

Study of B and B_s Decays at Belle

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We present the study of B_s decays using 121.4 fb^{-1} of data collected at $\Upsilon(5S)$ resonance with the Belle detector at the KEKB asymmetric-energy electron-positron collider. We search for $B_s \rightarrow \eta' \eta$ and $B_s \rightarrow \eta' K_S^0$, which are suppressed in the standard model (SM) and can receive contribution of physics beyond the SM. We also report the first model-independent measurement of $B(B_s \rightarrow D_s X)$ using B_s semileptonic tagging; this is necessary for measuring absolute rates and branching fractions of other B_s decays. In addition, we present precise measurements of the branching fraction and CP asymmetry in $B \rightarrow \phi \phi K$ decays using Belle data that corresponds to 772 million $B\bar{B}$ pairs. These decays are mediated by the $b \rightarrow s$ FCNC transition, where one can observe large CP violation due to interference of potential new-physics amplitudes appearing in the loop with the $b \rightarrow c$ tree-level transition of $B \rightarrow \eta_c K$, $\eta_c \rightarrow \phi \phi$.

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Secondary track (number)

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