

Supplementary material for LHCb-PAPER-2018-042.

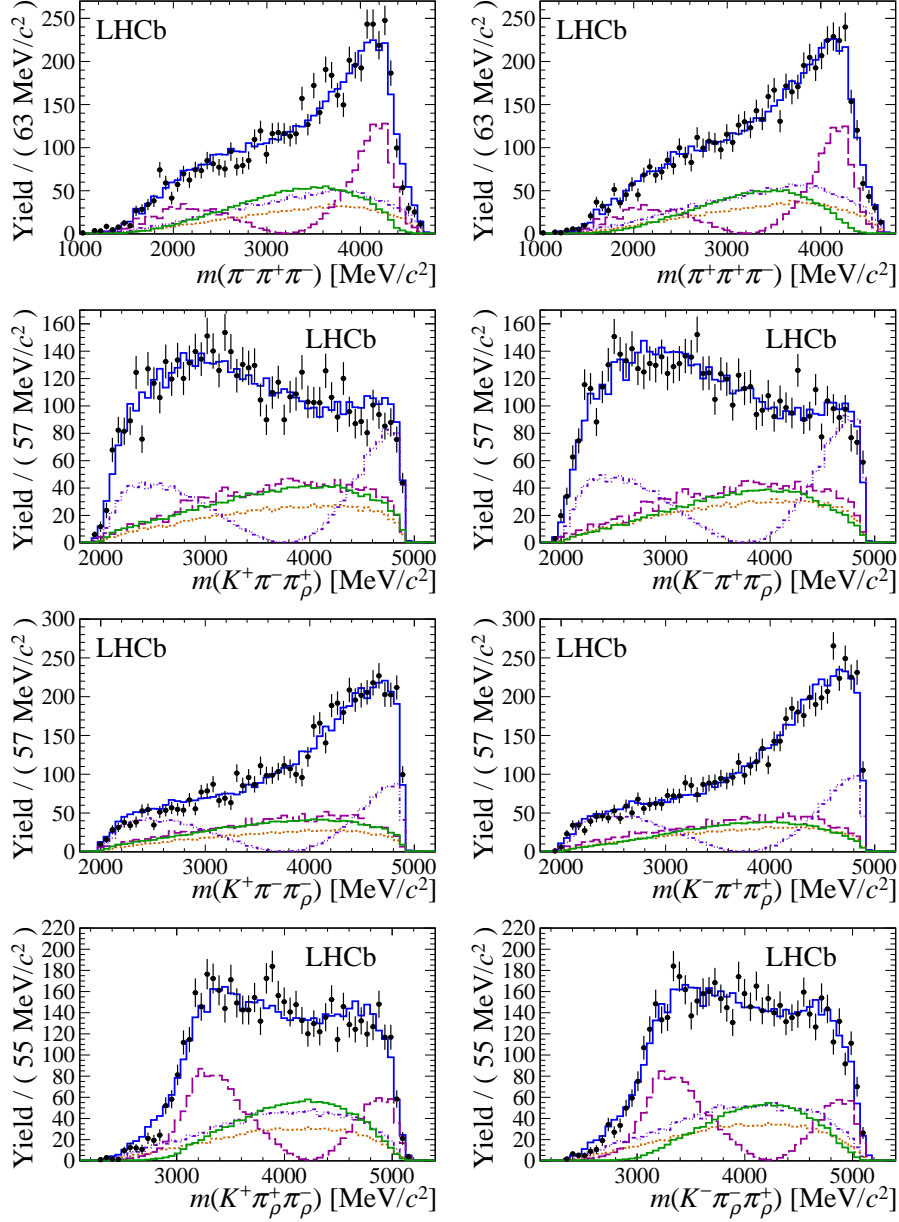


Figure 1: The four possible combinations of three-body invariant-mass spectra for the fitted model, projected over background-subtracted data in the (left)  $B^0$  and (right)  $\bar{B}^0$  data samples. The four trigger and data-taking year categories are aggregated in the figures. Data are shown by black points with uncertainties and the overall fit is represented by the solid blue line. The contributions of the partial waves sharing the same angular dependence are shown as ( $VV$ ) solid green, ( $VS$ ) dash-dotted violet, ( $SV$ ) dashed dark magenta and ( $SS$ ) dotted orange lines.

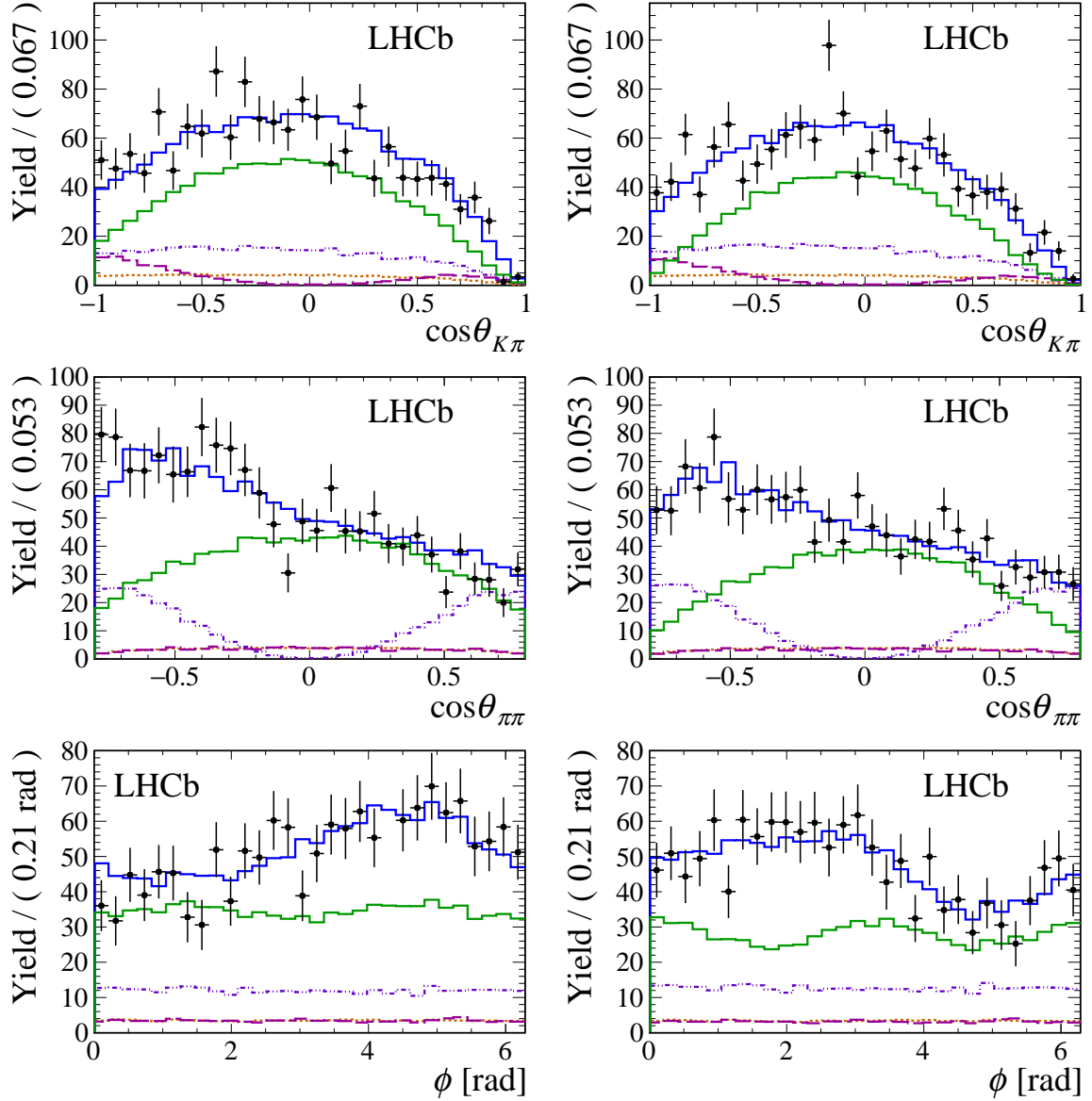


Figure 2: Projections of the fitted model over background-subtracted data in the (left)  $B^0$  and (right)  $\bar{B}^0$  data samples in the region dominated by the  $VV$  components. This region is defined by a 150 (70)  $\text{MeV}/c^2$  invariant mass window around the nominal mass of the  $\rho^0$  ( $K^*$ ) meson.