Erratum: Studies of the decays $D^0 \rightarrow K_S^0 K^- \pi^+$ and $D^0 \rightarrow K_S^0 K^+ \pi^-$
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In our paper, a common error was introduced into Eqs. (25) and (26). In addition, a separate error appears in Eq. (28). Because of the incorrect derivations the fitted values of the coherence factor and strong-phase difference also change. The corrected equations are

$$S(K_S^0 \pi^+ \pi^- | K_S^0 K^+ \pi^-)_i = H_S(L_i + (r_D^{K_S^0 K \pi})^2 L_{-i} - 2r_D^{K_S^0 K \pi} \sqrt{(L_i L_{-i})} [c_i p - s_i q]), \quad (25)$$

$$S(K_L^0 \pi^+ \pi^- | K_S^0 K^+ \pi^-)_i = H_L(L'_i + (r_D^{K_S^0 K \pi})^2 L'_{-i} + 2r_D^{K_S^0 K \pi} \sqrt{(L'_i L'_{-i})} [c'_i p - s'_i q]), \quad (26)$$

$$\mathcal{B}_{K_S^0 K \pi} = \frac{(r_D^{K_S^0 K \pi})^2 + (yp - xq)r_D^{K_S^0 K \pi}}{1 + (yp + xq)r_D^{K_S^0 K \pi}}. \quad (28)$$

Furthermore, in the intervening time since the original article was published, the precision of a few of the external inputs has improved. The opportunity is taken to include these updates in the determination of the coherence factor and mean strong-phase difference. The LHCb Collaboration has reported [1] a very precise measurement of the branching fraction ratio between the suppressed and favored modes in both the full phase space and restricted region. In addition, there have been improvements in the knowledge of x , q , $\delta_{K\pi}$, and $r_D^{K\pi}$ from charm mixing measurements. The updated values for these and the associated correlation matrix is taken from [2]. The coherence factor and mean strong-phase difference in the decay modes $D \rightarrow K^\mp \pi^\pm \pi^+ \pi^-$ and $D \rightarrow K^\mp \pi^\pm \pi^0$ have also recently been updated and combined with a measurement of the coherence factor and mean strong-phase difference in $D \rightarrow K^\mp \pi^\pm \pi^+ \pi^-$ decays using LHCb data [3].

FIG. 9. The best-fit point for $R_{K_S^0 K \pi}$ and $\delta_D^{K_S^0 K \pi}$ measured over the whole Dalitz plot, and the regions enclosing 1, 2, and 3 standard deviations from that point.

FIG. 10. The best-fit point for R_{K^*K} and $\delta_D^{K^*K}$ measured over the restricted region, and the regions enclosing 1, 2, and 3 standard deviations from that point.

The new values of $R_{K_S^0 K \pi}$ and $\delta_D^{K_S^0 K \pi}$ are determined using the correct equations and the updated inputs for the external parameters listed above. As before, this fit is performed for both an unrestricted kinematic region and also for events where the $K_S^0 \pi^\pm$ invariant mass is within 100 MeV/ c^2 of the nominal $K^*(892)^\pm$ mass [4]. For the unrestricted region, the best-fit values are $p = 0.701 \pm 0.078$ and $q = 0.001 \pm 0.192$. The $\chi^2/\text{d.o.f.}$ of the fit is 47.0/41. This leads to $R_{K_S^0 K \pi} = 0.70 \pm 0.08$ and $\delta_D^{K_S^0 K \pi} = (0.1 \pm 15.7)^\circ$. For the restricted region, the fitted values of p and q are $p = 0.902 \pm 0.086$ and $q = -0.269 \pm 0.314$, with a $\chi^2/\text{d.o.f.}$ of 45.3/40. This yields $R_{K^*K} = 0.94 \pm 0.12$ and $\delta_D^{K^*K} = (-16.6 \pm 18.4)^\circ$. Compared to the originally reported results, there is a slight reduction in the central values of the coherence in both cases.

The updated fit also leads to a new contours in the planes $(R_{K_S^0 K \pi}, \delta_D^{K_S^0 K \pi})$ and $(R_{K^*K}, \delta_D^{K^*K})$ shown in Figs. 9 and 10, respectively.

Finally Eq. (3) in the original article contained a typographical error which is corrected below

$$R_{K_S^0 K \pi} e^{-i\delta_{K_S^0 K \pi}} = \frac{\int \mathcal{A}_{K_S^0 K^- \pi^+}^*(m_{K_S^0 K}^2, m_{K \pi}^2) \mathcal{A}_{K_S^0 K^+ \pi^-}(m_{K_S^0 K}^2, m_{K \pi}^2) dm_{K_S^0 K}^2 dm_{K \pi}^2}{A_{K_S^0 K^- \pi^+} A_{K_S^0 K^+ \pi^-}}. \quad (3)$$

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- [2] Y. Amhis (Heavy Flavor Averaging Group), arXiv:1412.7517 and updated results and plots available at <http://www.slac.stanford.edu/xorg/hfag/>.
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