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Title:	Measurement of time-dependent CP violation in $B^0 \rightarrow K^0 S \pi^0 \pi^0$ decays
Authors:	Bhardwaj, V. (/jspui/browse?type=author&value=Bhardwaj%2C+V.)
Keywords:	Particle Phenomena Particle mixing & oscillations Quark mixing
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Citation:	Physical Review D,99(1)
Abstract:	We report a measurement of time-dependent CP violation in $B^0 \rightarrow K^0 S \pi^0 \pi^0$ decays using a data sample of 772×10^6 $B^+ B^-$ pairs collected by the Belle experiment running at the $Y(4S)$ resonance at the KEKB e^+e^- collider. This decay proceeds mainly via a $b \rightarrow s d \bar{d}$ "penguin" amplitude. The results are $\sin 2\phi_{\text{eff}}^1 = 0.92 \pm 0.27 - 0.31$ (stat.) ± 0.11 (syst.) and $A = 0.28 \pm 0.21$ (stat.) ± 0.04 (syst.), which are the most precise measurements of CP violation in this decay mode to date. The value for the CP-violating parameter $\sin 2\phi_{\text{eff}}^1$ is consistent with that obtained using decay modes proceeding via a $b \rightarrow c \bar{c} s$ "tree" amplitude.
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