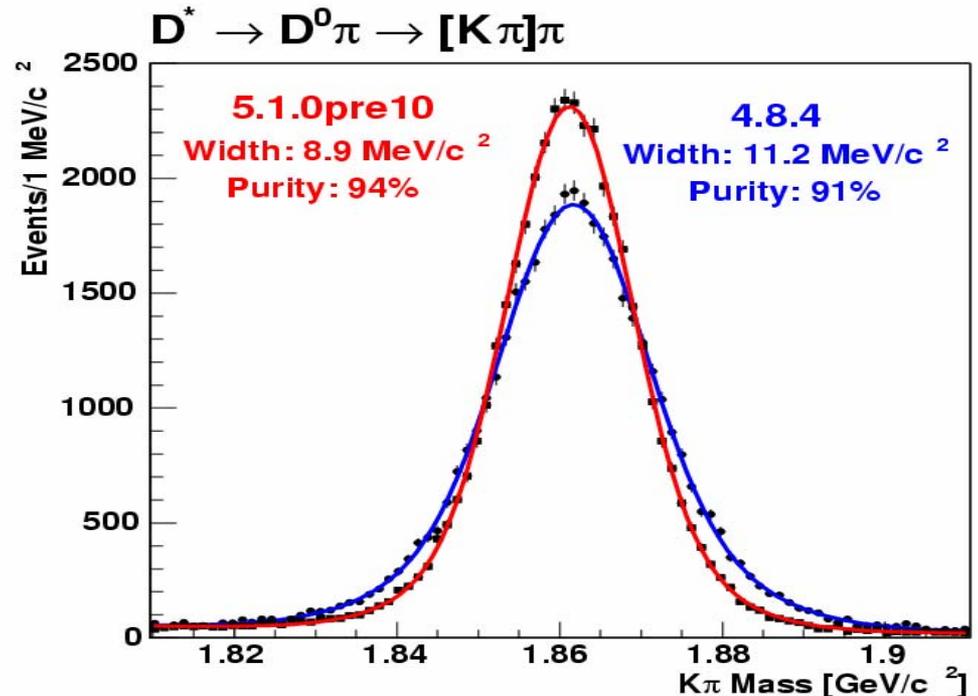


# 5.1.0 Validation with D\*

- Using pre-selected  $D^* \rightarrow D^0 \pi \rightarrow [K\pi]\pi$  events
  - ~40K signal events
  - Beam lines 09
  - Not ideal to check yield improvement, good to see problems
- Compare yield, purity, width: 4.8.4 VS 5.1.0pre10



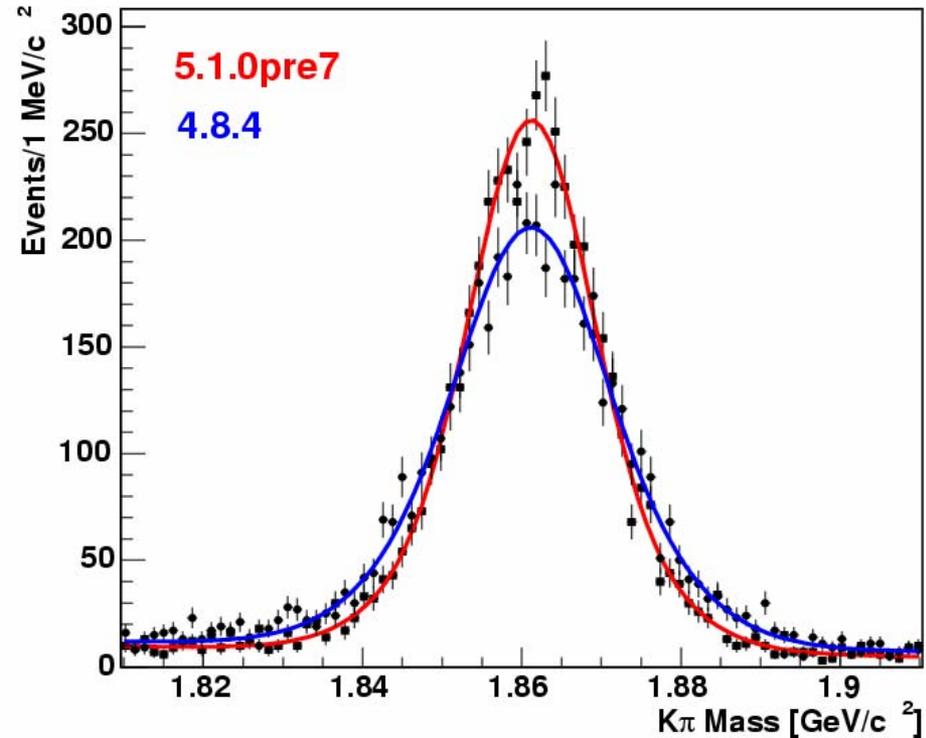
D<sup>0</sup> Yield:

4.8.4: 39900 events

5.1.0pre10: 39920 events ← NOTE: D\* have been pre-selected with 4.8.4!

# 5.1.0 Validation with D\*

- Using unbiased  $D^0 \rightarrow K\pi$  events  $\rightarrow$  to reconstruct  $D^*$ 
  - ~4K signal events
  - Beam lines 09
  - IP cuts only on SVT quantities
  - No CTVMFT
  - Soft pion selected using un-cutted COT tracks
- Compare yield, purity, width: 4.8.4 VS 5.1.0pre7
- Check effect of different requirement on COT hits for the soft pion track



Yield:  $+9 \pm 2\%$  in 5.1.0pre7 (6 hits/SL) compared to 4.8.4(20Ax+20St)

Changing the requirements on the number of COT hits:

20 AX + 20 ST: + 0%

2/2 6/6 AX/ST: + 5.8%

2/2 5/5 AX/ST: + 7.3%