

Supplementary material for LHCb-PAPER-2017-021

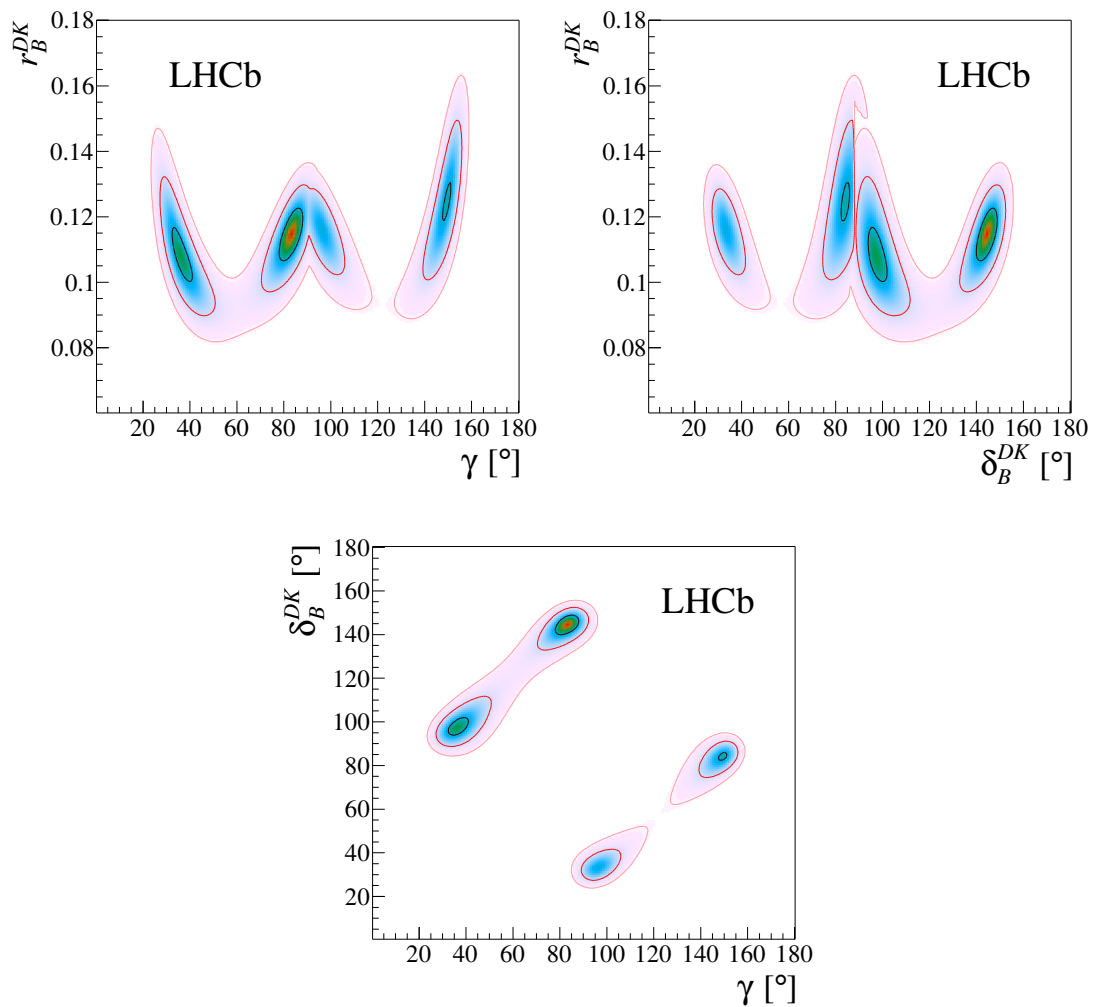


Figure 1: 1σ , 2σ and 3σ profile likelihood contours measured using the 3 fb^{-1} ADS 2-body measurements and the updated GLW measurements from this analysis as input.

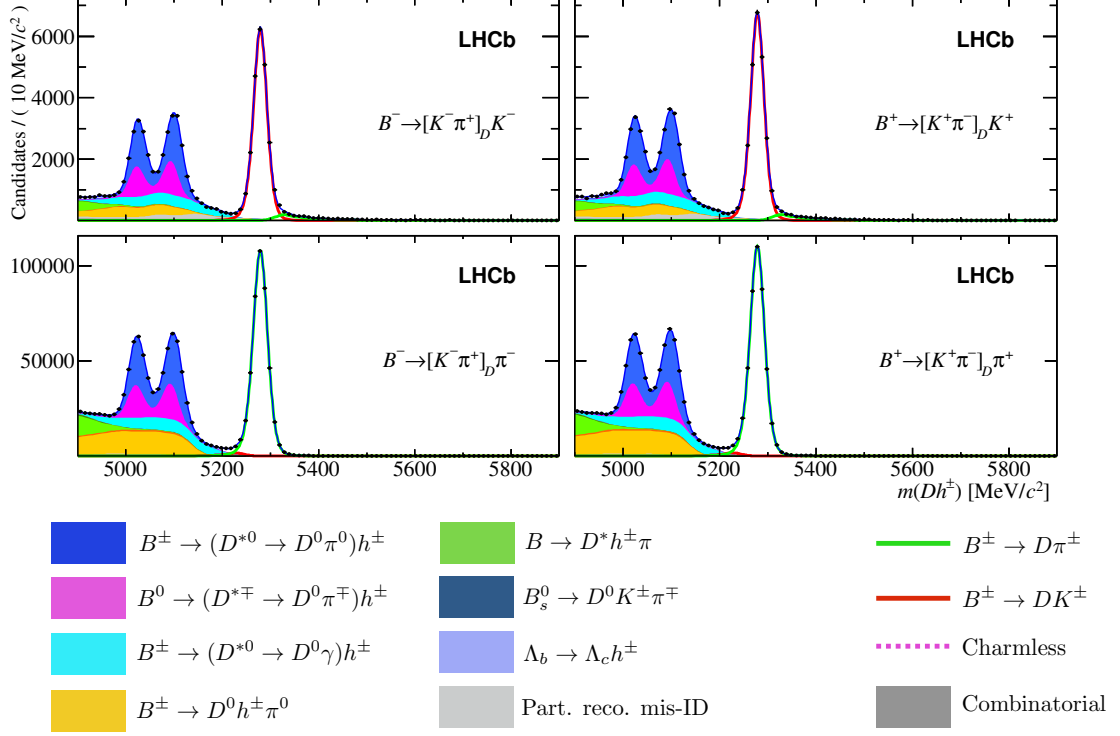


Figure 2: Invariant mass distributions of selected $B^\pm \rightarrow [K^\pm \pi^\pm]_D h^\pm$ candidates, separated by charge, with B^- (B^+) candidates on the left (right). This is the colour version of Fig. 1 in the paper. The top panels contain the $B^\pm \rightarrow D^{(*)} K^\pm$ candidate sample, as defined by a PID requirement on the companion particle. The remaining candidates are placed in the bottom row, reconstructed with a pion hypothesis for the companion. Each component is listed in the legend, and the result of the fit is shown by the thin solid blue line.

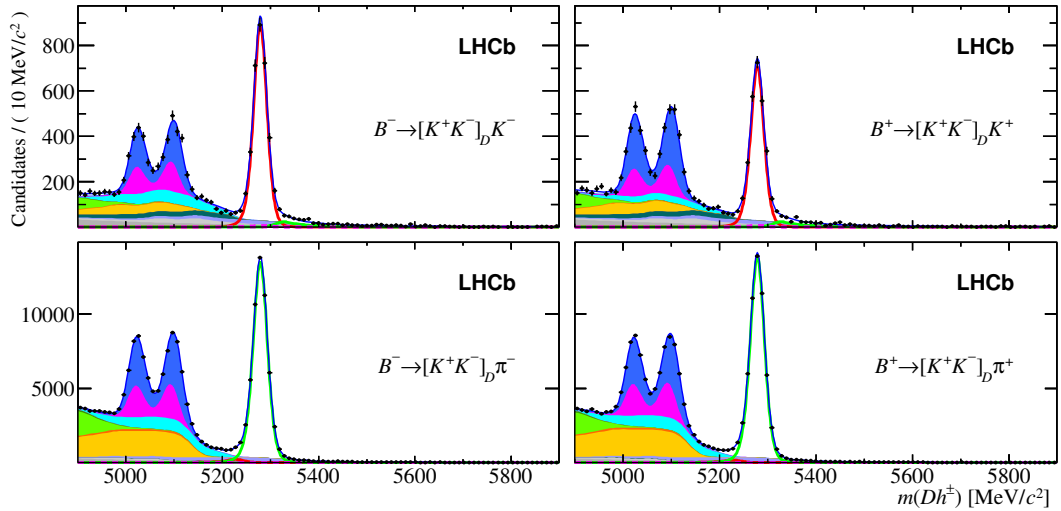


Figure 3: Invariant mass distributions of selected $B^\pm \rightarrow [K^+ K^-]_D h^\pm$ candidates, separated by charge. This is the colour version of Fig. 2 in the paper. The result of the fit is shown by the thin solid blue line; details of each component can be found in the Fig. 2 legend.

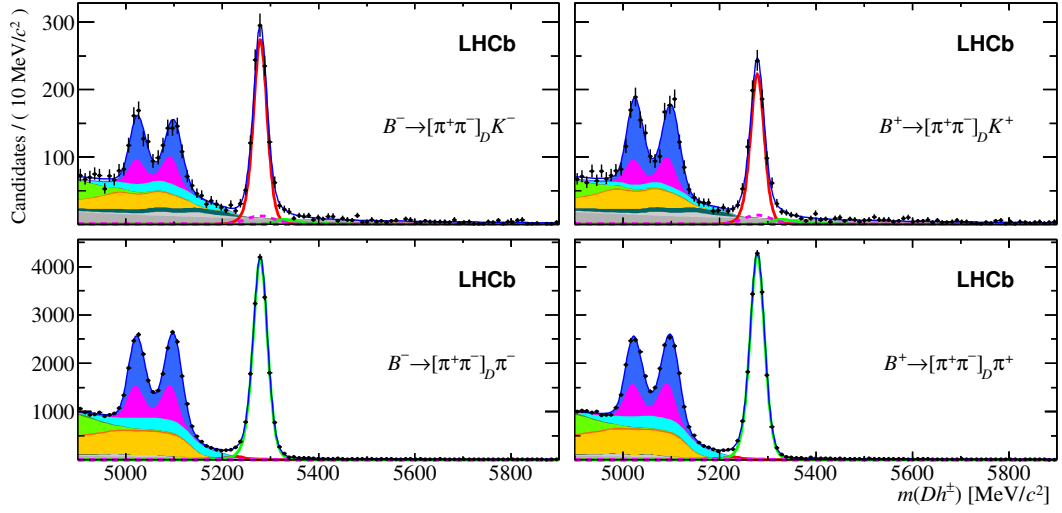


Figure 4: Invariant mass distributions of selected $B^\pm \rightarrow [\pi^+\pi^-]_D h^\pm$ candidates, separated by charge. This is the colour version of Fig. 3 in the paper. The result of the fit is shown by the thin solid blue line; details of each component can be found in the Fig. 2 legend.

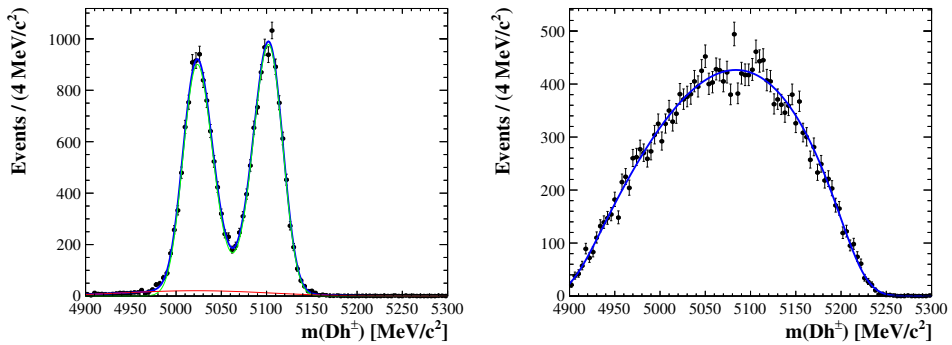


Figure 5: Invariant mass fits to $B^\pm \rightarrow (D^* \rightarrow D\pi^0)K^\pm$ (left) and $B^\pm \rightarrow (D^* \rightarrow D\gamma)K^\pm$ (right) simulated decays.