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Impacts of QED radiative corrections on R(D) ratios

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A recent paper (Phys. Rev. Lett. 120, 261804) presented a new evaluation of radiative corrections in the decay channels involved in the ratios $\mathcal{R}(D^+)$ and $\mathcal{R}(D^0)$, which could explain part of the discrepancy between measurements and SM predictions. Using simulated events we quantify the difference between the results in this paper and Photos, which is used to simulate radiative corrections both by LHCb and the B-factories. In addition, we designed a simplified analysis in LHCb to quantify the effect of neglecting radiative corrections on measurements of $\mathcal{R}(D^+)$ and $\mathcal{R}(D^0)$. A paper on this analysis will be submitted to a journal shortly.

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