

# Ultimate Goal

Look for the XYZ particles. To reconstruct and analyze the decay:

- ▶  $B \rightarrow D^{(*)} \bar{D}^{(*)} K$  (any combination: charged or neutral)

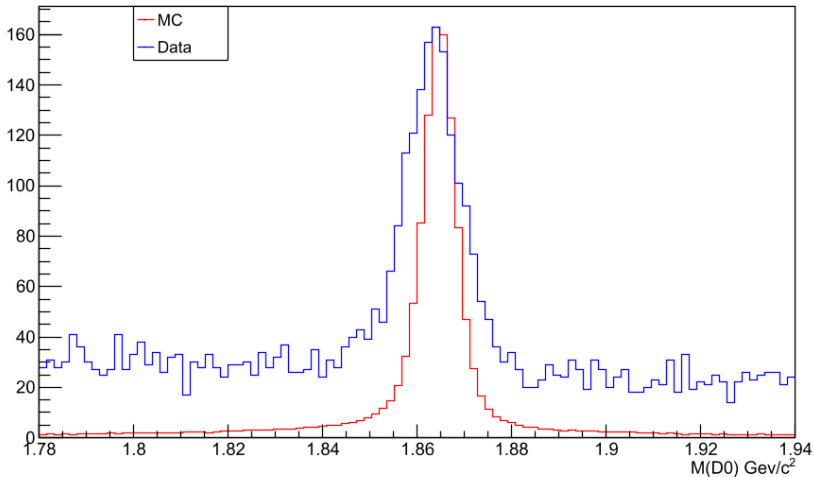
So started doing reconstruction(MC and Data) for  $D^{*+}$  and  $D^0$  for single modes.

▶  $D^{*+} \rightarrow D^0 \pi^+$

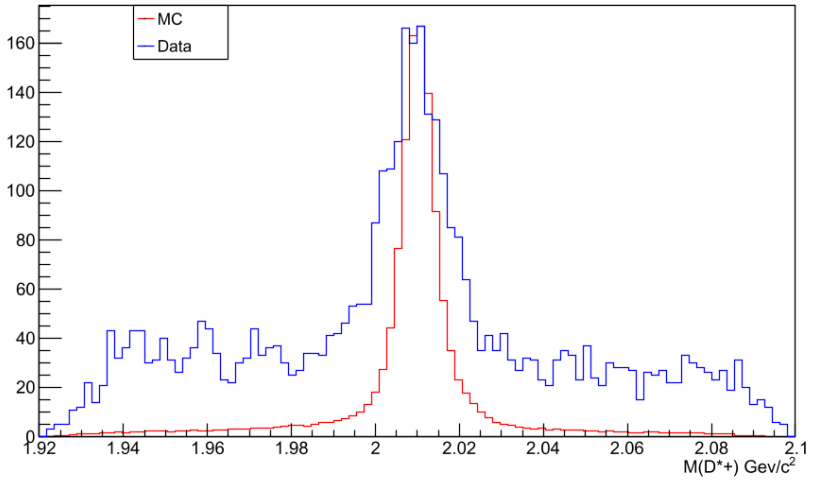
▶  $D^0 \rightarrow K^- \pi^+$

For Data, Beam background is not taken into account for initial phase of learning.

M {abs(extralInfo\_\_bodstQ\_\_bc)<0.08}



M



## Next

Take most of the modes

$$D^0 \rightarrow K^- \pi^+$$

$$D^0 \rightarrow K^- \pi^+ \pi^0$$

$$D^0 \rightarrow K^- \pi^+ \pi^+ \pi^-$$

Check for PID efficiency