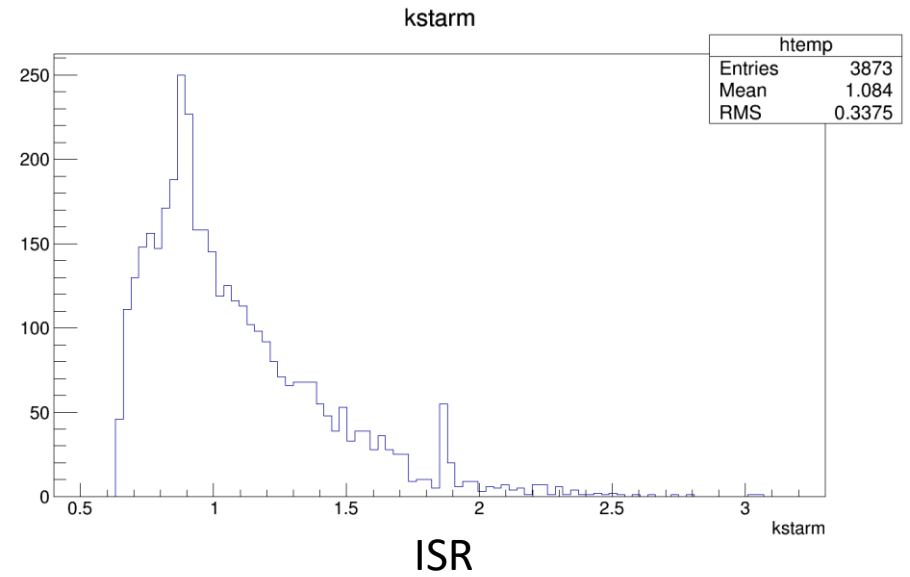
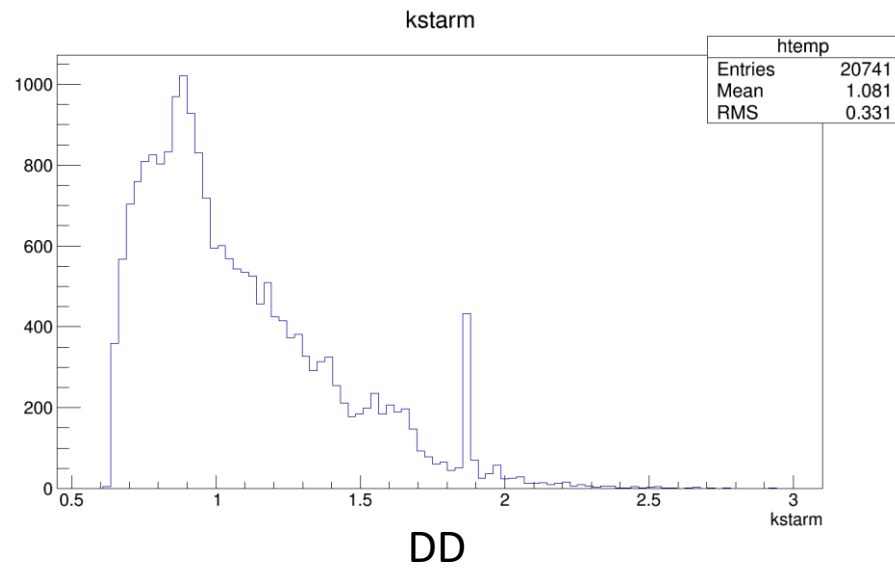


# Work progress

Haoyu Sang

2019/10/24

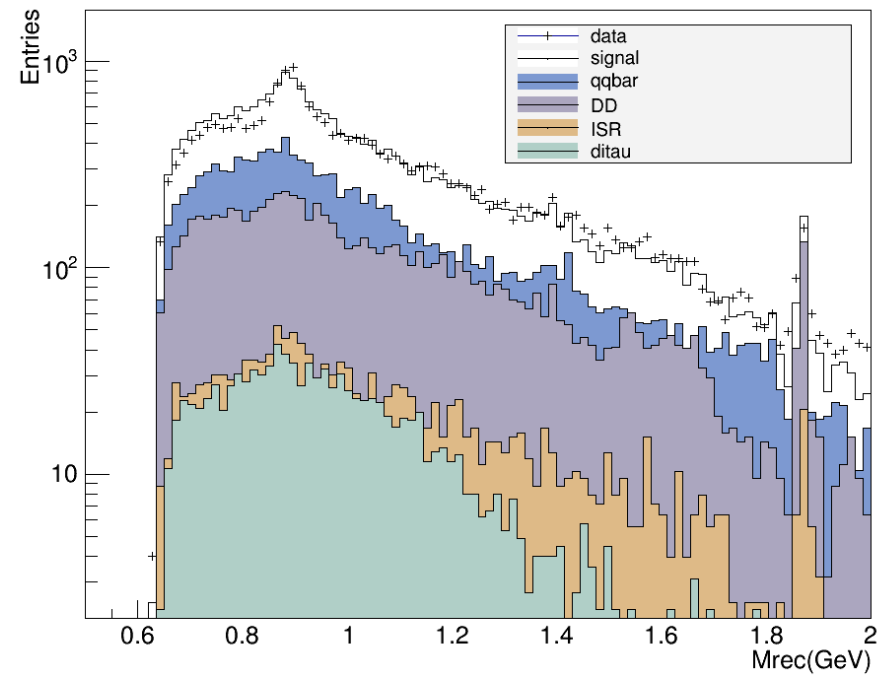
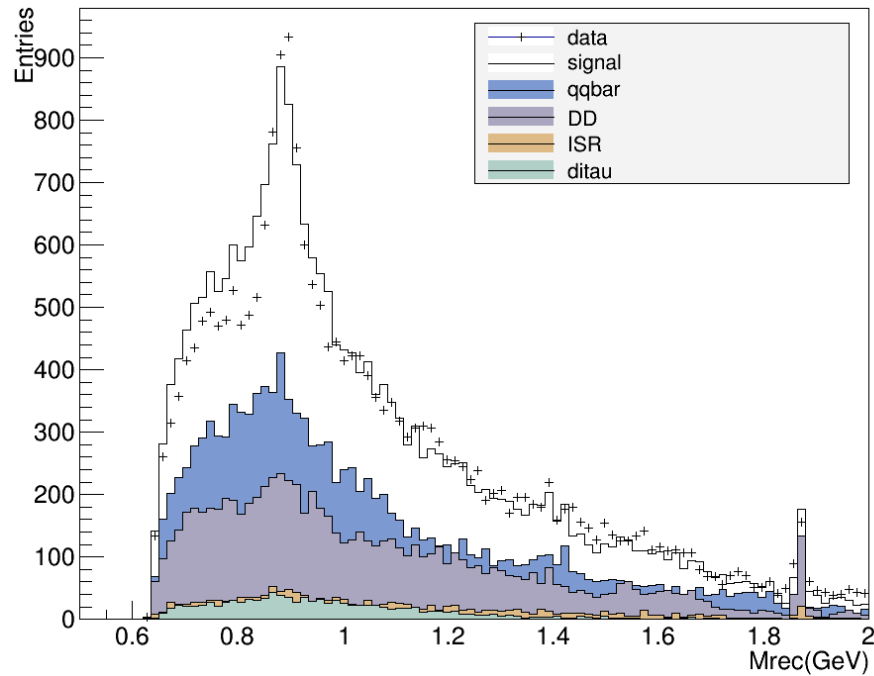
~1.9GeV has a bump in data



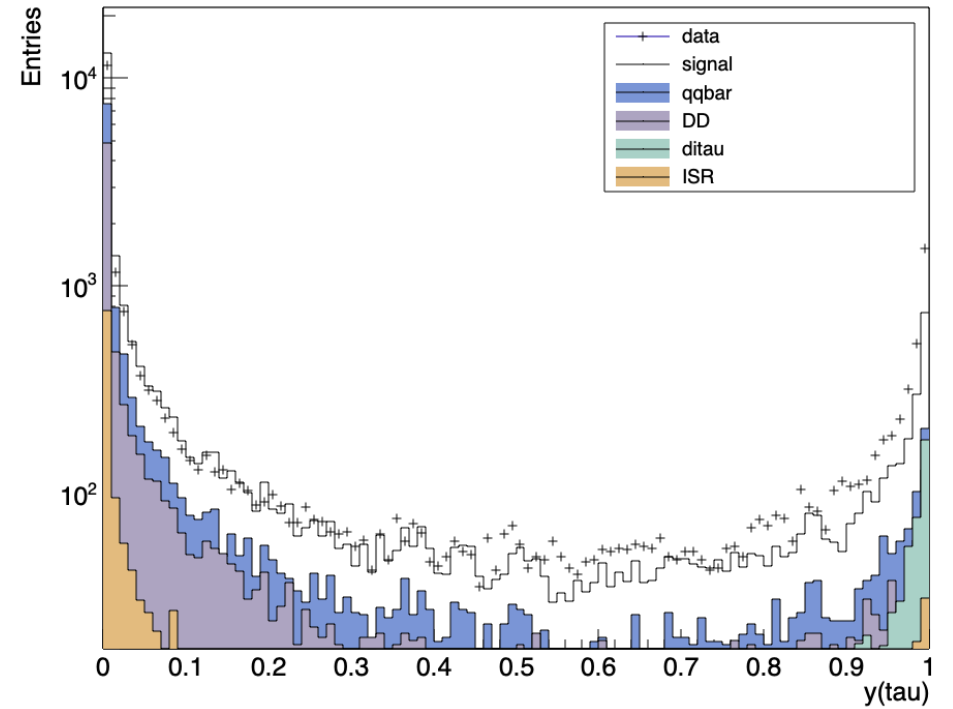
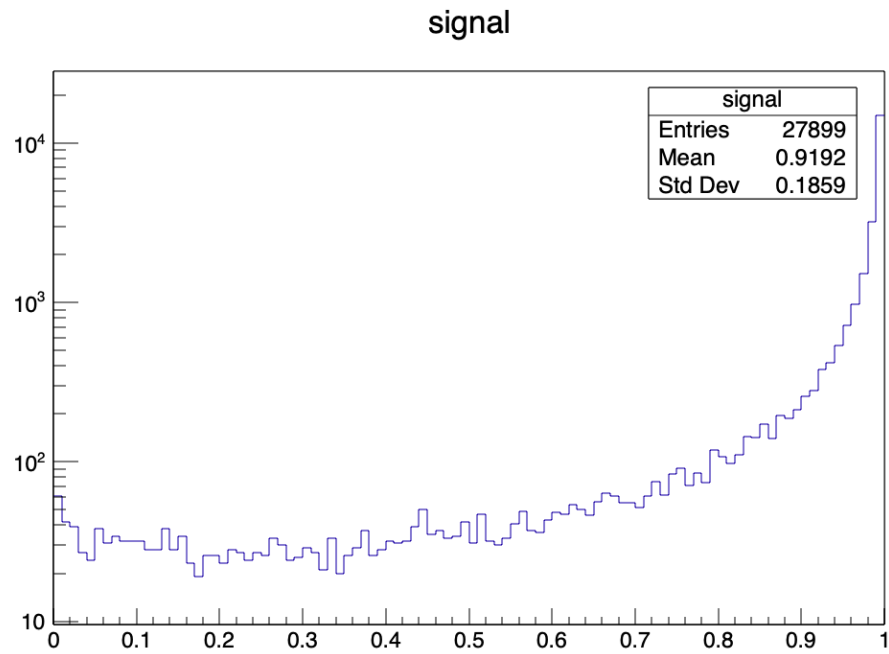
# Summary of cut selection

- Kinematics analysis:
  - total charged track = 4;
  - nGood charged tracks = 2;
  - epratio for electron > 0.8;
  - muon counter;
  - invariant mass of ks is between 0.488 and 0.508GeV;
- MVA analysis (3 variables)-LikelihoodKDE:
  - E(tot) in EMC;
  - number of neutral clusters;
  - Pt(tot);

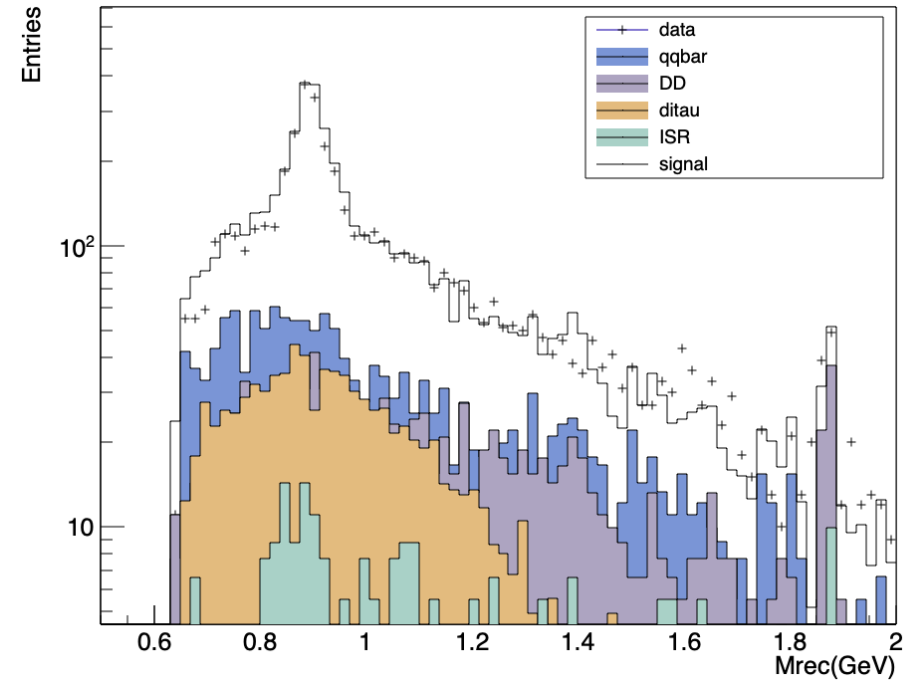
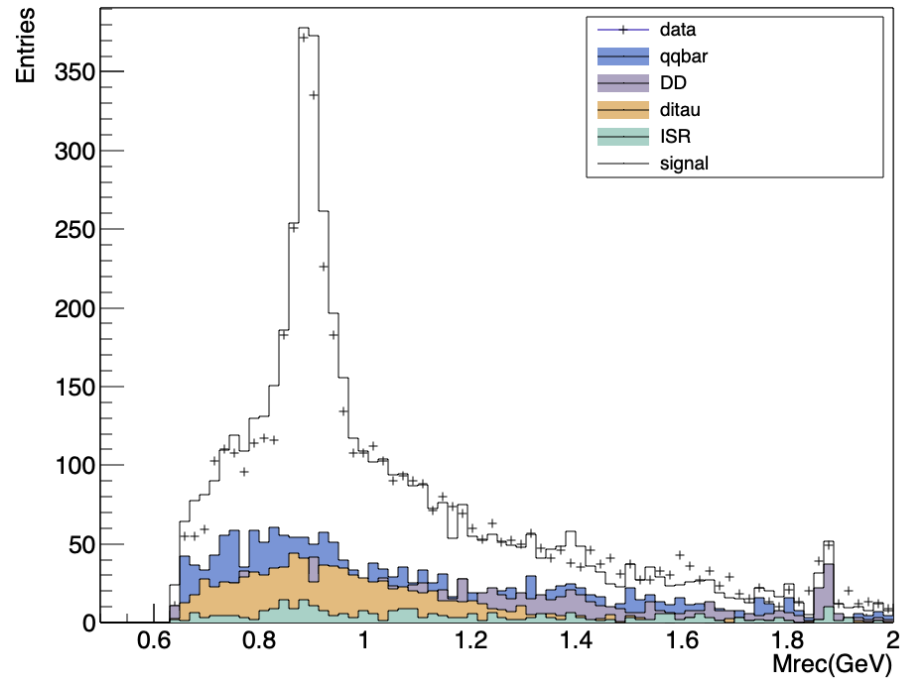
# Before MVA, test sample



# likelihoodKDE



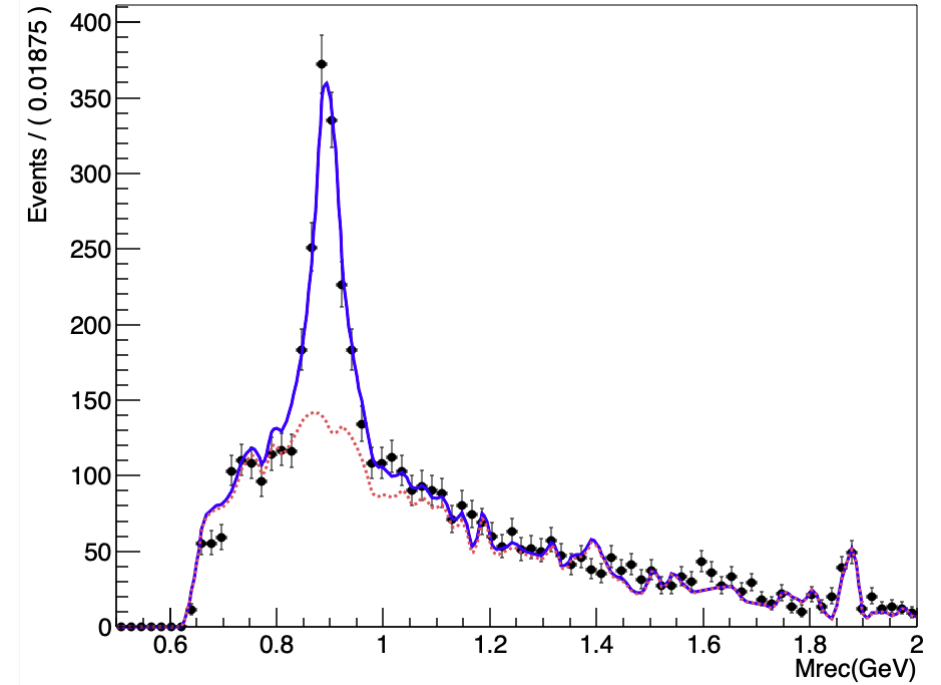
# $M(k^*)_Cut\ 0.6$ in likelihood KDE



# K\* branch ratio

$$ratio = \frac{signal(data) - bkg}{lumi * \sigma * ratio(tag) * select\ eff} = (3.56 \pm 0.2) \times 10^{-3}$$

$$compared\ ratio = 3.088 \times 10^{-3}$$



# Next step

- Summary previous work in besIII;
- Turn to fast simulation;