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Title:	Evidence for Isospin Violation and Measurement of CP Asymmetries in $B \rightarrow K^* \gamma$ — (892)†
Authors:	Bhardwaj, V. (/jspui/browse?type=author&value=Bhardwaj%2C+V.)
Keywords:	isospin violation CP asymmetries KEKB
Issue Date:	2017
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Citation:	Physical Review Letters, 119 (19)
Abstract:	We report the first evidence for isospin violation in $B \rightarrow K^* \gamma$ and the first measurement of the difference of CP asymmetries between $B^+ \rightarrow K^* \gamma$ and $B^0 \rightarrow K^* \gamma$. This analysis is based on the data sample containing $772 \times 10^6 B \bar{B}$ pairs that was collected with the Belle detector at the KEKB energy-asymmetric e+e- collider. We find evidence for the isospin violation with a significance of 3.1σ , $\Delta A_{CP} = [+6.2 \pm 1.5(\text{stat}) \pm 0.6(\text{syst}) \pm 1.2(f_{+/-}/f_0)]\%$, where the third uncertainty is due to the uncertainty on the fraction of $B^+ B^-$ to $B^0 \bar{B}^0$ production in $\Upsilon(4S)$ decays. The measured value is consistent with predictions of the standard model. The result for the difference of CP asymmetries is $\Delta A_{CP} = [+2.4 \pm 2.8(\text{stat}) \pm 0.5(\text{syst})]\%$, consistent with zero. The measured branching fractions and CP asymmetries for charged and neutral B meson decays are the most precise to date. We also calculate the ratio of branching fractions of $B^0 \rightarrow K^* \gamma$ to $B_s^0 \rightarrow \phi \gamma$.
Description:	Only IISERM authors are available in the record.
URI:	https://inspirehep.net/literature/1608384 (https://inspirehep.net/literature/1608384) http://hdl.handle.net/123456789/1763 (http://hdl.handle.net/123456789/1763)
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