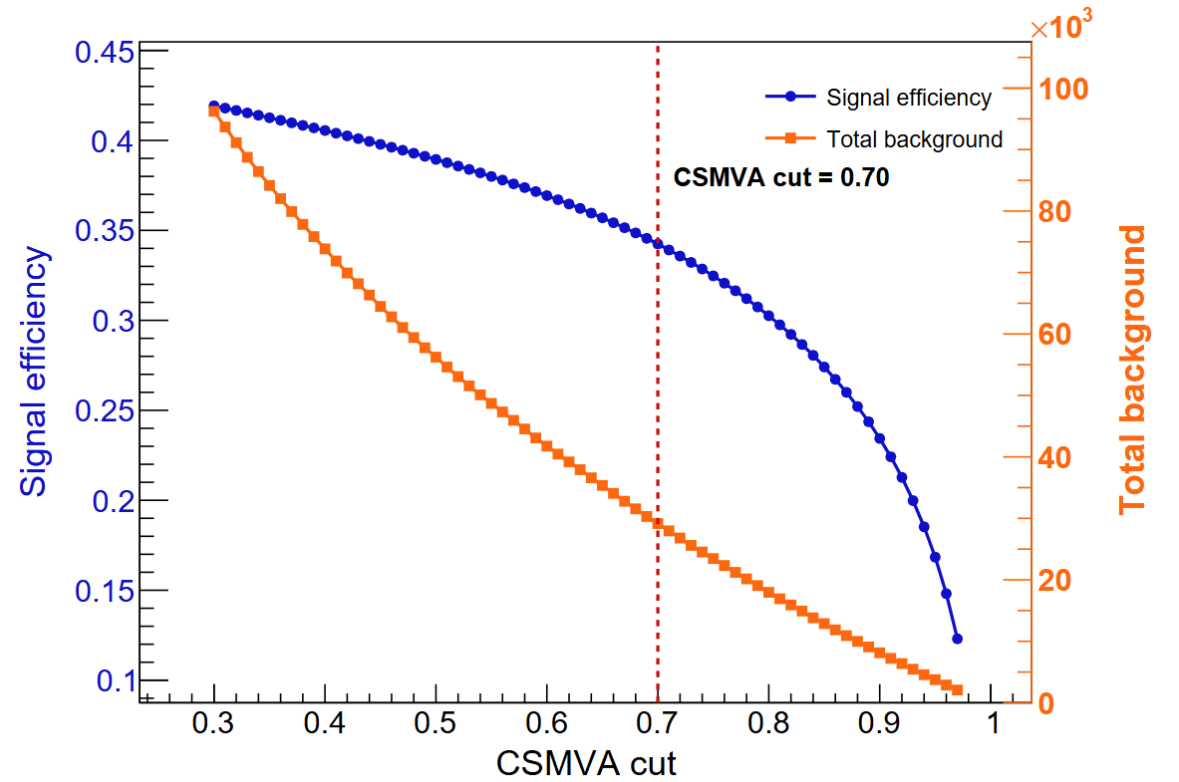
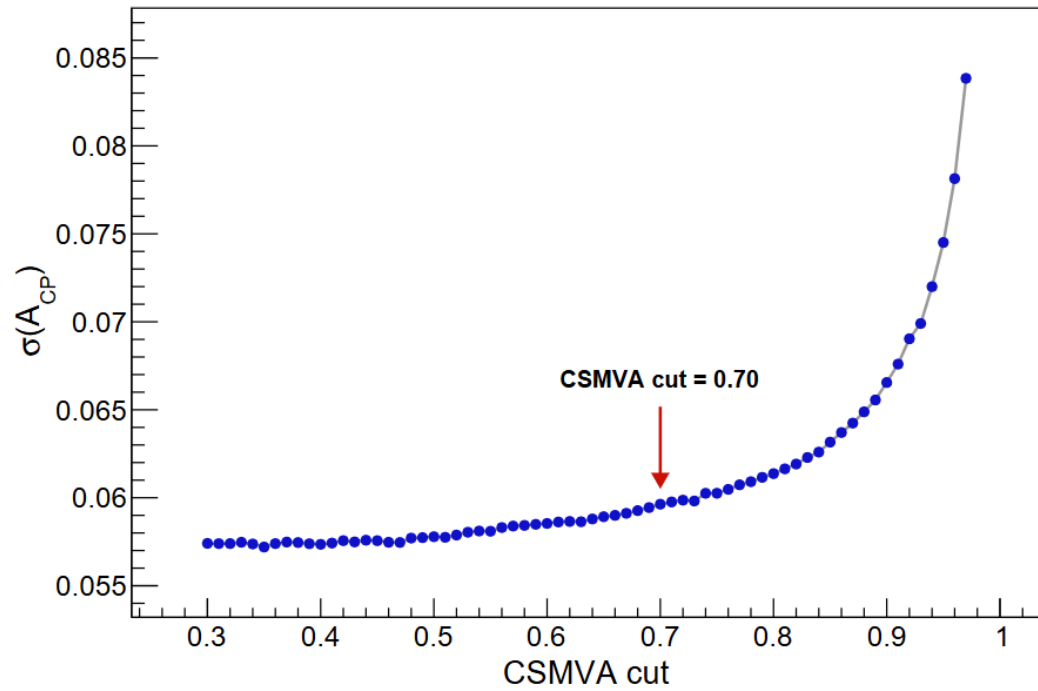


Direct CP violation measurement of decay $B^0 \rightarrow K_S^0 \pi^0$

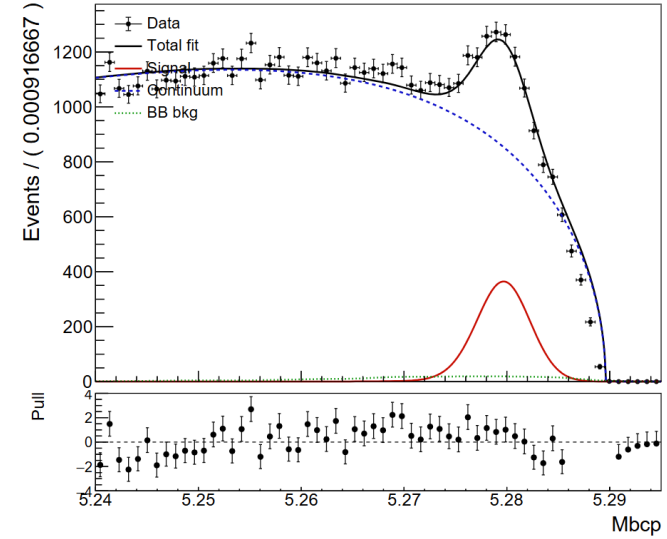
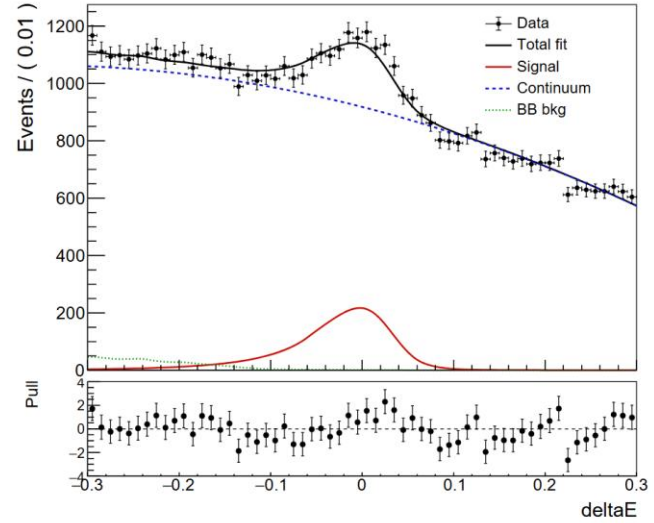
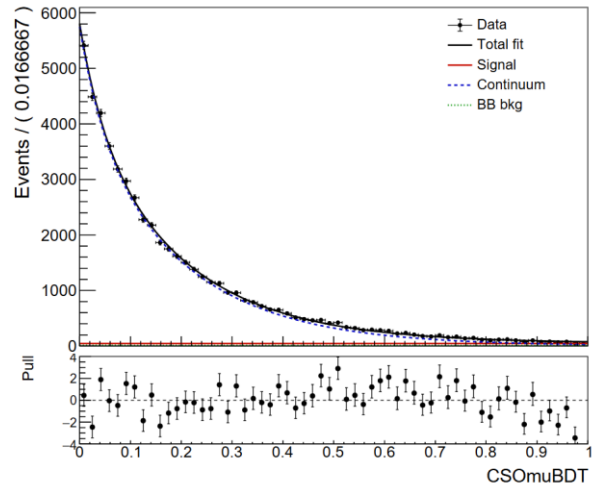
Ming-Kuan Yuan, Shi-Ming Zou
Fudan University

2026/5/22

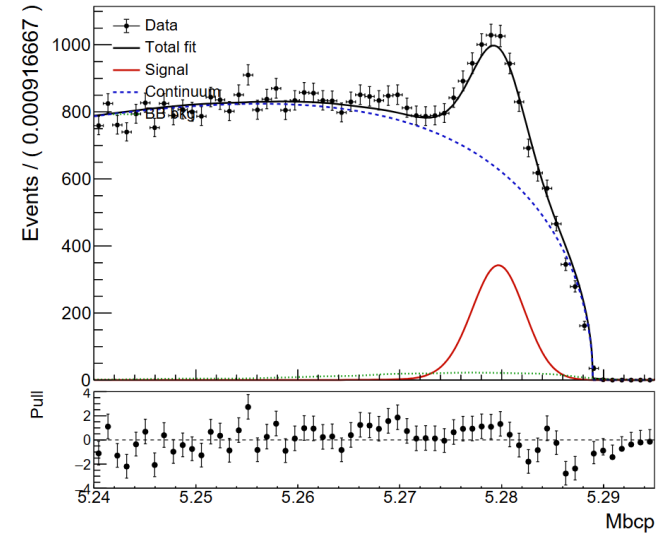
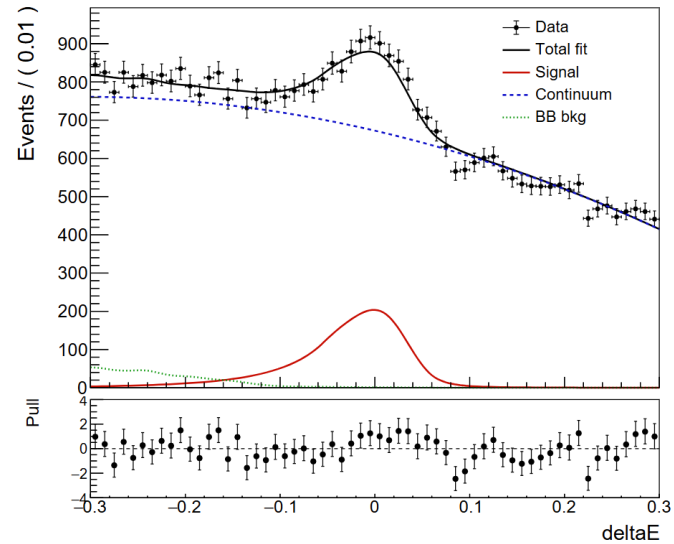
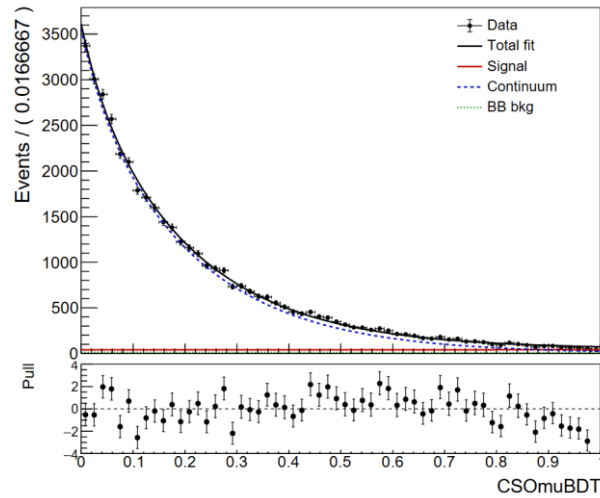
$\sigma(A_{CP})$ Scan of csmva



Fit projections

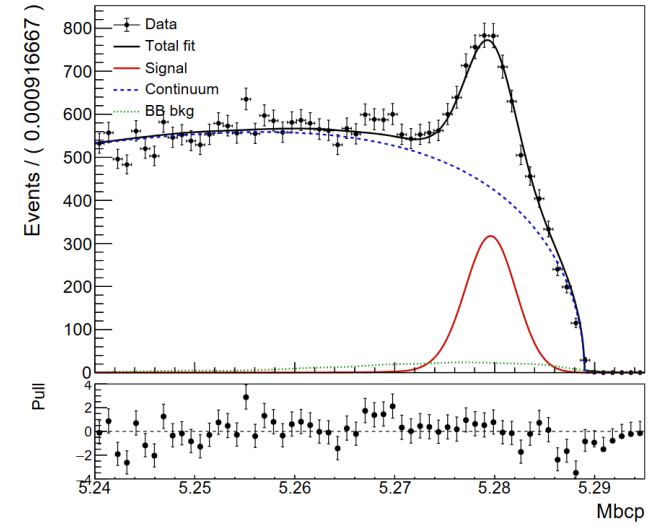
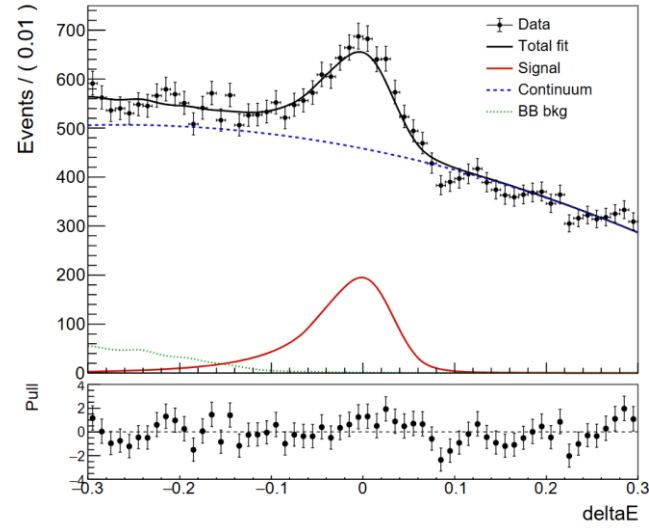
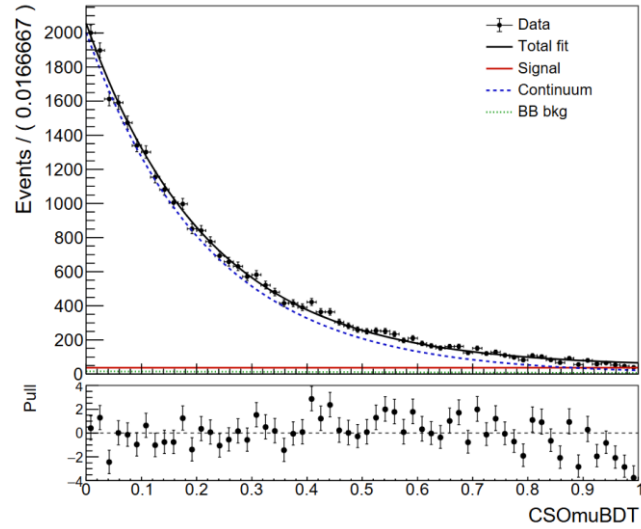


@csmva>0.5

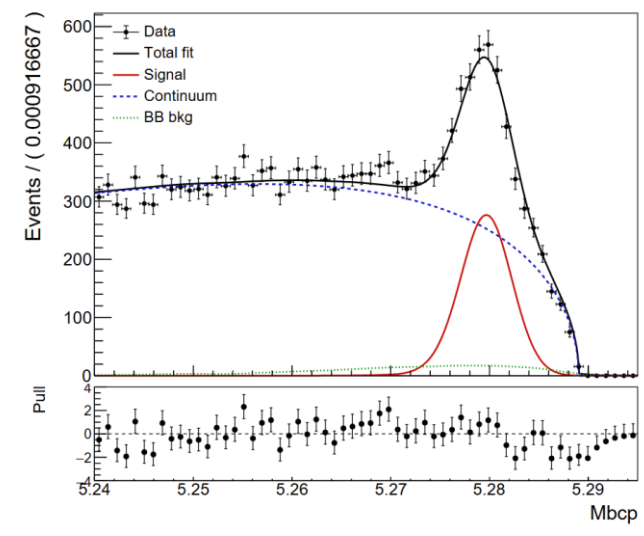
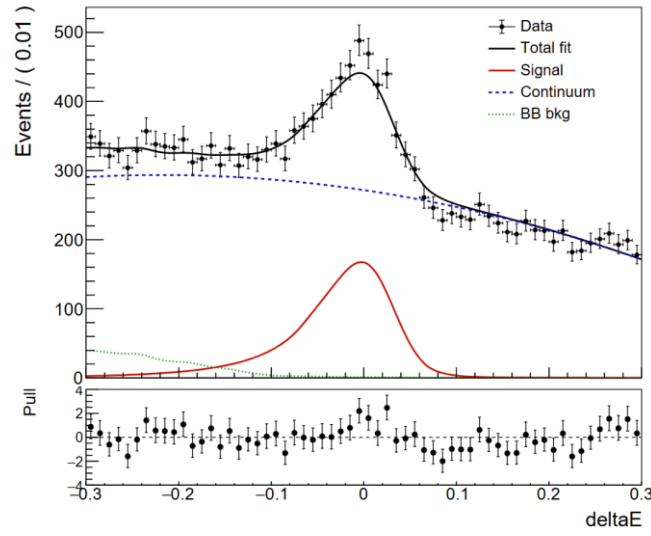
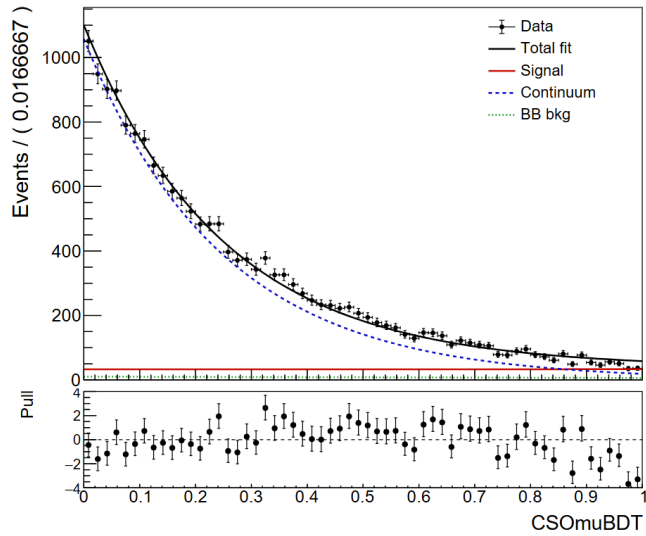


@csmva>0.6

Fit projections

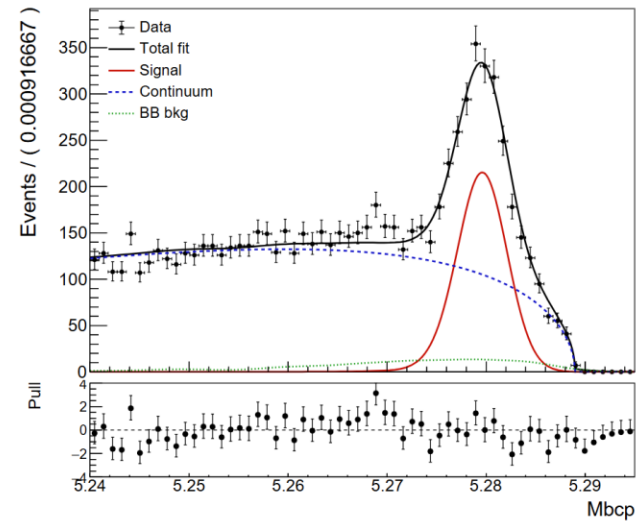
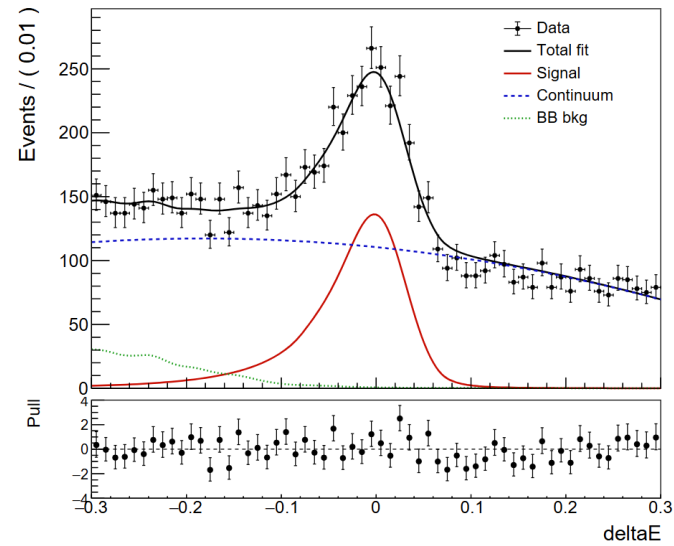
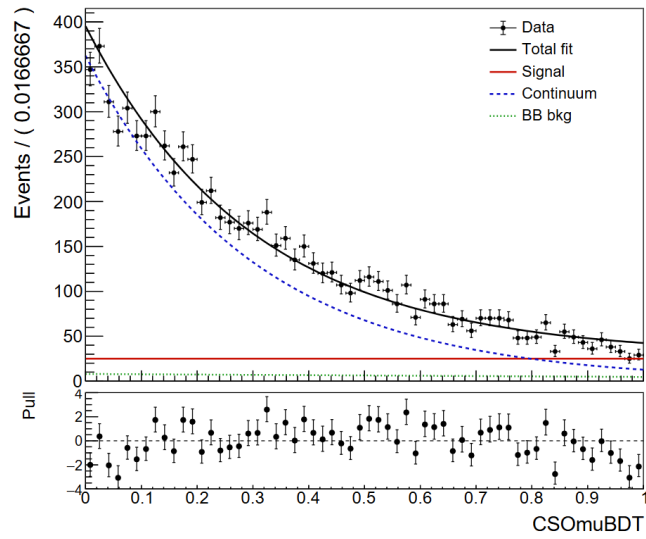


@csmva>0.7



@csmva>0.8

Fit projections



@csmva>0.9

B2bii analysis

Dataset

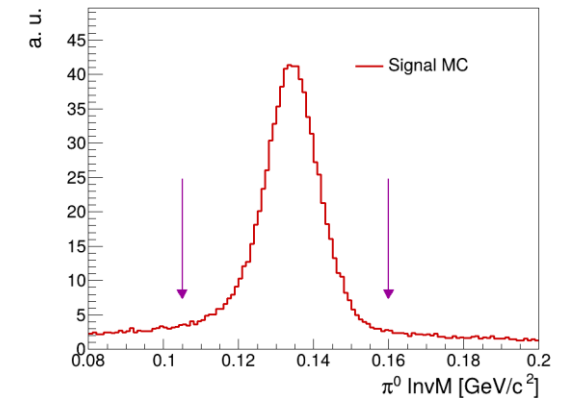
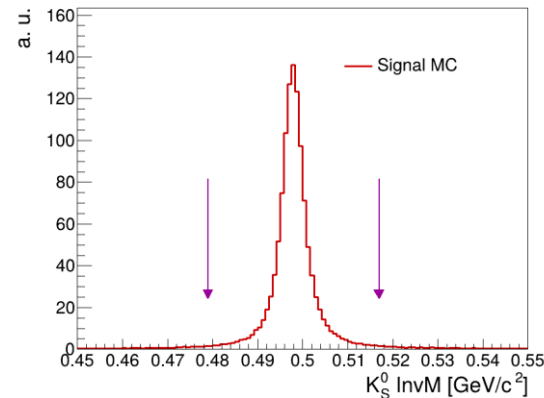
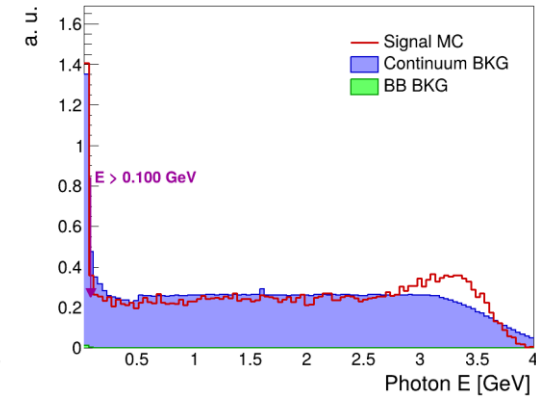
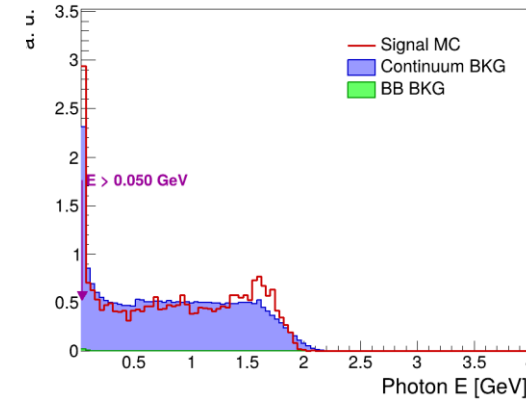
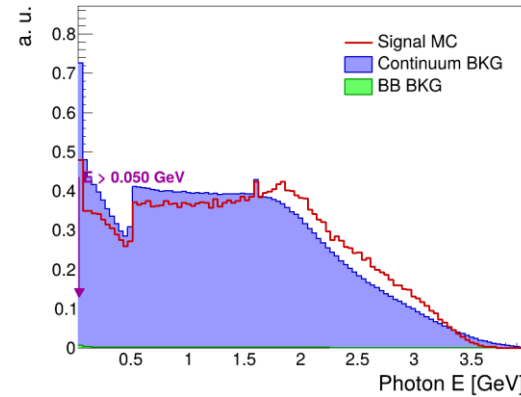
- 10 stream genericMC
- 50x rareMC

Preselection

- $\text{gamma_E} > 0.05 \text{ GeV}$ @ $\text{reg} = 1$
- $\text{gamma_E} > 0.05 \text{ GeV}$ @ $\text{reg} = 2$
- $\text{gamma_E} > 0.10 \text{ GeV}$ @ $\text{reg} = 3$

- $\text{InvM_K_S0} : [0.479, 0.517] \text{ GeV}/c^2$
- $\text{goodBelleKshort} = 1$

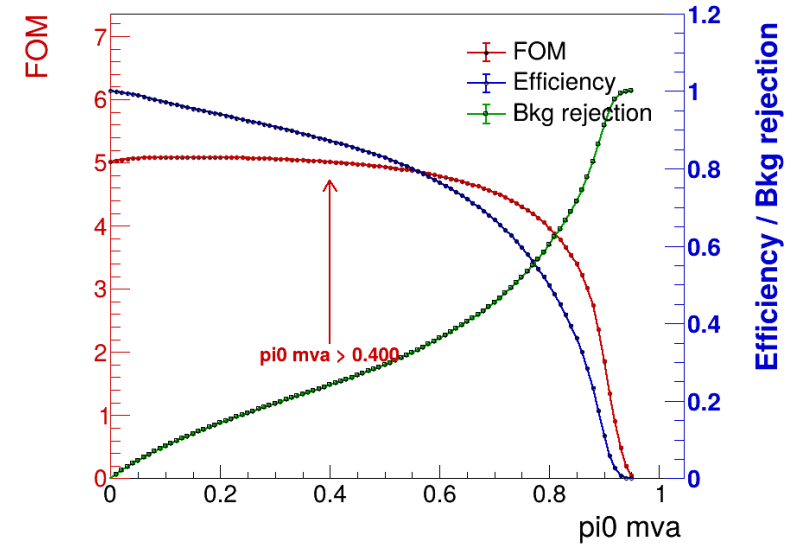
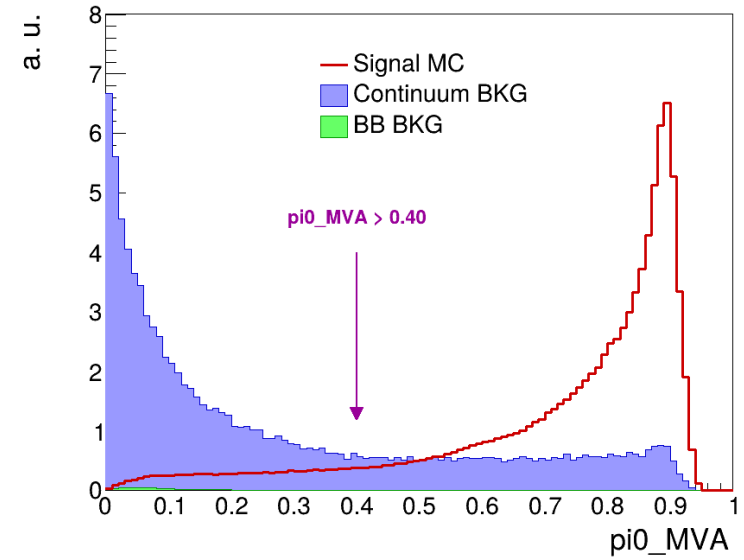
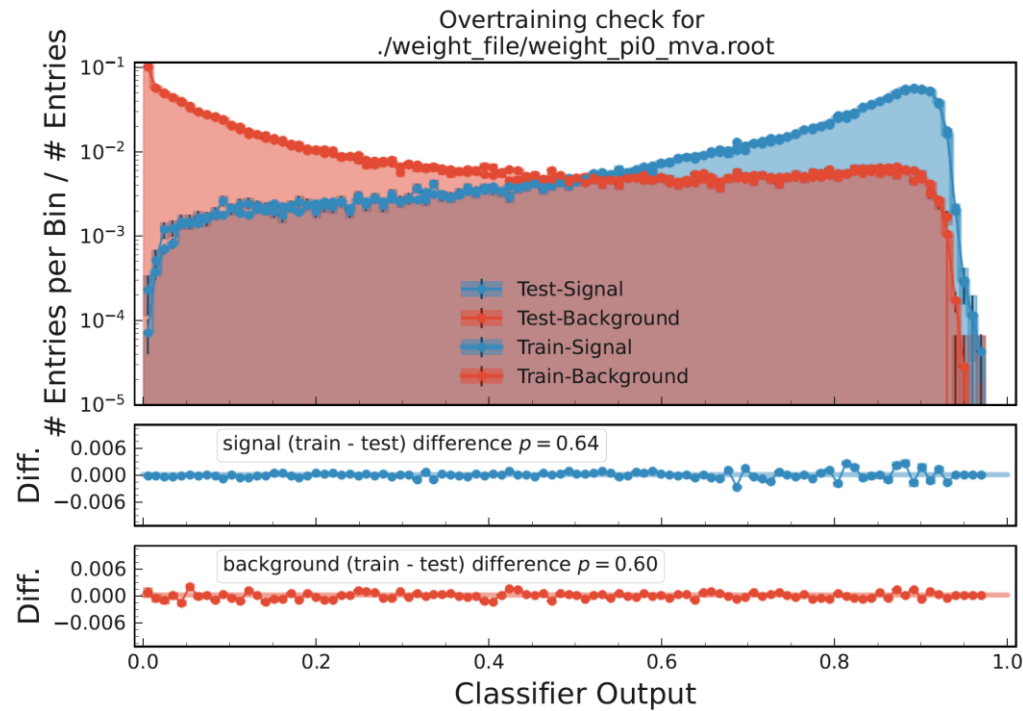
- $\text{InvM_pi0} : [0.100, 0.160] \text{ GeV}/c^2$



B2bii analysis

Pi0 MVA

- $\text{Pi0mva} > 0.4$
- Efficiency: $87.14 \pm 0.03 \%$
- BKG rejection: $24.11 \pm 0.11 \%$



B2bii analysis

CSMVA

