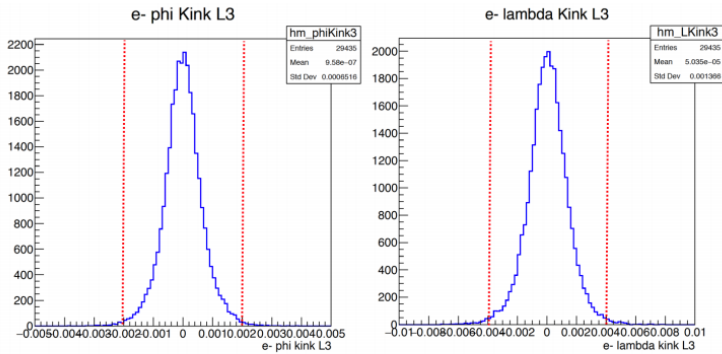


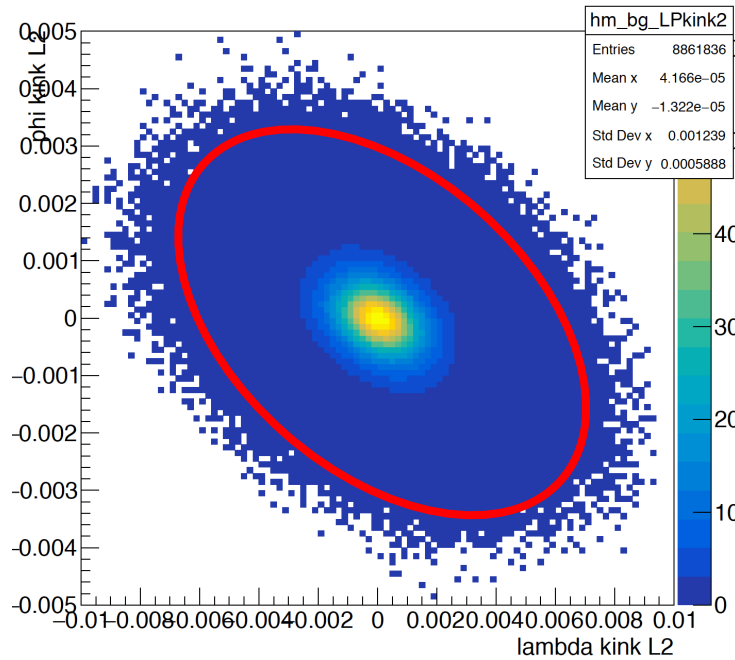
Figure 29: The kink distributions for tracks passing through Layer 2. The cut is shown at the red dashed line.



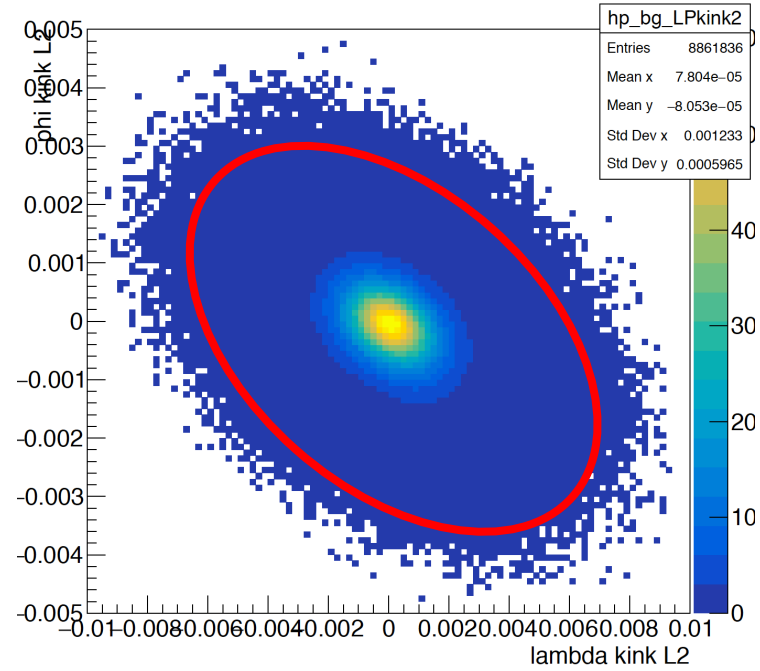
30: The kink distributions for tracks passing through Layer 3. The cut is shown at the red dashed line.

Elliptical
kink cut:

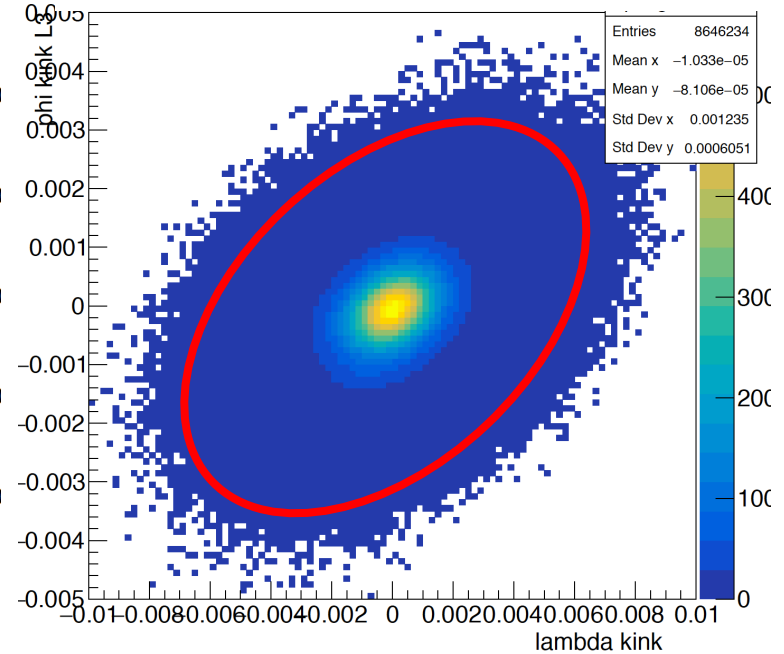
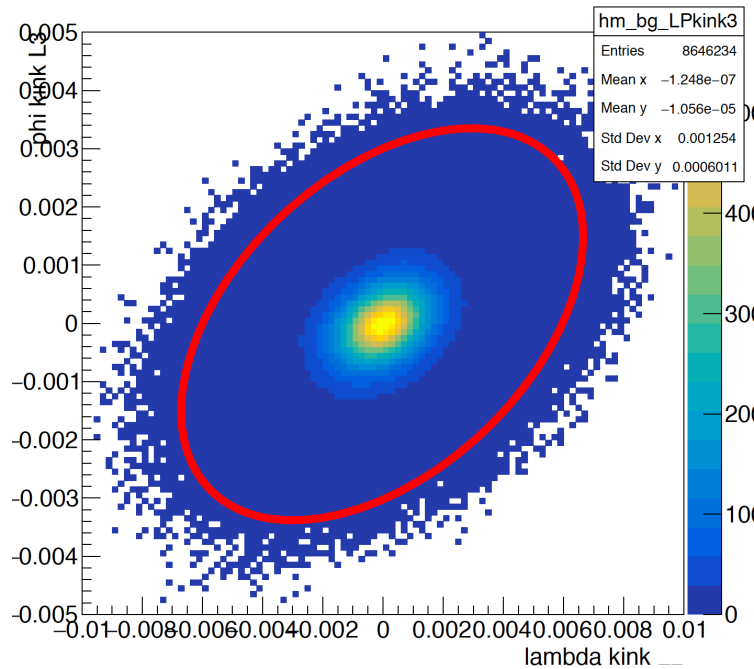
Non high z events e- lambda vs phi kink L2



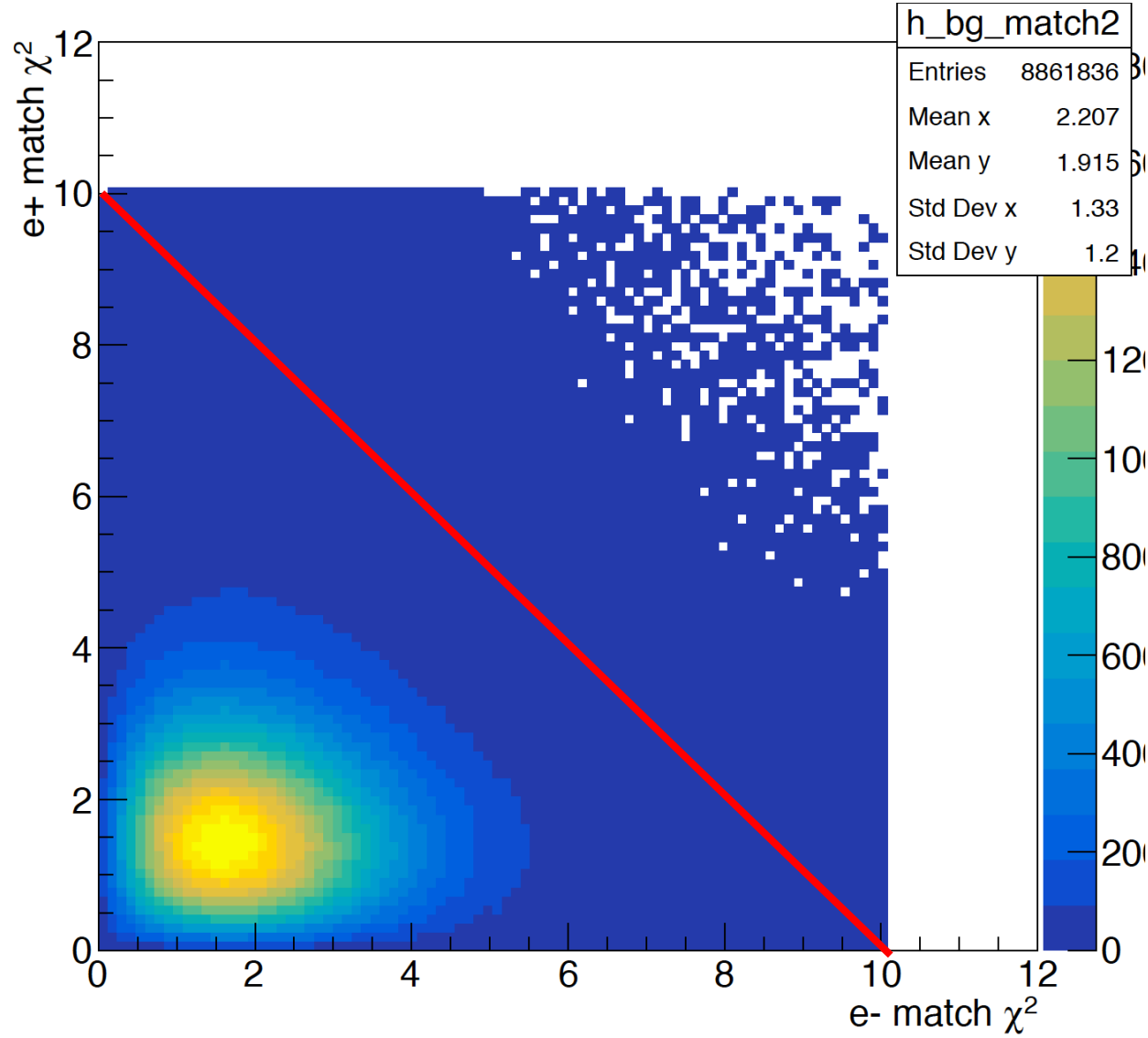
Non high z events e+ lambda vs phi kink L2



high z events e- lambda vs phi kink L3



Diagonal Matching cut:



All cuts (square kink):

- Initial
- L2 iso
- Diagonal trk chi2 cut
- Diagonal matching cut
- Square kink cuts

All cuts (elliptical kink):

- Initial
- L2 iso
- Diagonal trk chi2 cut
- Diagonal matching cut
- Elliptical kink cuts

See zVertex vs Mass distributions:

<https://userweb.jlab.org/~hszumila/vertex/wiggleCuts.pdf>

