

1 Supplementary material for LHCb-PAPER-2016-033

This appendix contains supplementary material that will be posted on the public CDS record but will not appear in the paper.

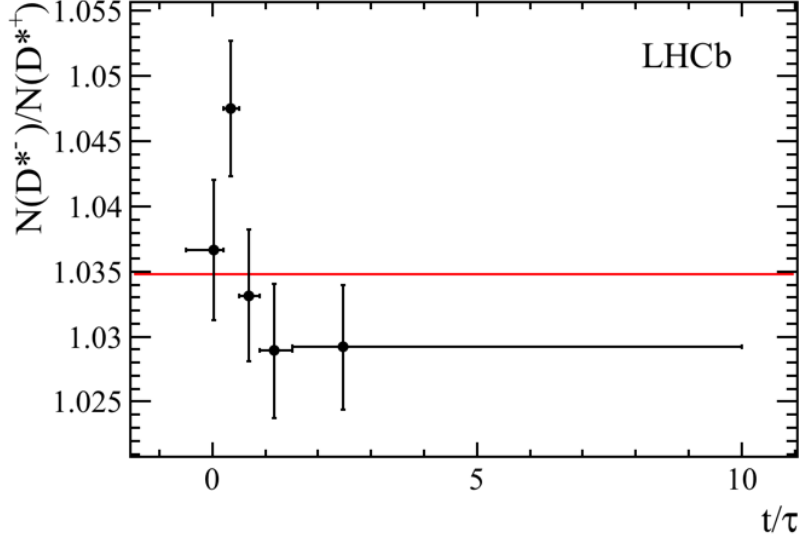


Figure 1: Ratio of RS D^{*-} over D^{*+} yields as a function of t/τ of the D^0 . The red line is the fit to a constant. The result of the fit gives a $\chi^2/\text{ndf} = 8.842/4$, corresponding to a p -value of 6%. The central value of the fit is 1.035 ± 0.002 .

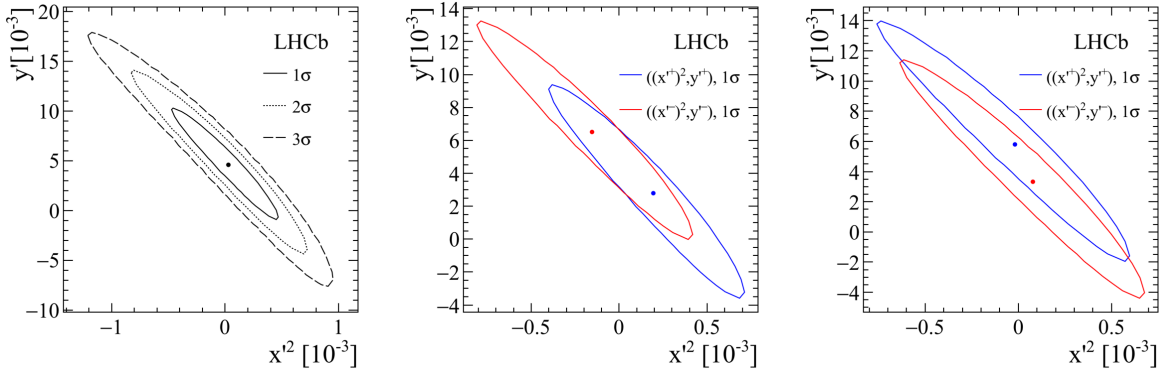


Figure 2: Contours in y' vs x'^2 for the No CPV fit (left), the no direct CPV fit (center), and for the all CPV allowed fit (right) of the DT only result. For each sample, the dot represents the central value. The 1σ contours are shown excluding systematic uncertainties. Blue corresponds to results from D^0 and red to \bar{D}^0 .

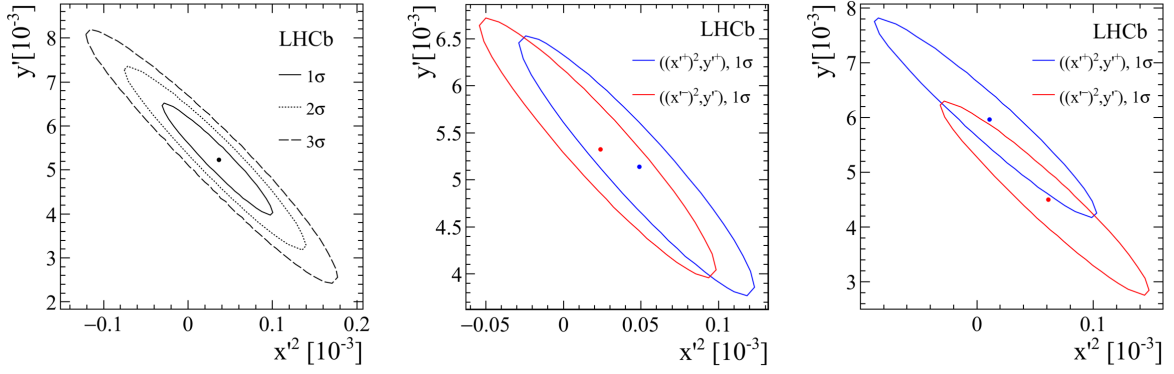


Figure 3: Contours in y' vs x'^2 for the No CPV fit (left), the no direct CPV fit (center), and for the all CPV allowed fit (right) of the DT + prompt result. For each sample, the dot represents the central value. The 1σ contours are shown excluding systematic uncertainties. Blue corresponds to results from D^0 and red to \bar{D}^0 .

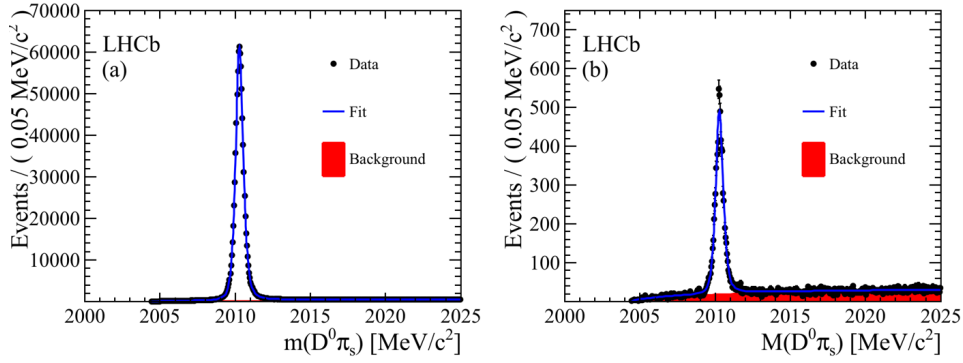


Figure 4: Fits for the time-integrated RS(a) and WS(b) samples.

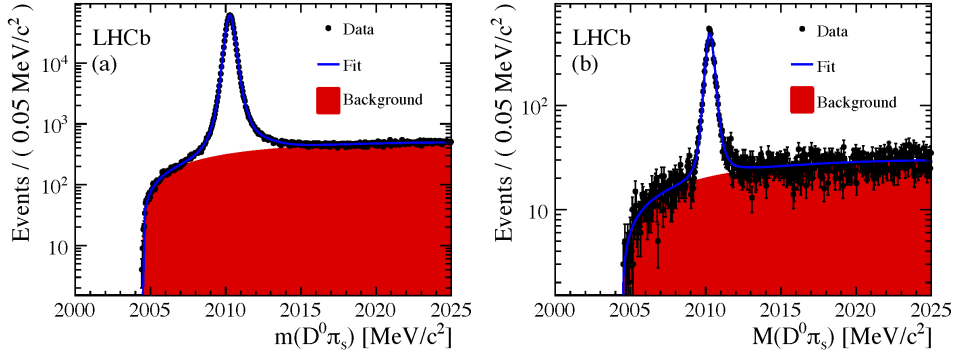


Figure 5: Fits for the time-integrated RS(a) and WS(b) samples on logarithmic y scale.

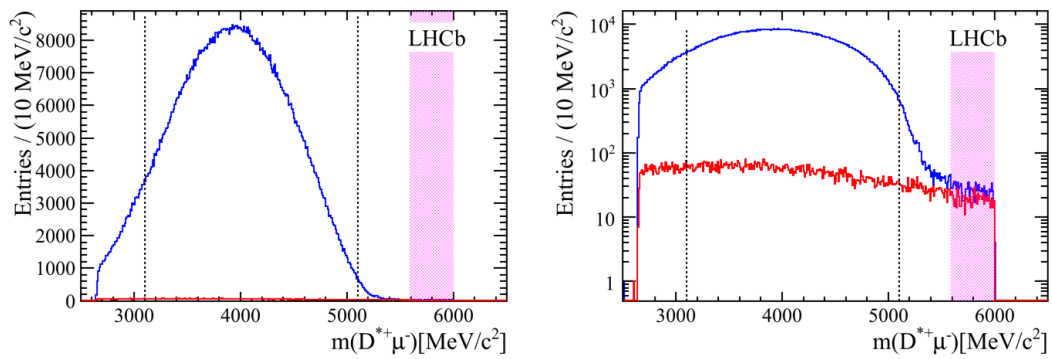


Figure 6: Invariant mass distribution of the $D^{*+}\mu$ combination, integrated over $D^0 t/\tau$. The opposite-sign signal is shown in blue and the same-sign background in red. Overlaid are the dashed lines, which represent the signal region and the magenta hatched region which represents the scaling region for the same-sign background.

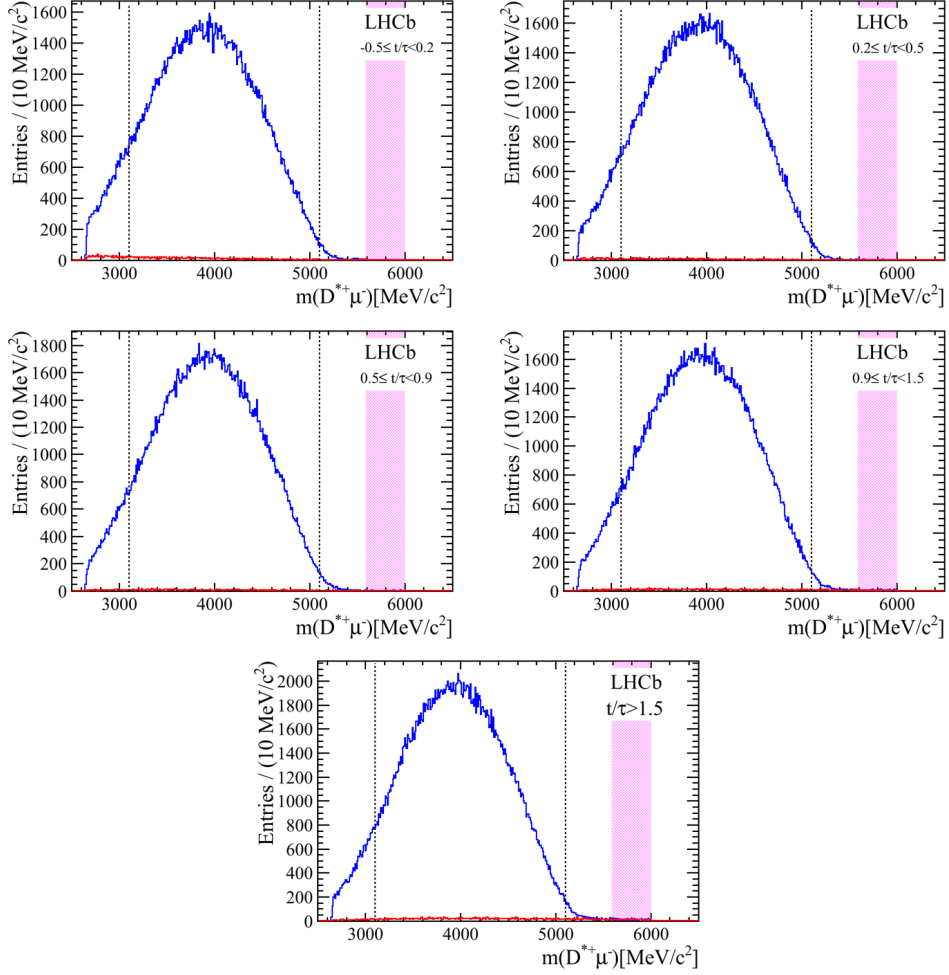


Figure 7: Invariant mass distribution of the $D^{*+}\mu^-$ combination, in bins of $D^0 t/\tau$. The bins used are those in the analysis, from the lowest on the top left, to the highest on the bottom. The opposite-sign signal is shown in blue and the same-sign background in red. Overlaid are the dashed lines, which represent the signal region and the magenta hatched region which represents the scaling region for the same-sign background.

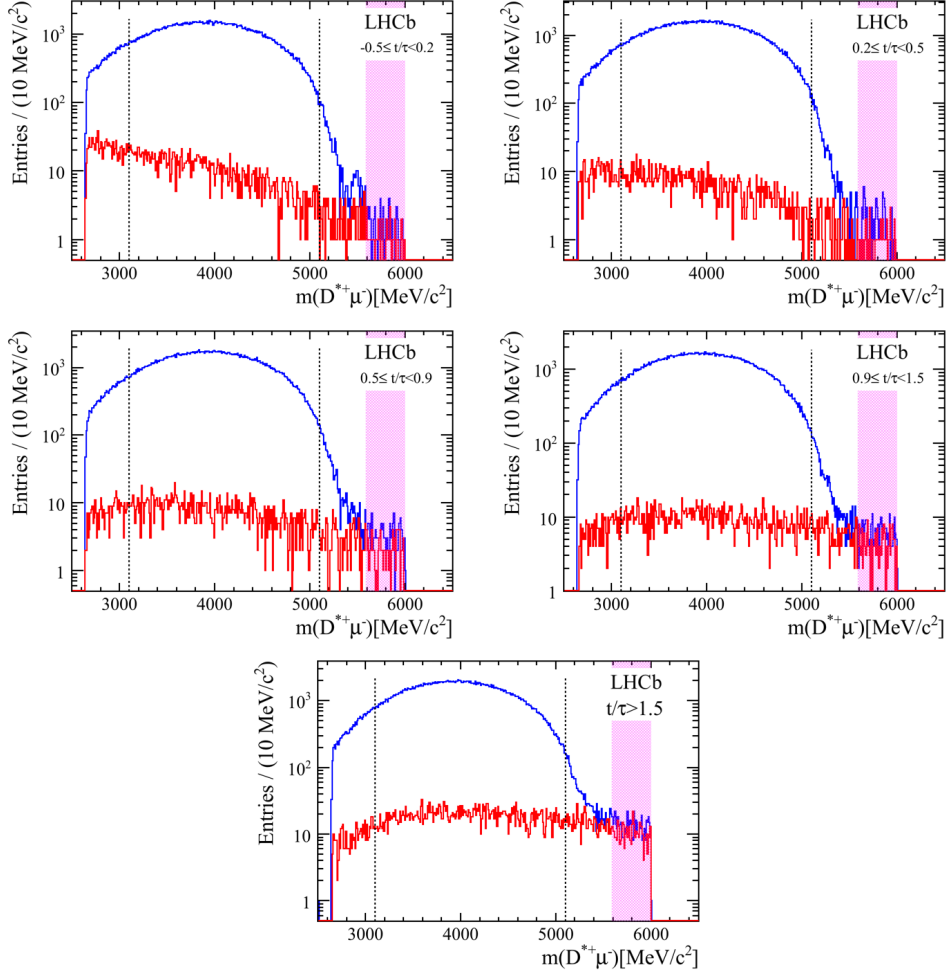


Figure 8: Invariant mass distribution of the $D^{*+}\mu$ combination, in bins of $D^0 t/\tau$ on a logarithmic y scale. The bins used are those in the analysis, from the lowest on the top left, to the highest on the bottom. The opposite-sign signal is shown in blue and the same-sign background in red. Overlaid are the dashed lines, which represent the signal region and the magenta hatched region which represents the scaling region for the same-sign background.