

Explaining $B \rightarrow K \pi$ anomaly with non universal Z' boson

We study the effect of non-universal Z' boson in the decay modes $B \rightarrow K \pi$. In the standard model these modes receive dominant contributions from $b \rightarrow s$ QCD penguins. Therefore, in this limit one expects $S_{\pi^0 K^0} \approx \sin 2\beta$, $A_{\pi^0 K^0} \approx 0$ and $A_{\pi^0 K^-} \approx A_{\pi^+ K^-}$. The corrections due to the presence of small non-penguin contributions is found to yield $S_{\pi^0 K^0} > \sin 2\beta$ and $\Delta A_{CP}(K\pi) \simeq 2.5$

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