

**Erratum: Test of lepton flavor universality using
 $B^0 \rightarrow D^{*-} \tau^+ \nu_\tau$ decays with hadronic τ channels
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In this paper, the branching-fraction ratio of the signal $B^0 \rightarrow D^{*-} \tau^+ \nu_\tau$ and normalization $B^0 \rightarrow D^{*-} \pi^+ \pi^- \pi^+$ channels, $\mathcal{K}(D^{*-})$, is measured using the LHCb data collected during the years 2015 and 2016, and $R(D^{*-})$ is calculated based on $\mathcal{K}(D^{*-})$ and external inputs. Certain issues have been found in the analysis code which alter the result of $R(D^{*-})$. The bugs are related to the determination of the combinatorial D^0 and D^{*-} background contributions which change the corresponding template shapes in the signal extraction fit, and the subtraction of these two backgrounds from the normalization sample. In addition, the efficiency ratio between the signal and normalization channels is now determined by correctly accounting for the contribution of multiple candidates.

The correct signal and normalization efficiencies on page 4 are $\varepsilon_{\text{sig}} = (1.21 \pm 0.01) \times 10^{-4}$ and $\varepsilon_{\text{norm}} = (3.54 \pm 0.04) \times 10^{-4}$, respectively. The correct signal and normalization yields on page 9 are $N_{\text{sig}} = 2573 \pm 156$ and $N_{\text{norm}} = 30800 \pm 179$, respectively.

TABLE I. Fit results from the three-dimensional signal-extraction fit to q^2 , t_τ , and anti- D_s^+ BDT output in the data.

Parameter	Fit result Free	Constraint
N_{sig}	2573 ± 156	
$N_{D_s^+}$	20139 ± 508	
f_{D^+}	0.08 ± 0.02	
$f_{D^0}^{v_1 v_2}$	2.22 ± 0.35	
	Constrained	
$N_{B \rightarrow D^{*-} 3\pi X}$	2293 ± 177	2051 ± 200
$f_{B_s^0 \rightarrow D^{*-} D_s^+ (X)}$	0.13 ± 0.03	0.11 ± 0.04
$f_{D_{s1}^+}$	0.36 ± 0.03	0.40 ± 0.07
$f_{D_s^+}$	0.60 ± 0.02	0.55 ± 0.03
$f_{D_{s0}^{*+}}$	0.06 ± 0.03	0.11 ± 0.04
$f_{\bar{D}^{*+} D_s^+ (X)}$	0.61 ± 0.07	0.34 ± 0.12
	Fixed	
$N_{B_1 B_2}$	46	
$N_{D^0}^{\text{same}}$	1051	
$N_{\text{fake } \bar{D}^0}$	468	
$N_{\text{fake } D^{*-}}$	714	
$f_{\bar{D}^{*+} \tau^+ \nu}$	0.035	
$f_{\tau^+ \rightarrow 3\pi \bar{\nu}_\tau}$	0.777	

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Collecting all the changes mentioned above, the correct values of $\mathcal{K}(D^{*-})$, $\mathcal{B}(B^0 \rightarrow D^{*-}\tau^+\nu_\tau)$ and $R(D^{*-})$ are

$$\mathcal{K}(D^{*-}) = 1.79 \pm 0.11(\text{stat}) \pm 0.11(\text{syst}), \quad (1)$$

$$\mathcal{B}(B^0 \rightarrow D^{*-}\tau^+\nu_\tau) = (1.29 \pm 0.08(\text{stat}) \pm 0.08(\text{syst}) \pm 0.05(\text{ext})) \times 10^{-2}, \quad (2)$$

$$R(D^{*-}) = 0.260 \pm 0.015(\text{stat}) \pm 0.016(\text{syst}) \pm 0.012(\text{ext}). \quad (3)$$

When combined with the Run 1 results, the correct $\mathcal{K}(D^{*-})$ and $R(D^{*-})$ values are

$$\mathcal{K}(D^{*-})_{\text{comb}} = 1.84 \pm 0.08(\text{stat}) \pm 0.10(\text{syst}), \quad (4)$$

$$R(D^{*-})_{\text{comb}} = 0.267 \pm 0.012(\text{stat}) \pm 0.015(\text{syst}) \pm 0.013(\text{ext}). \quad (5)$$

These numbers replace those in Sec. VII and the Abstract. The relative change of the central value of $R(D^*)$ is 4.3% with respect to that in this paper.

In addition, on page 9, Table IV should be replaced by Table I and “ 451 ± 35 ” should be “ 457 ± 37 .” On page 10, “ $1.70 \pm 0.10^{+0.11}_{-0.10}$ ” should be “ $1.79 \pm 0.11 \pm 0.11$.” Figures 4 and 5 are in theory affected, but the changes are too small to be visible.