Supplementary material for LHCb-PAPER-2013-048

Fig. 4 is the same as Fig. 2, but with logarithmic vertical scales. Fig. 5 is complementary to Fig. 3 and shows the fitted function on the observed mass distribution of the $B^{\pm} \to \phi K^{\pm}$ candidates.
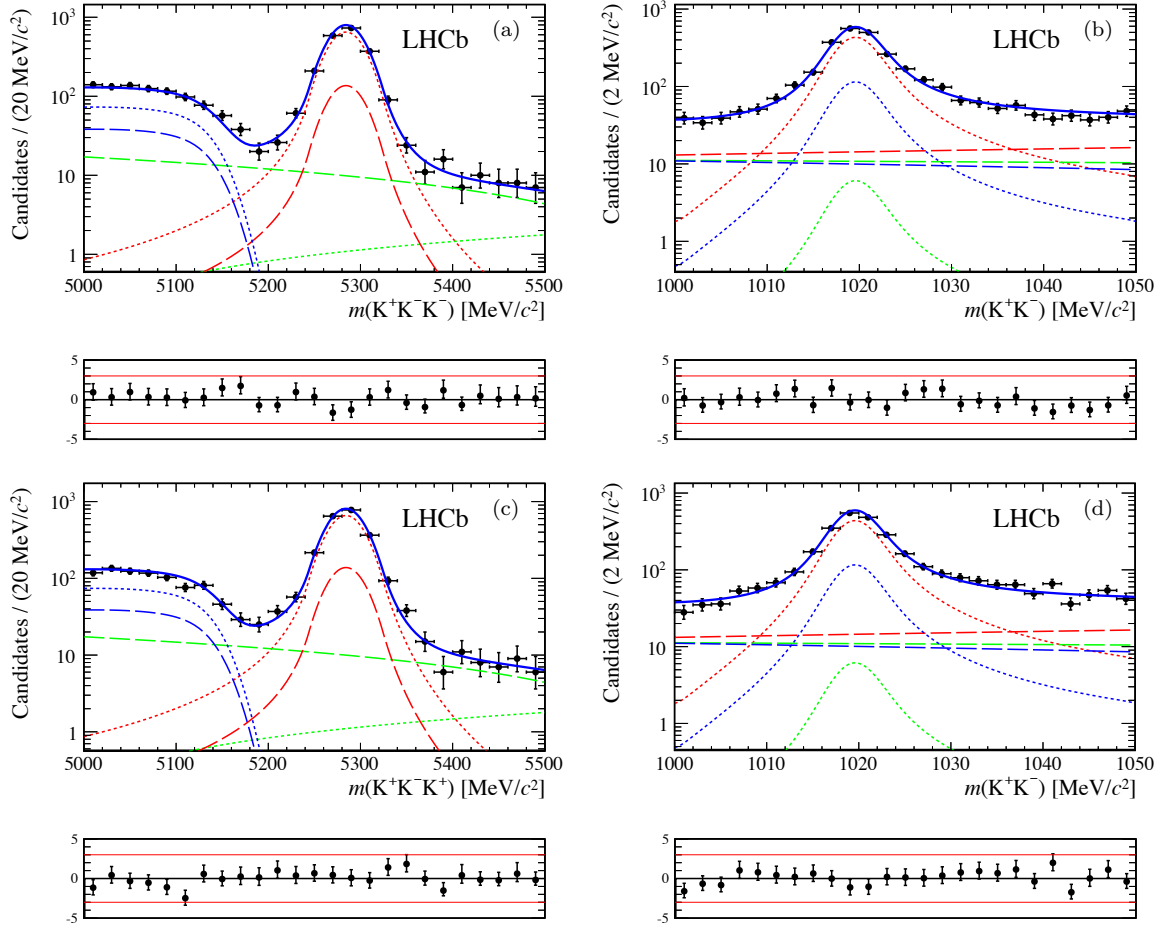

Figure 4: Distributions of the (a) $K^+K^-K^-$ and (b) K^+K^- masses of the selected $B^- \to \phi K^-$ candidates, as well as of the (c) $K^+K^-K^+$ and (b) K^+K^- masses of the selected $B^+ \to \phi K^+$ candidates. The solid blue curves represent the result of the simultaneous fit described in the text, with the following components: $B^{\pm} \to \phi K^{\pm}$ signal (dotted red), nonresonant $B^{\pm} \to K^+K^-K^{\pm}$ background (dashed red), partially reconstructed b-hadron background with (dotted blue) or without (dashed blue) a true ϕ meson, and combinatorial background with (dotted green) or without (dashed green) a true ϕ meson. Normalized residuals are displayed below each histogram.
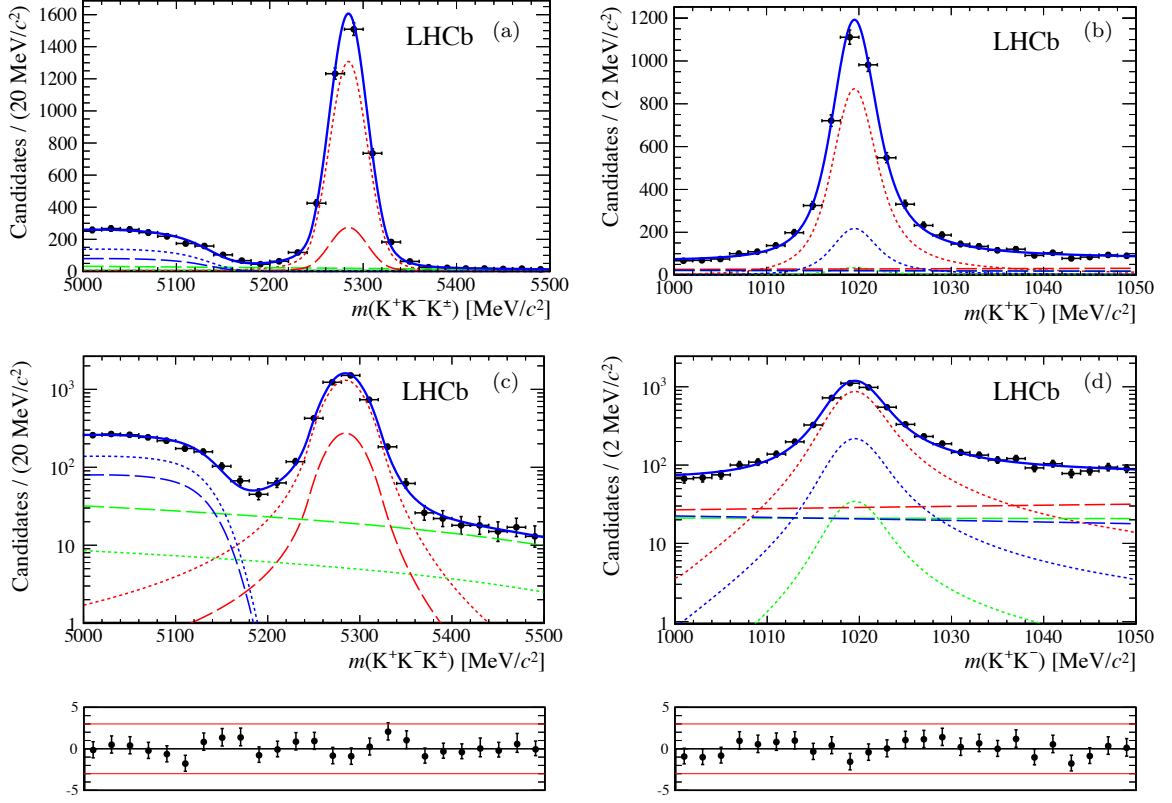
Figure 5: Distributions of the (a, c) $K^+K^-K^\pm$ and (b, d) K^+K^- masses of the selected $B^\pm \to \phi K^\pm$ candidates, shown both with linear and logarithmic scales. The solid blue curves represent the result of the simultaneous fit described in the text, with the following components: $B^\pm \to \phi K^\pm$ signal (dotted red), nonresonant $B^\pm \to K^+K^-K^\pm$ background (dashed red), partially reconstructed b-hadron background with (dotted blue) or without (dashed blue) a true ϕ meson, and combinatorial background with (dotted green) or without (dashed green) a true ϕ meson. Normalized residuals are displayed below the histograms.