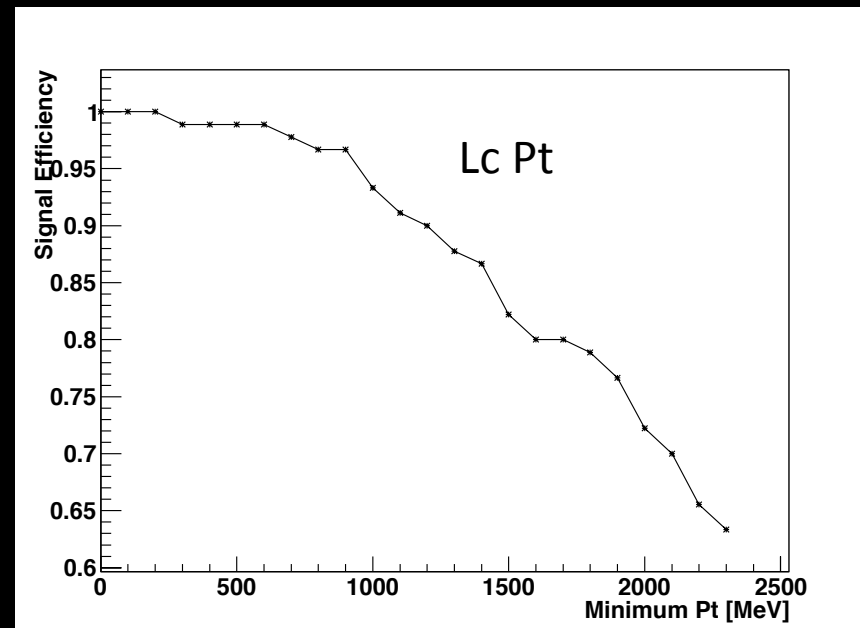
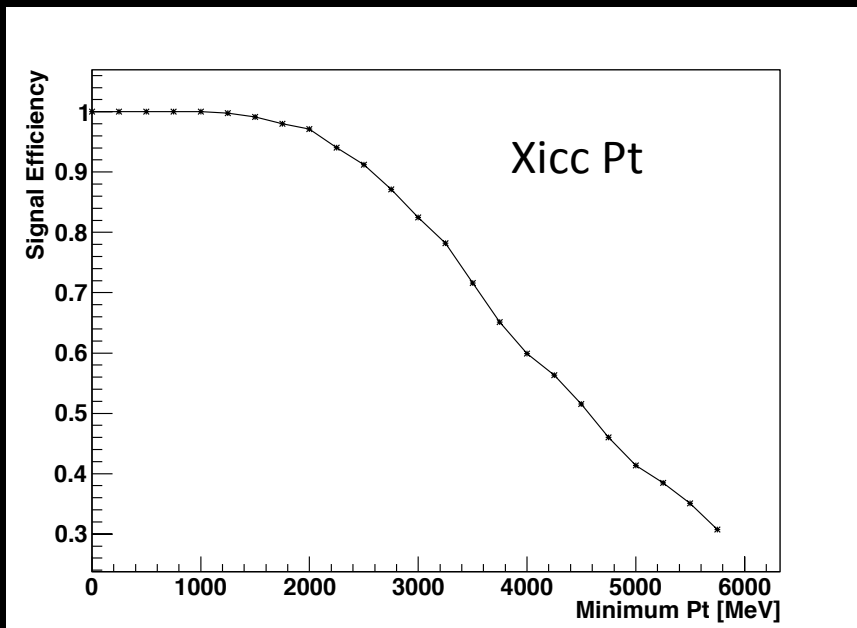


# Stripping Selections

# Method

- Looked at signal MC for each mode and looked at truth matched efficiencies as individual cuts are tightened.
- Eg. in Xicc -> Lc K pi...
  - Xicc+ Pt vs efficiency shown bottom left, efficiency begins to drop at Pt=1GeV so suggest this for selection.
  - Lc Pt from the Xicc decay loses signal events more or less straight away but we cut a lot of background at 900MeV without losing much signal, so suggest this
- Have checked signal significances but these are a secondary concern.
- If we sacrifice a little signal for a lot of background rejection have done so, but largely based on gut feelings.



# Lc -> P K pi

Lc Pt > 1GeV

Lc DIRA > 0.99

Lc endvertex chi2 > 30 ( not normalised against DoF)

Lc DOCAMAX < 0.5mm

Lc chi^2 > 16 (much better than the >36 in the existing stripping)

± 100 MeV Lc mass window

From Xicc decay: Lc Pt > 900MeV, pi/K Pt > 200MeV

All daughters : track chi^2 < 5 & PID DLLs > -5

# Xicc -> Lc K pi

**Xicc Pt > 1GeV**

Xicc DIRA > 0.99

Xicc endvertex chi2 > 30 ( not normalised against DoF)

Xicc DOCAMAX < 0.5mm

Xicc fd chi<sup>2</sup> > 9 (but should we take this out in case the SELEX lifetime is accurate?)

3GeV < Xicc Mass < 4GeV (from Matt's code, I gather in case the mass is significantly different than our expectations)

Lc min IPCHI2 > 0.02

From Xicc decay: Lc Pt > 900MeV, pi/K Pt > 200MeV

All pi/K: track chi<sup>2</sup> < 6 & PID DLLs > -5

Lc decay: NINGENERATION( (MIPCHI2DV(PRIMARY) > 30.0), 1) >= 1 )

Lc mass = PDG value ± 15 MeV, cuts a little signal but suppresses huge amount of background

(CHILD(VFASPF(VZ),1) - VFASPF(VZ) > 0.01\*mm)