

0.0.1 Λ Reconstruction

The following cuts were used to select good Λ ($\bar{\Lambda}$) candidates:

1. Cuts Common to Both Daughters

- (a) $|\eta| < 0.8$
- (b) SetTPCnclsDaughters(80)
- (c) SetStatusDaughters(AliESDtrack::kTPCrefic)
- (d) SetMaxDcaV0Daughters(0.4)

2. Pion Specific Daughter Cuts

- (a) $p_T > 0.16$
- (b) DCA to prim vertex > 0.3

3. Proton Specific Daughter Cuts

- (a) $p_T >$
 - 0.5 (p)
 - 0.3 (\bar{p})
- (b) DCA to prim vertex > 0.1

4. Lambda Cuts

- (a) $|\eta| < 0.8$
- (b) $p_T > 0.4$
- (c) $|m_{inv} - m_{PDG}| < 3.8$ MeV
- (d) Cosine of pointing angle > 0.9993
- (e) OnFlyStatus = false
- (f) Decay Length < 60 cm

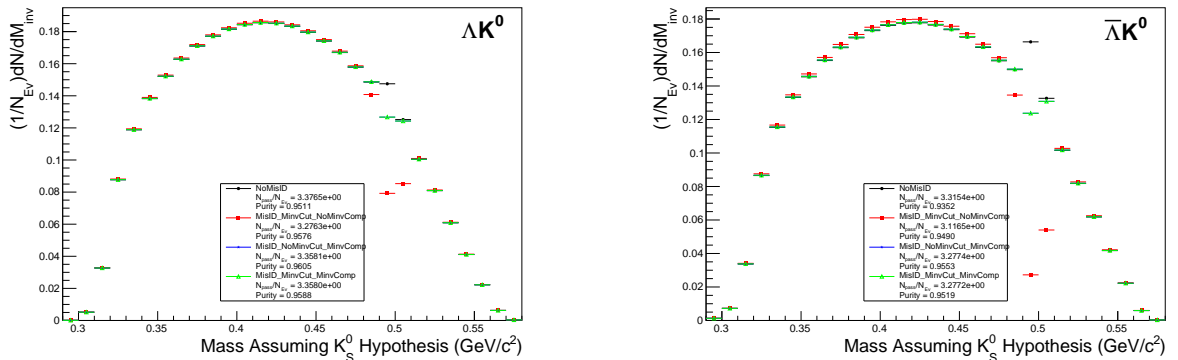


Fig. 1: Mass assuming K_S^0 -hypothesis for V0 candidates passing all Λ ($\bar{\Lambda}$) cuts, i.e. assume the daughters are $\pi^+\pi^-$ ($\pi^+\bar{\pi}^-$) instead of $p^+\pi^-$ ($\pi^+\bar{p}^-$). The slight peak around $m_{inv} = 0.5$ GeV/ c^2 likely contains misidentified K_S^0 particles in our Λ collection. If one simply cuts out the entire peak, good Λ particles will be lost. Ideally, the Λ selection and K_S^0 misidentification cuts are selected such that the peak is removed from this plot while leaving the distribution continuous.

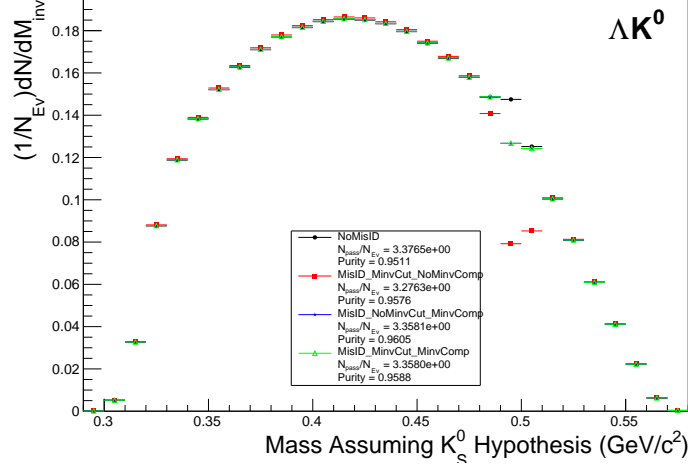


Fig. 2: Mass assuming K_S^0 -hypothesis for V0 candidates passing all Λ cuts, i.e. assume the daughters are $\pi^+\pi^-$ instead of $p^+\pi^-$. The slight peak around $m_{inv} = 0.5 \text{ GeV}/c^2$ likely contains misidentified K_S^0 particles in our Λ collection. If one simply cuts out the entire peak, good Λ particles will be lost. Ideally, the Λ selection and K_S^0 misidentification cuts are selected such that the peak is removed from this plot while leaving the distribution continuous.

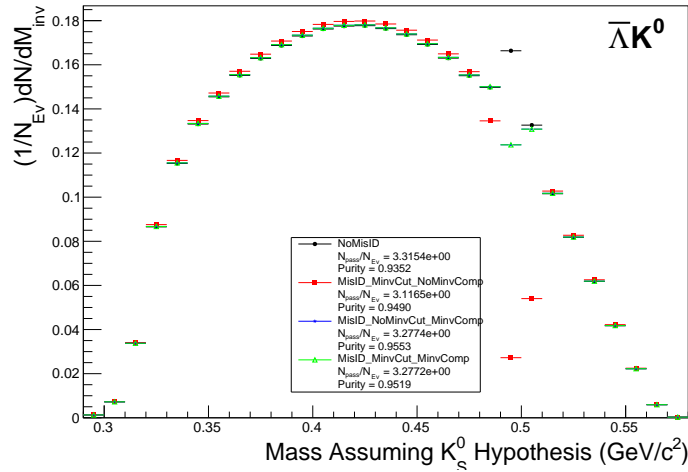


Fig. 3: Mass assuming K_S^0 -hypothesis for V0 candidates passing all $\bar{\Lambda}$ cuts, i.e. assume the daughters are $\pi^+\pi^-$ instead of $\pi^+\bar{p}$. Similar to Figure ??

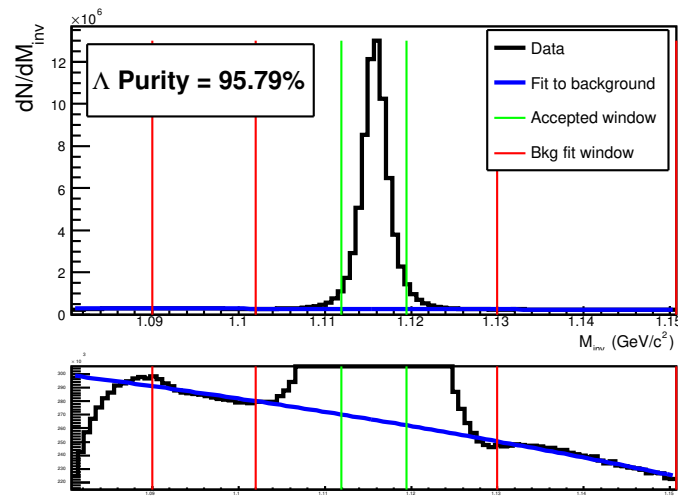


Fig. 4: Λ Purity