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

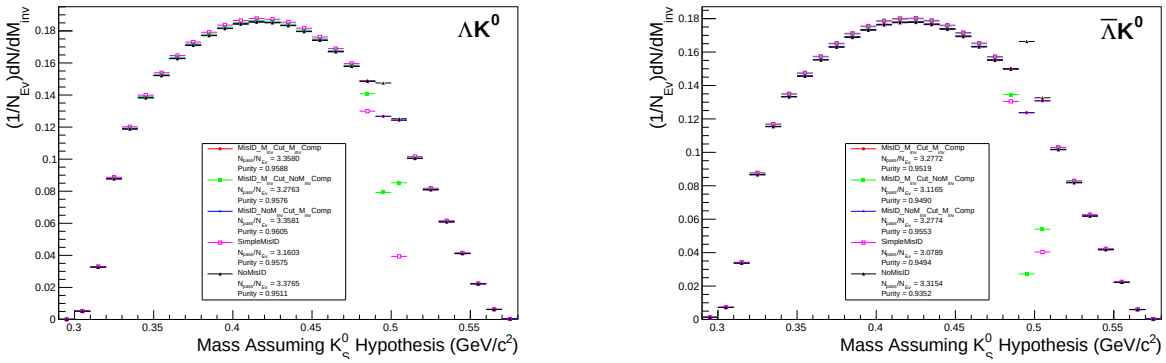

Fig. 1: Mass assuming K^0_S-hypothesis for V0 candidates passing all Λ ($\bar{\Lambda}$) cuts, i.e. assume the daughters are $\pi^+\pi^-$ instead of $p^+\pi^-$ ($\pi^+\bar{p}^-$). The slight peak around $m_{inv} = 0.5$ GeV/c^2 likely contains misidentified K^0_S particles in our Λ collection. If one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

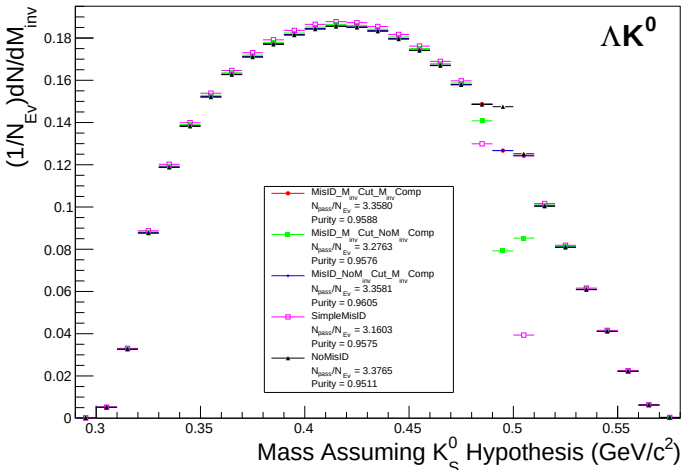

Fig. 2: Mass assuming K^0_S-hypothesis for V0 candidates passing all Λ cuts, i.e. assume the daughters are $\pi^+\pi^-$ instead of $p^+\pi^-$. The slight peak around $m_{inv} = 0.5$ GeV/c^2 likely contains misidentified K^0_S particles in our Λ collection. If one simply cuts out the entire peak, good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

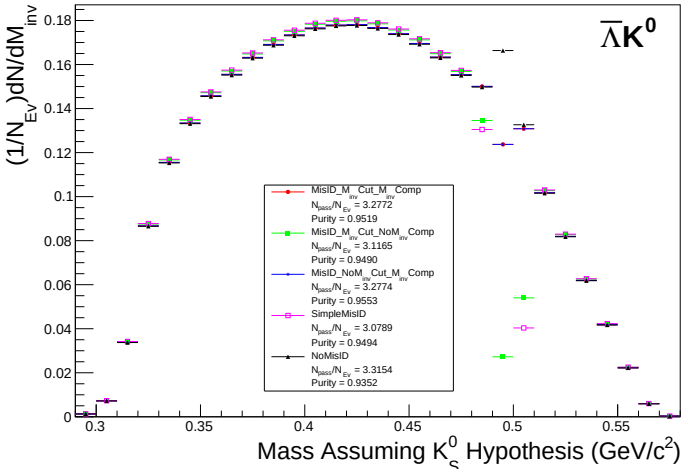

Fig. 3: Mass assuming K^0_S-hypothesis for V0 candidates passing all $\bar{\Lambda}$ cuts, i.e. assume the daughters are $\pi^+\pi^-$ instead of $\pi^+\bar{p}^-$. Similar to Figure 2

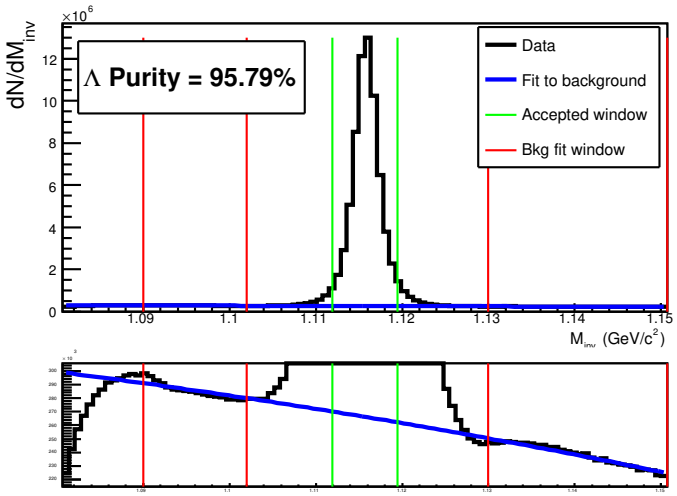

Fig. 4: Λ Purity