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Title:	Measurement of branching fraction and search for CP violation in $B \rightarrow \phi\phi K$ .
Authors:	Bhardwaj, Vishal (/jspui/browse?type=author&value=Bhardwaj%2C+Vishal)
Keywords:	Flavor changing Rare decays Feynman diagrams Lepton-lepton interactions Hadronic decays neutral currents
Issue Date:	2021
Publisher:	American Physical Society
Citation:	Physical Review D, 103(5).
Abstract:	We report the measurement of branching fractions and CP-violation asymmetries in $B \rightarrow \phi\phi K$ decays based on a $711 \text{ fb}^{-1}$ data sample containing $772 \times 10^6 \text{ BB}^{\pm}$ events. The data were recorded at the $\Upsilon(4S)$ resonance with the Belle detector at the KEKB asymmetric-energy $e\bar{e}$ -collider. For $B^{\pm} \rightarrow \phi\phi K^{\pm}$ , the branching fraction and CP-violation asymmetry measured below the $\eta_c$ threshold ( $m_{\phi\phi} < 2.85 \text{ GeV}/c^2$ ) are $(3.43 \pm 0.48 - 0.46 \text{ (stat)} \pm 0.22 \text{ (syst)}) \times 10^{-6}$ and $-0.02 \pm 0.11 \text{ (stat)} \pm 0.01 \text{ (syst)}$ , respectively. Similarly, the branching fraction obtained for $B^0 \rightarrow \phi\phi K^0$ below the $\eta_c$ threshold is $(3.02 \pm 0.75 - 0.66 \text{ (stat)} \pm 0.20 \text{ (syst)}) \times 10^{-6}$ . We also measure the CP-violation asymmetry for $B^{\pm} \rightarrow \phi\phi K^{\pm}$ within the $\eta_c$ region ( $m_{\phi\phi} \in [2.94; 3.02] \text{ GeV}/c^2$ ) to be $0.12 \pm 0.12 \text{ (stat)} \pm 0.01 \text{ (syst)}$ .
Description:	Only IISER Mohali authors are available in the record.
URI:	<a href="https://doi.org/10.1103/PhysRevD.103.052013">https://doi.org/10.1103/PhysRevD.103.052013</a> ( <a href="https://doi.org/10.1103/PhysRevD.103.052013">https://doi.org/10.1103/PhysRevD.103.052013</a> ) <a href="http://hdl.handle.net/123456789/5188">http://hdl.handle.net/123456789/5188</a> ( <a href="http://hdl.handle.net/123456789/5188">http://hdl.handle.net/123456789/5188</a> )
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