

Search for New Physics in CP Violation in $b \rightarrow ccs$ and $b \rightarrow sss$ Amplitudes Interference

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In this work we propose an alternative method for finding New Physics in CP violation, using the interference between penguin and tree amplitudes in the decay of $B^+ \rightarrow K^+ K^+ K^-$. We perform a Monte Carlo simulation of the Belle experiment $\Upsilon(4S)$ data (711 fb^{-1}) of this process. Using these data, we compare the new method with the well-known “golden mode” $B \rightarrow \phi K$. We show the disadvantages of the known method and the advantages of the new one. $B^+ \rightarrow K^+ K^+ K^-$ method has prospects for use at experiments such as Belle, Belle II and LHCb.

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