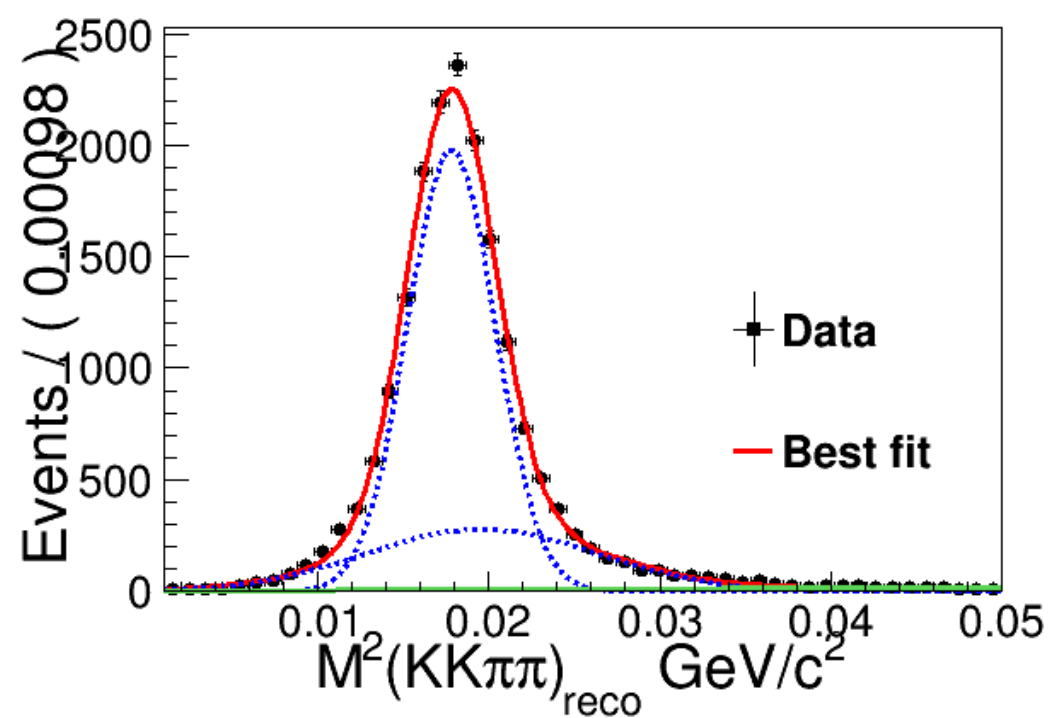
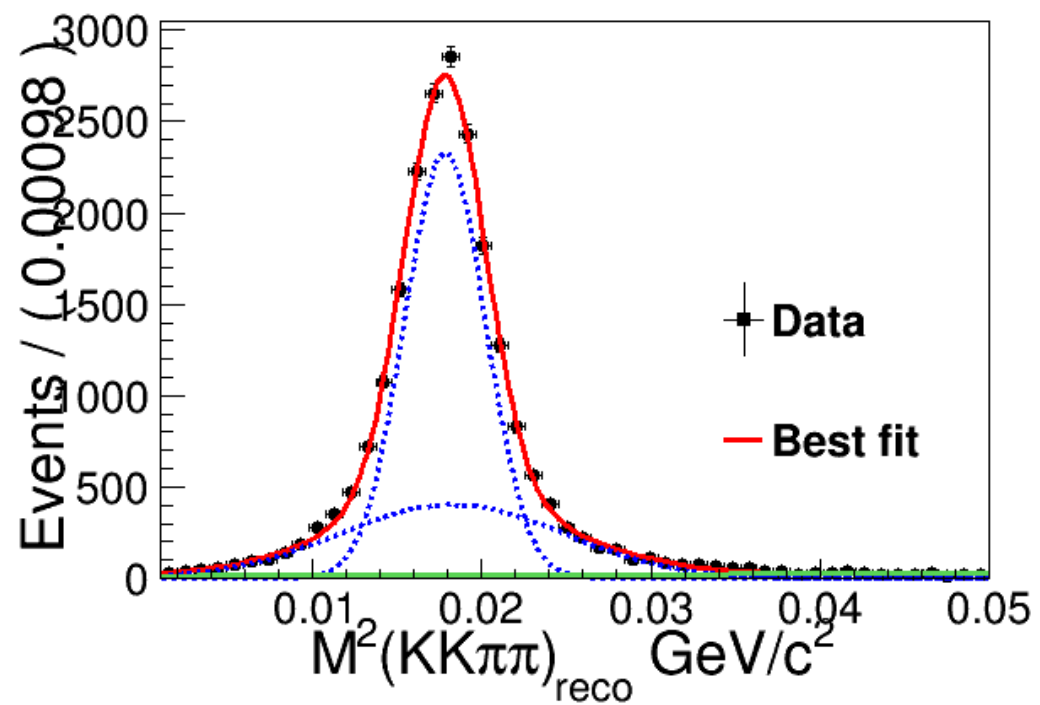


Photon detection efficiency study on XYZ data

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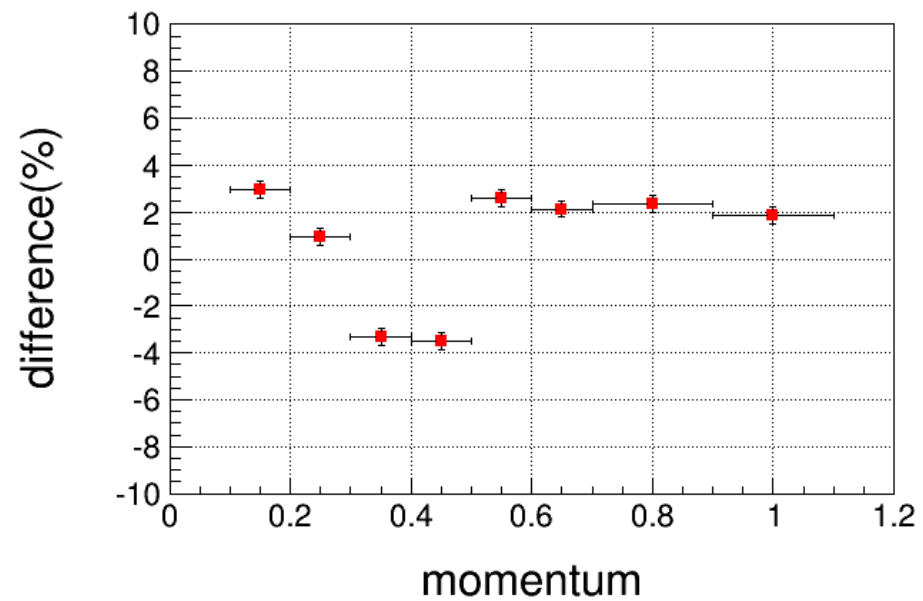
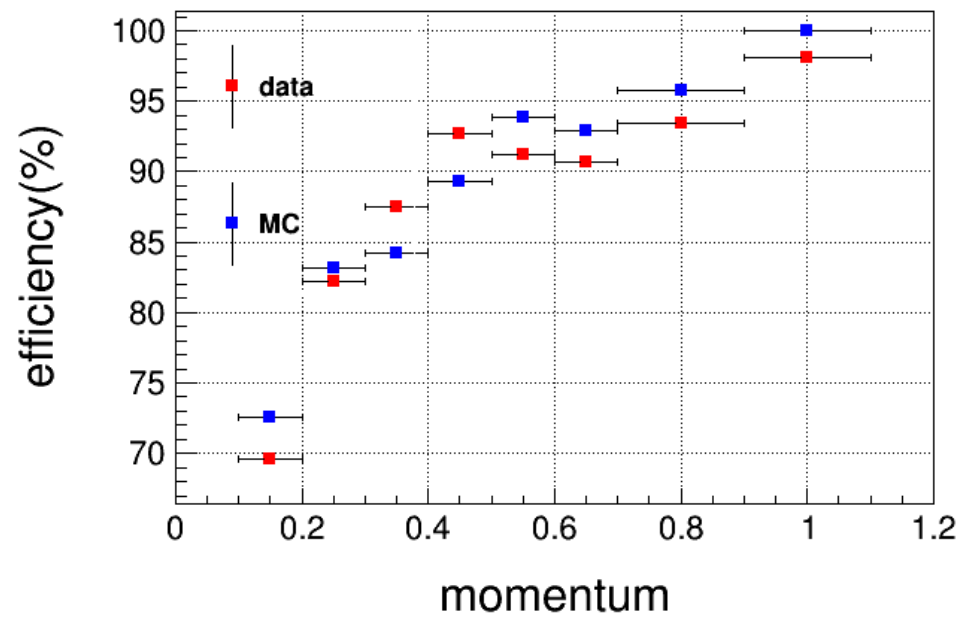
Event selection

- Use $e^+e^- \rightarrow KK\pi\pi\pi^0$ as the control sample.
- 4 good charged tracks
 - PID to select $KK\pi\pi$
- At least 1 good photon
- Use 3C to select the proper photon then recoil $\gamma KK\pi\pi$ (miss the photon)
 - $\chi_{3C}^2 < 100$.
 - The recoiling direction should be in $\cos\theta \in [0, 0.8], [0.86, 0.93]$.
 - The angle between the recoiling direction and the nearest charged track should be larger than 10 degree.
- Select the photon which is closest to the recoiling direction (tag the photon)
 - $M(\gamma\gamma) \in [0.1, 0.18]$



Momentum region(GeV)	Eff_data(%)	Eff_MC(%)	Difference(%)
0.10~0.20	69.63+-0.3	72.59+-0.2	2.96
0.20~0.30	82.20+-0.3	83.13+-0.2	0.93
0.30~0.40	87.50+-0.3	84.19+-0.3	-3.31
0.40~0.50	92.73+-0.4	89.25+-0.2	-3.48
0.50~0.60	91.22+-0.4	93.83+-0.2	2.61
0.60~0.70	90.72+-0.4	92.85+-0.2	2.13
0.70~0.90	93.40+-0.4	95.75+-0.2	2.35
>0.90	98.09+-0.4	99.95+-0.2	1.86

Graph



BACK UP

