BESIII Oxford Group Meeting

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22nd April 2021





Introduction

- ullet $D o K^+K^-\pi^+\pi^-$ analysis
- Fit to m_{BC} to obtain single tag yields
 - Signal PDF shape taken from signal MC
 - Peaking backgrounds studied with inclusive MC and fixed with Gaussian PDF shape
 - Obtained yields for $KK\pi\pi$, KK and $\pi\pi$ so far
 - Need neutral particle truth matching for the other tag modes

$KK\pi\pi$ single tag yield

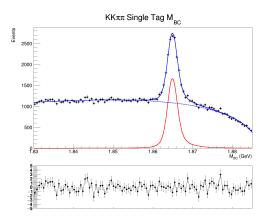
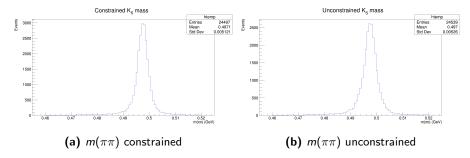


Figure 1: $KK\pi\pi$ single tag fit to m_{BC} , yield: $10\,573\pm174$

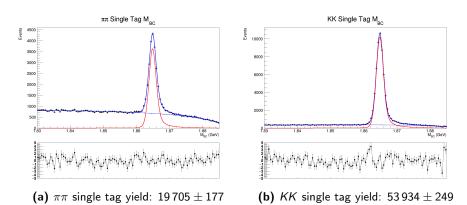
Question: Should I let the mean of the convolved Gaussian shape float? Question: Mass resolution is around 0.5 MeV, too small?

K_SKK mass veto



Problem: Vertex fit doesn't improve K_S mass resolution...?

KK and $\pi\pi$ single tag yields



- \bullet From K_SKK MEMO: $19\,339\pm163$ and $53\,481\pm247$, respectively
- Lower because ΔE range was smaller

Next steps

- Code with neutral particle truth matching running
- Run m_{BC} fit for other tag modes
- Start with DT yields