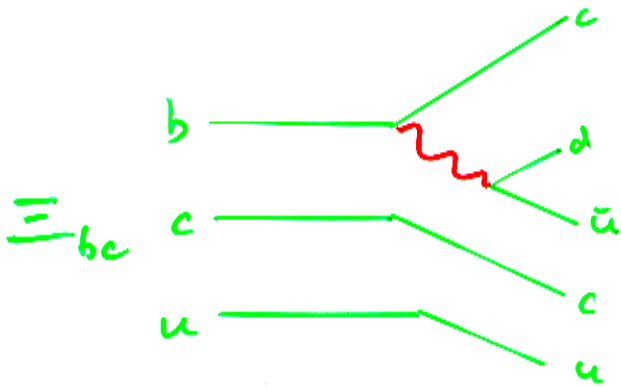
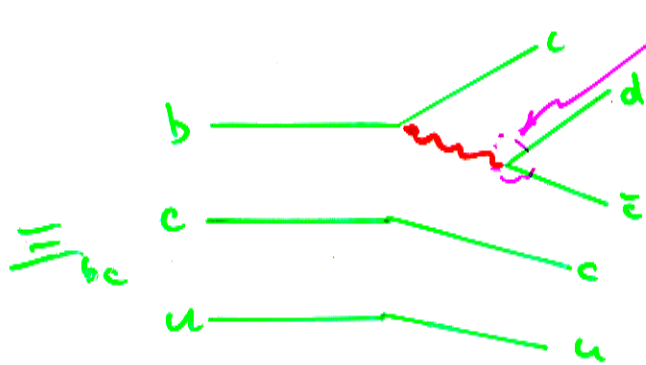


Fun with Quark-Flow Diagrams



$$\Xi_{bc} \rightarrow \Xi_{cc} \pi X$$

↳ nasty charm cascades with Ξ_c , hard to reconstruct



$$\Xi_{bc} \rightarrow \Xi_{cc} D^{(*)} X$$

↳ hope here

Better! Recombination: $\Xi_{bc} \rightarrow (c\bar{c}) (cud) J/\psi + \Lambda_{bc}$

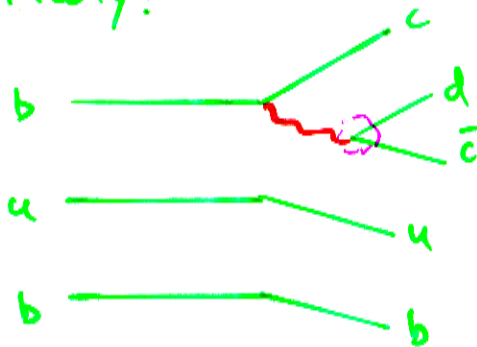
↳ $pK\pi$

"easy"

to reconstruct

(e.g. CDF 197 Λ_c in Λ_b lifetime)

Similarly:

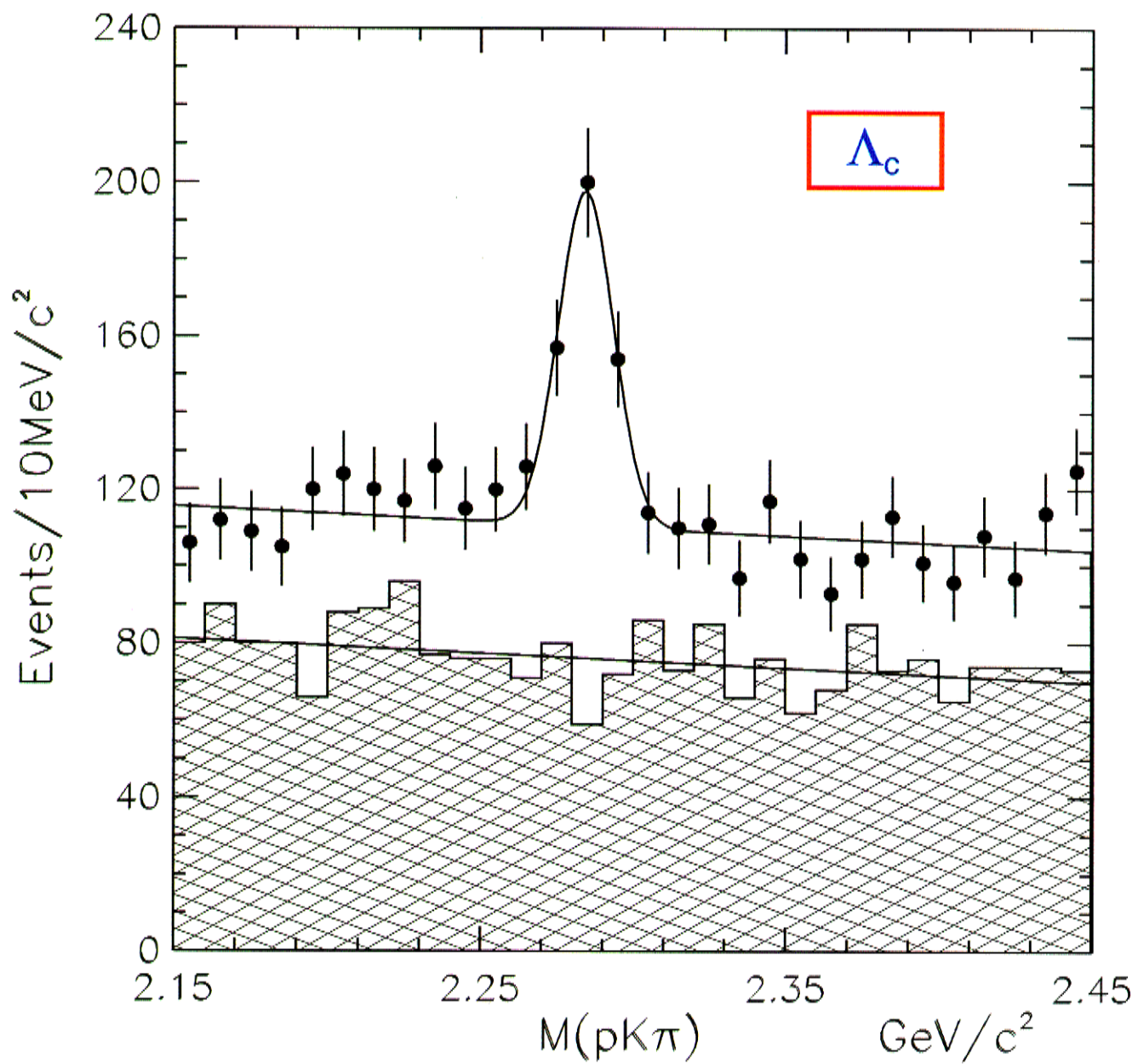


Recombine

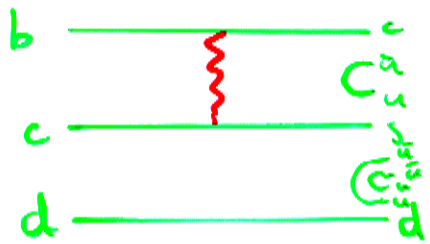
$$\Xi_{bb} \rightarrow (bud) (c\bar{c}) \Lambda_b^0 J/\psi$$

↳ $\Lambda_c \ell \nu$

From CDF Λ_b lifetime



- Plus W exchange (pointed out by Likhoded):



$$\bar{b}c \rightarrow p D^{*+} K^{-}$$

Exclusive, handle with
proton (with particle ID),
D* with Δm identification

Work
on going

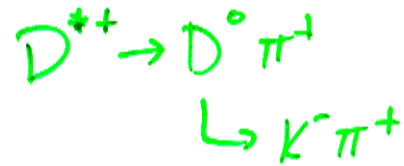
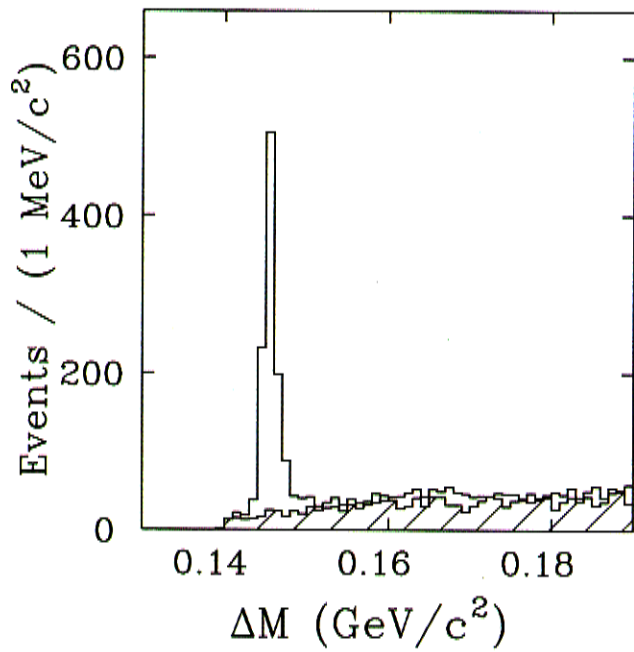
- Catalog useful/possible modes
- Compare Likhoded's production programs
- Toy MC multiple cascading charm: resulting vertex?

Robert

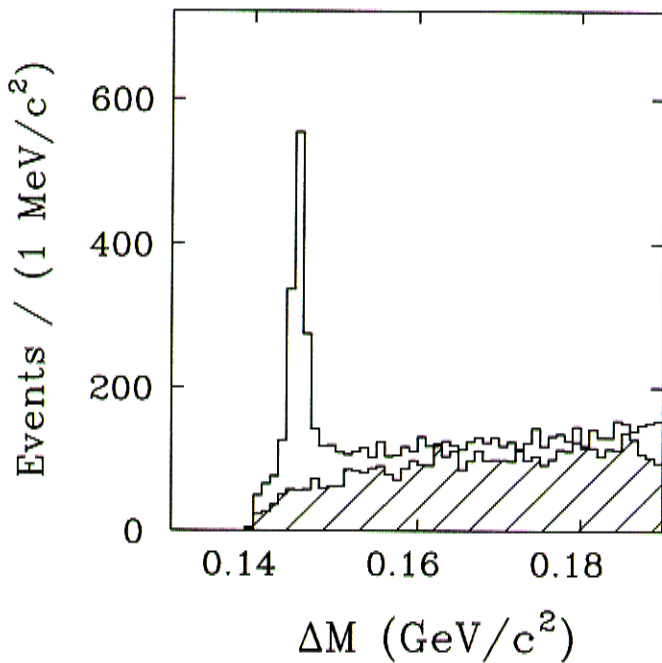
b Quark Drag Effect : Hadronized 4-vectors

As before plus contributions
from Emmanuel Nornbin.

From CDF *B* lifetime



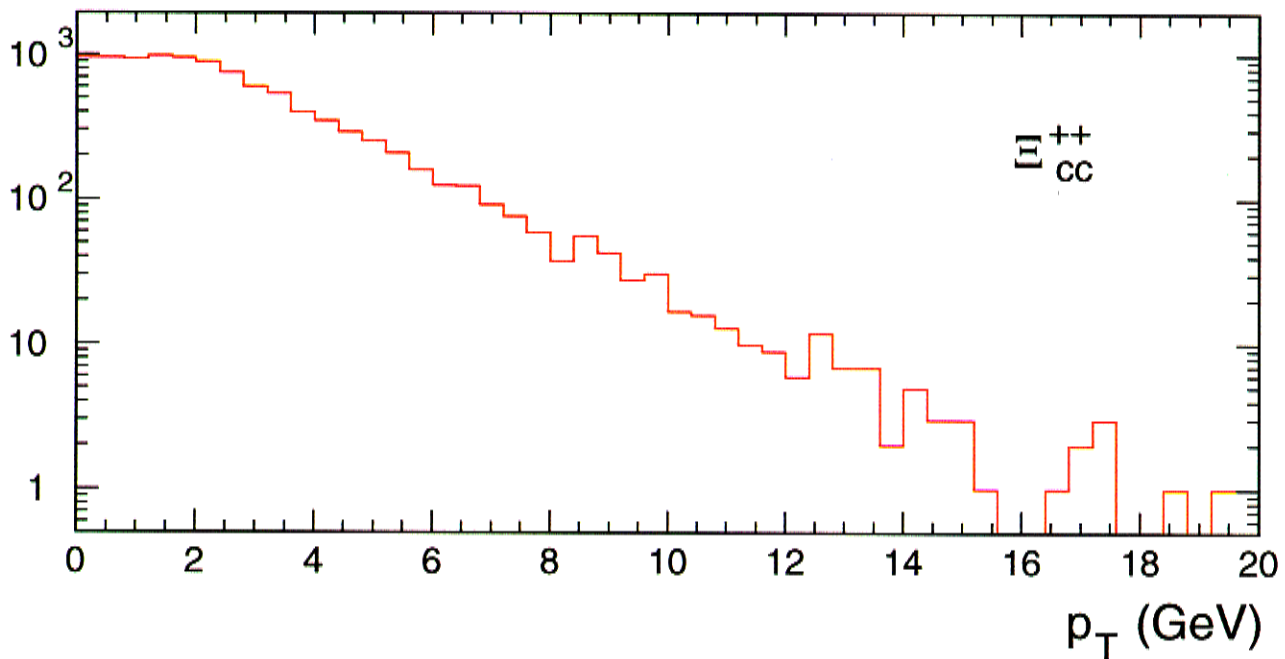
$$\Delta M = m(K^- \pi^+) - \underbrace{m(K^- \pi^+)}_{D^0}$$

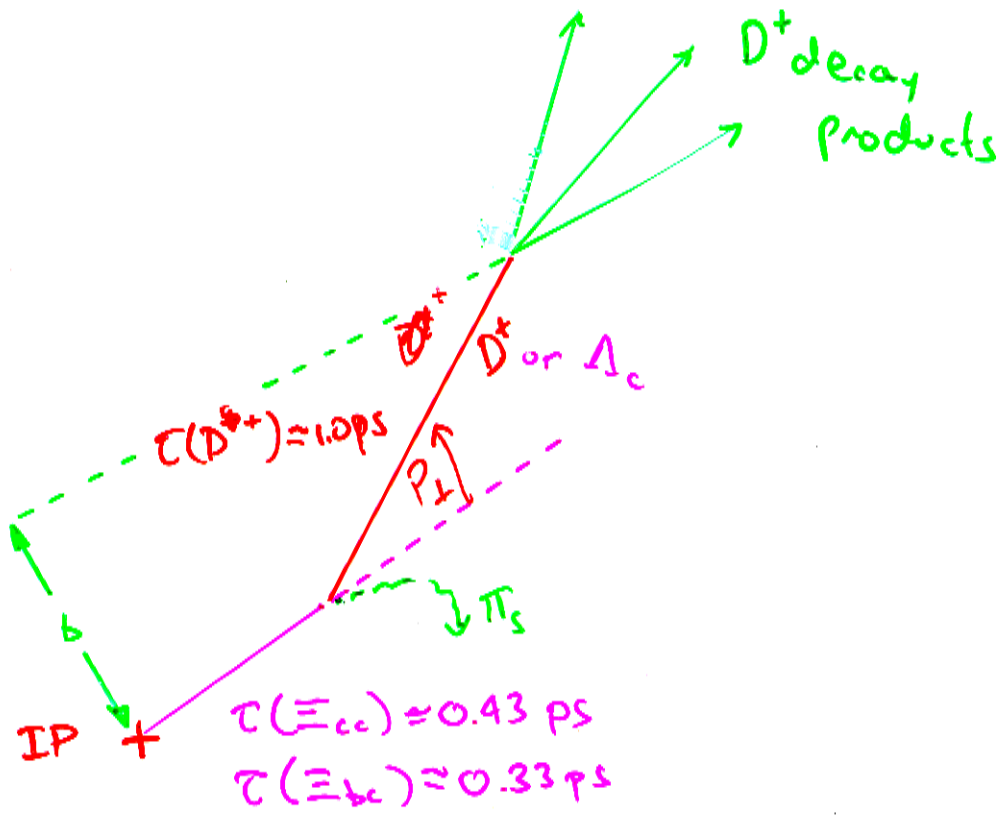


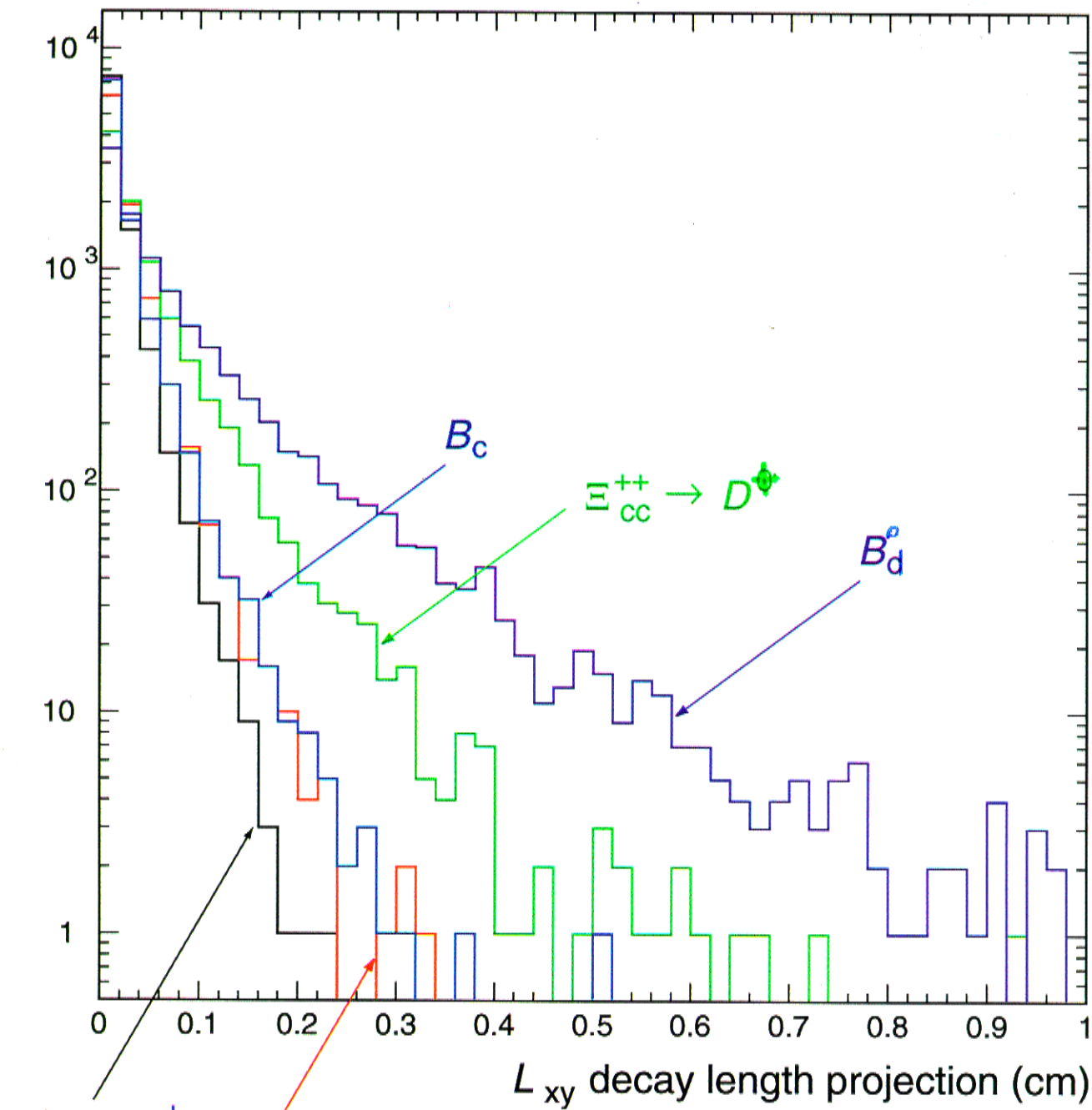
Vertex/impact parameter with multiple cascading charm?

- Monte Carlo at four-vector level
- Produced Ξ_{cc}^{++} decays into various charm products with decay time of 0.43 ps
- Direction and boost of parent, then decay

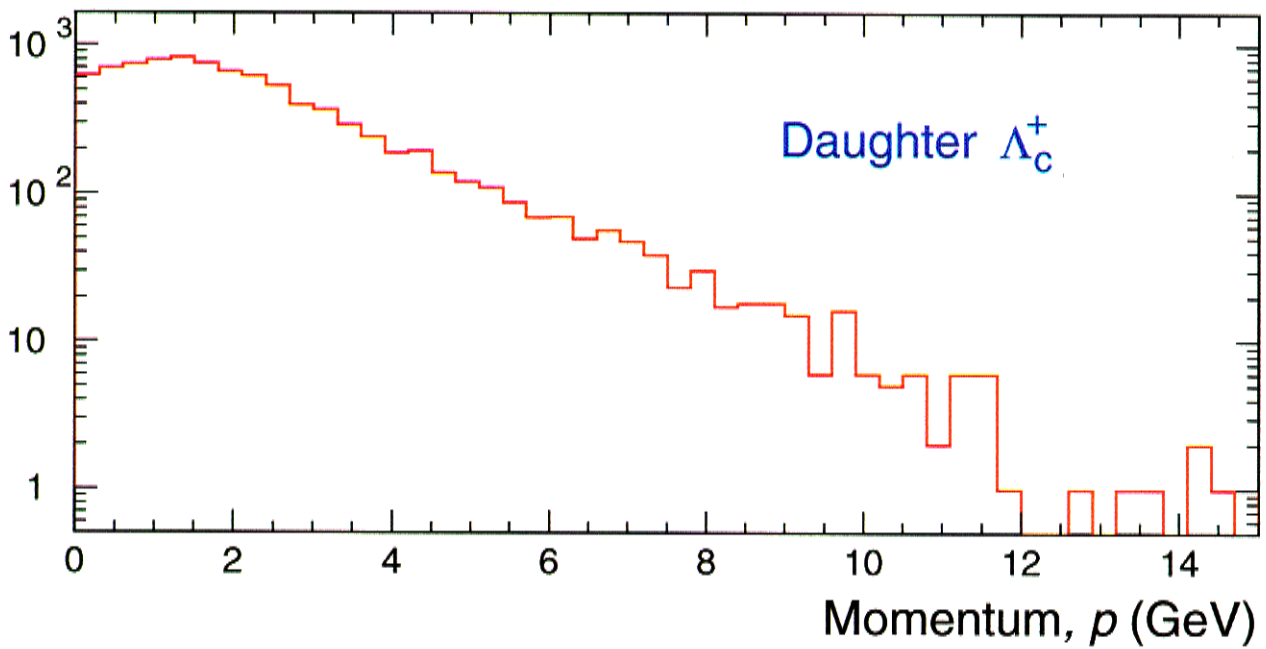
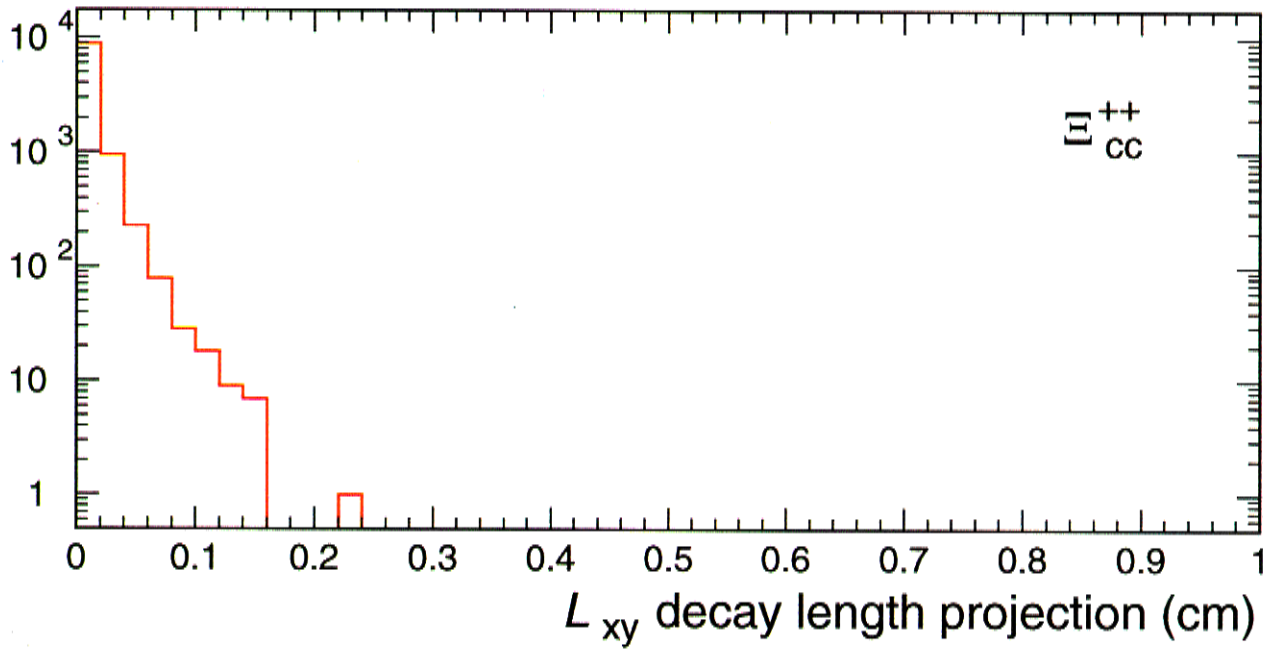
From A. Berezhnoy, Likhoded et al.



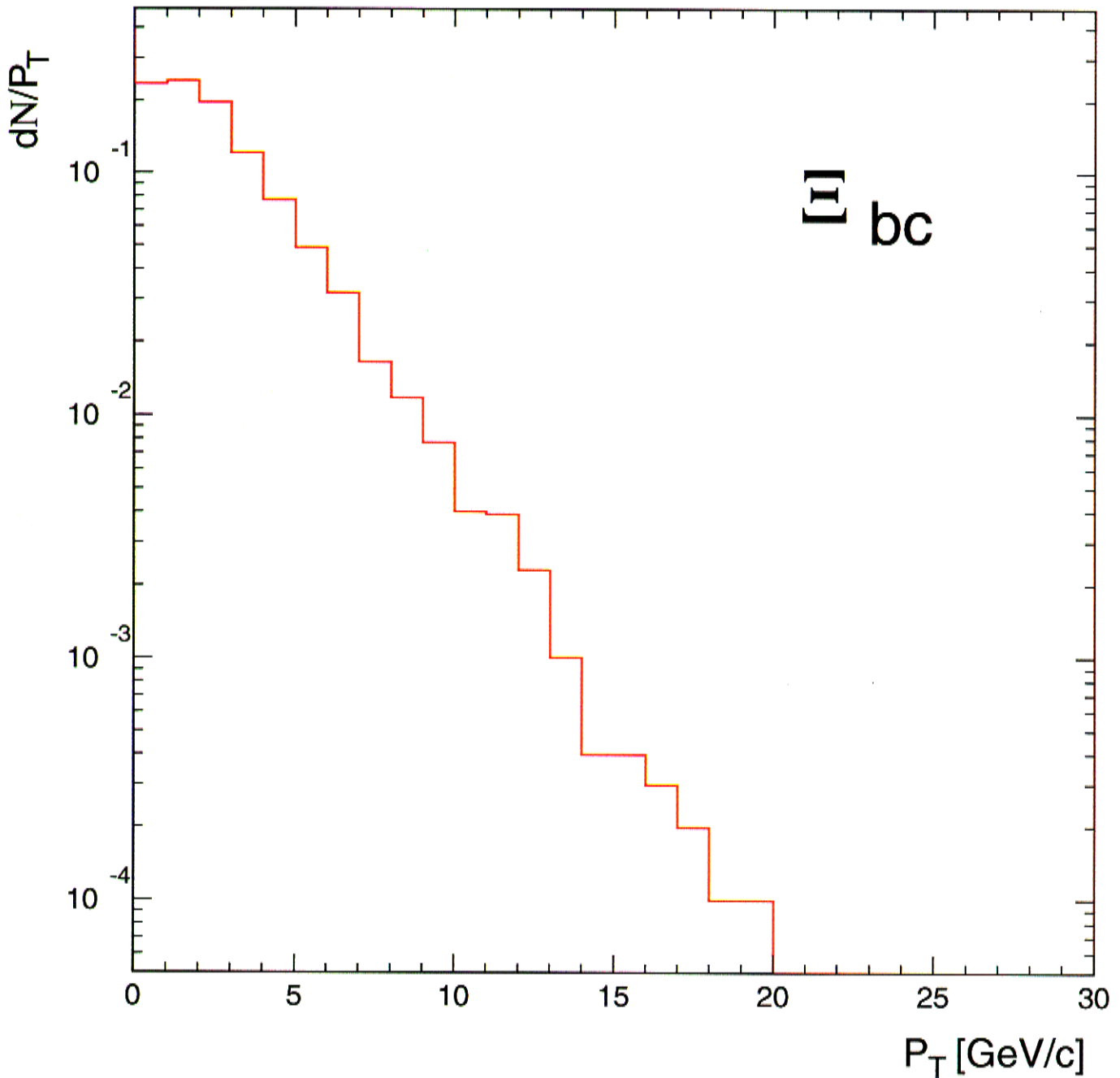




- Redo (oops) with impact parameter
- Smear
- Assess chances of silicon track trigger



From code of Kiselev, Likhoded, et al.



- Ξ_{bc} total production only 0.62 that of B_c ??

Thought I had done something wrong! Anatoli gets 0.5

From code of Kiselev, Likhoded, et al.

