

Group Meeting

2024.12.13

Belle II

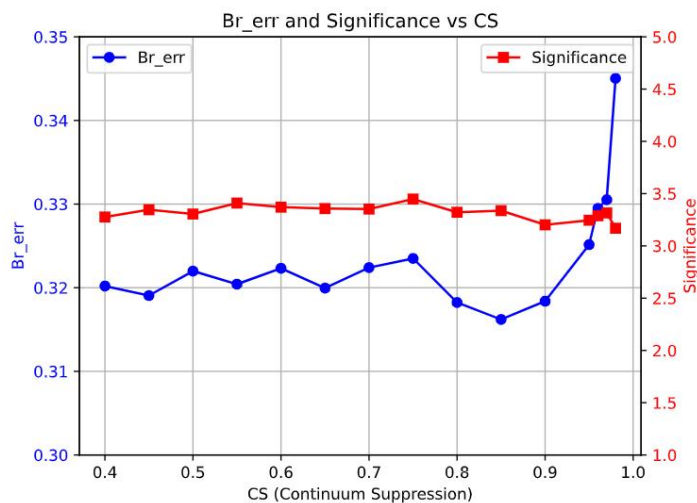
- 2D or 3D ?
- Optimization on CS and PID (3D)

Branch ratio:

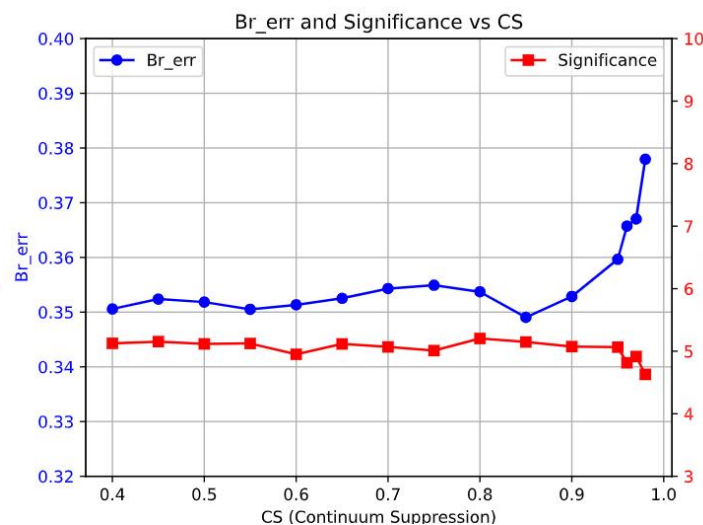
$$\mathcal{B}(B^0 \rightarrow K^+ K^- \pi^0) = [2.17 \pm 0.60 \pm 0.24] \times 10^{-6}$$

➤ 3D ToyMC study

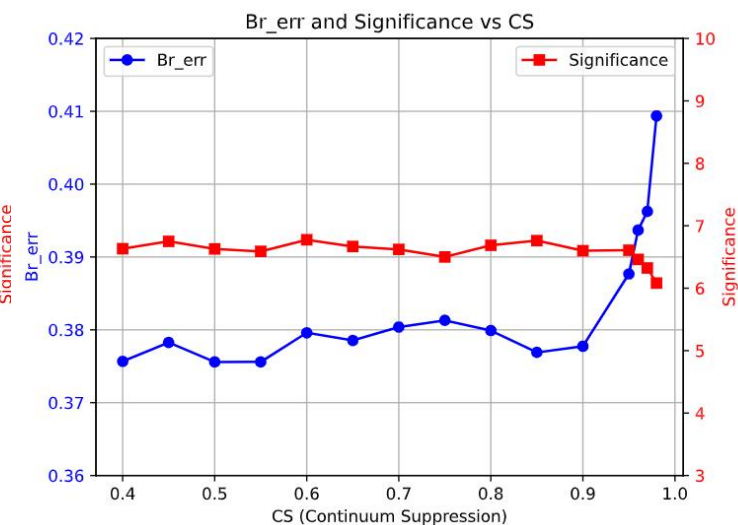
0.97



1.57



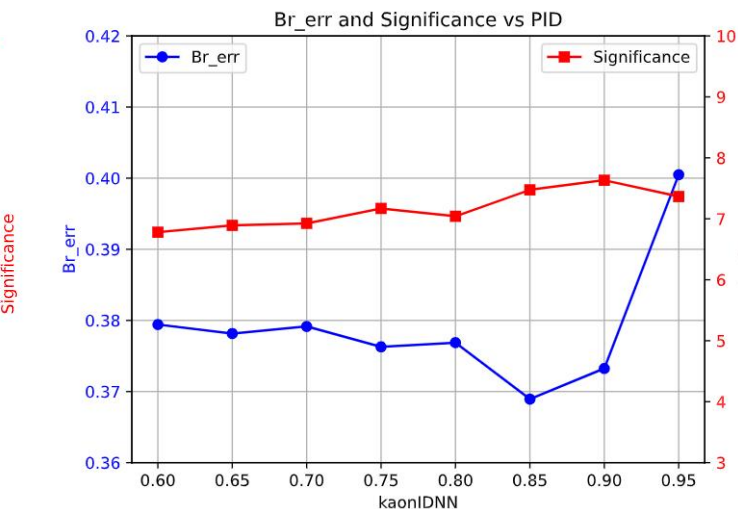
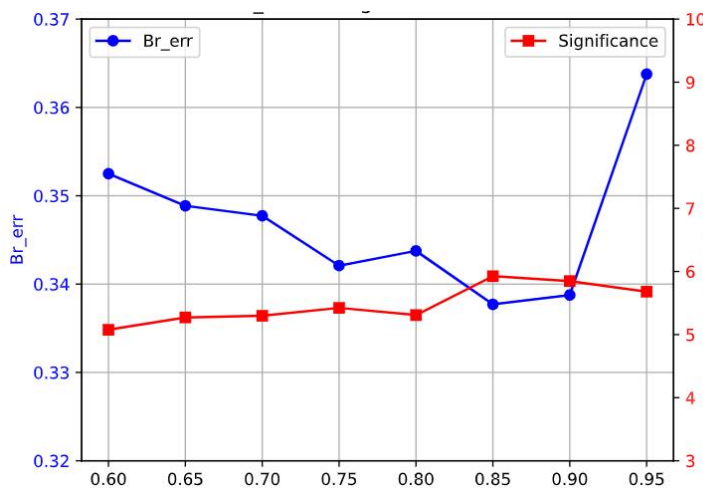
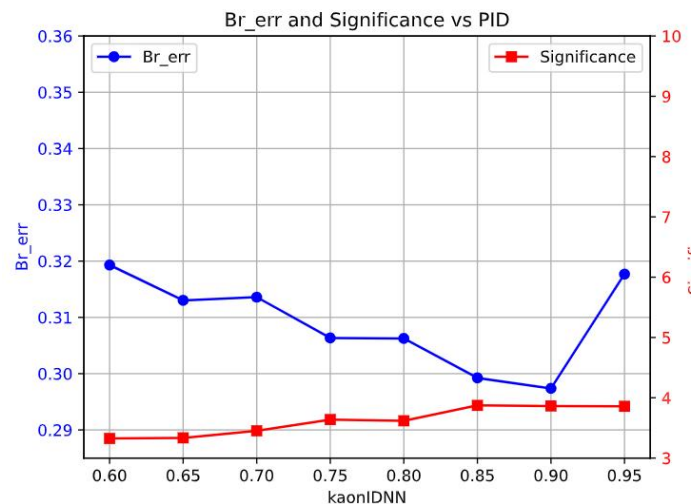
2.17



CS : Optimize result at 0.9

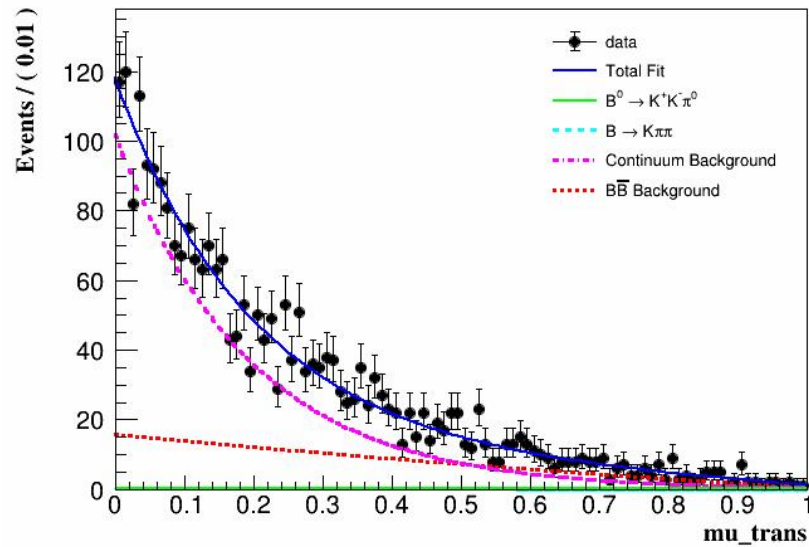
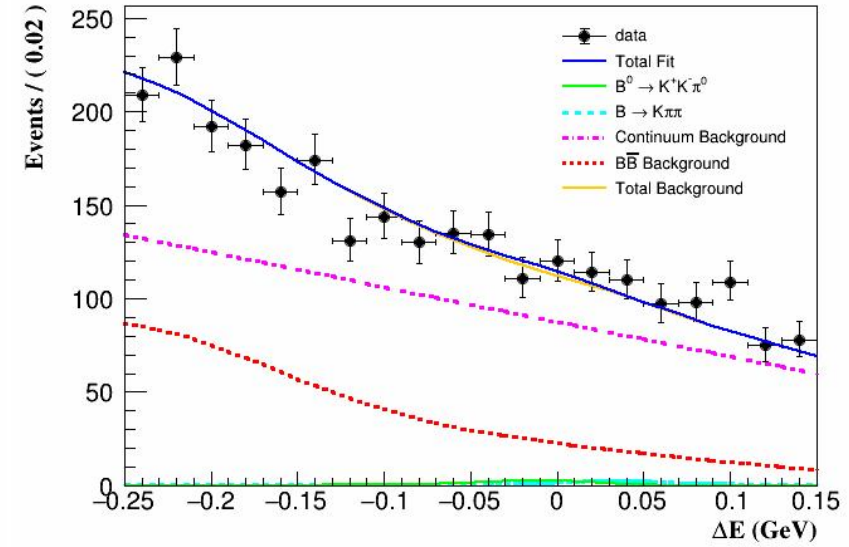
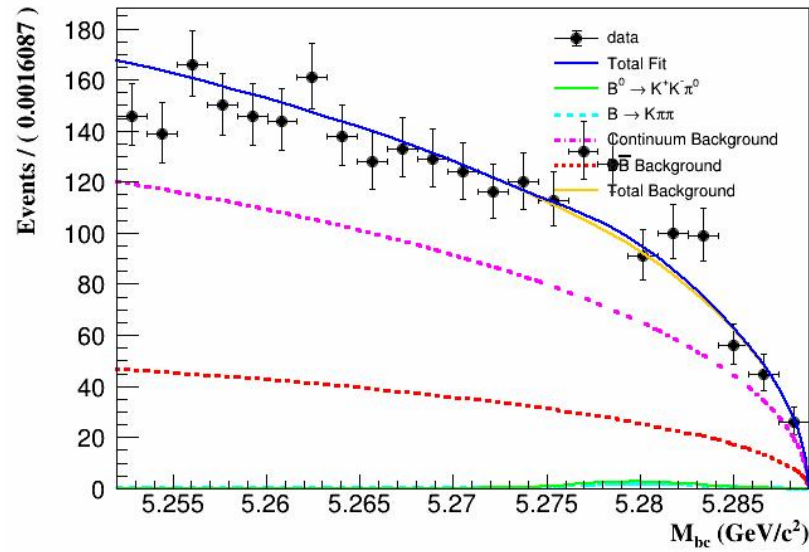
CS : 0.9

PID : Optimize result at 0.85



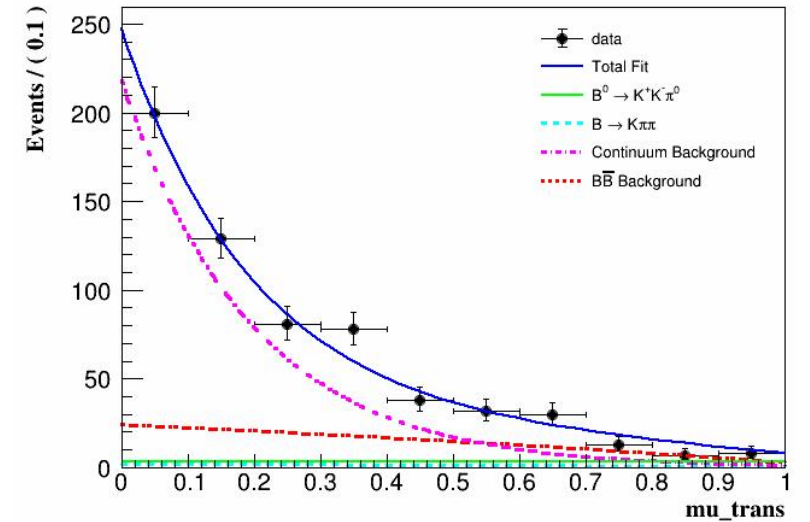
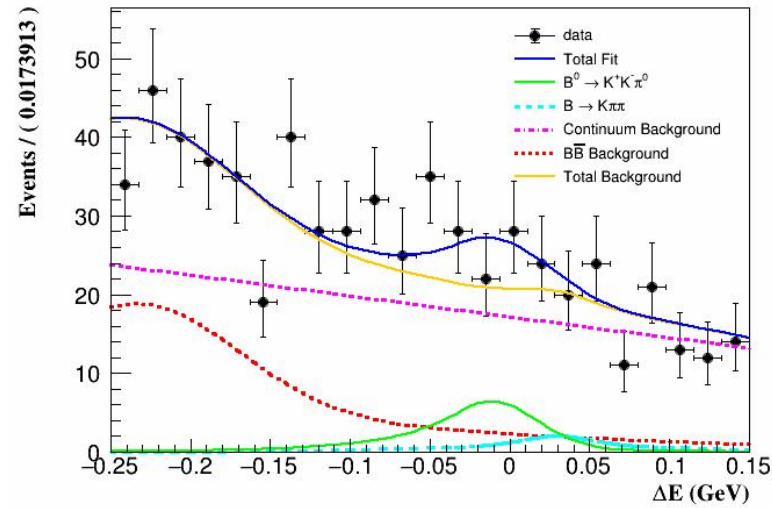
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- 3D Fit result



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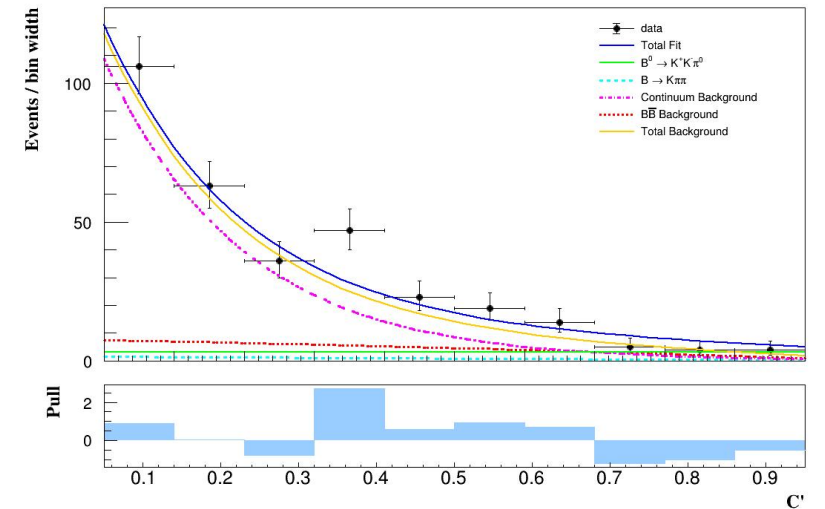
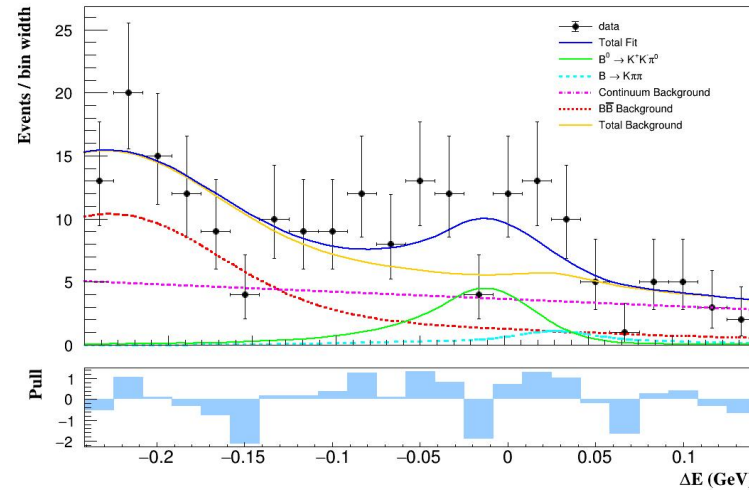
- Try 2D Fit
- Tight cut on M_{bcmod} ($5.275 < M_{bcmod} < 5.285 \text{ GeV}/c^2$) (Not optimized yet)
- $cs > 0.90$ (Not optimized yet)
- $PID > 0.9$ (Not optimized yet)



■ Projection Plot

- $0.15 \text{ GeV} < \Delta E < 0.05 \text{ GeV}$
- $C' > 0.45$

- $N_{BtoKpipi}$ float or not ?



Belle

- To be completed...