BESIII Oxford Group Meeting

Martin Tat
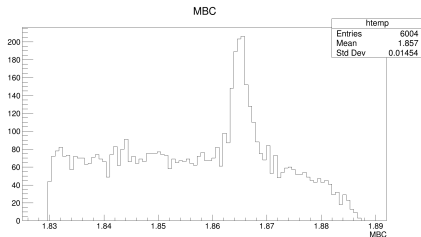
Oxford LHCb

4th February 2021
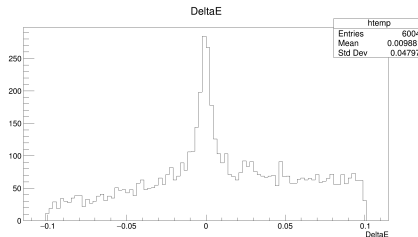
Introduction

- Aim: Measure c_i and s_i in the decay $D \to K^+ K^- \pi^+ \pi^-$, $D = D^0, \bar{D}^0$
- End goal: Model independent binned analysis to measure γ at LHCb
- So far:
  - Familiarized myself with BOSS and BESIII analysis
  - Ran a single tagging on 2% of the 2010 MC inclusive sample (20x luminosity)
  - Sorted events into signal and background categories

(a) m_{BC}, beam constrained mass

(b) ΔE, missing energy

Figure 1: Initial single tagging

Next steps

- Double tags (which tag modes should I use?)
- K_S^0 reconstruction?
- Detailed study of background