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Title:	Observation of $D^0 \rightarrow \pi^+ \pi^-$ and Search for CP Violation in Radiative Charm Decays
Authors:	Bhardwaj, V. (/jspui/browse?type=author&value=Bhardwaj%2C+V.)
Keywords:	radiative charm decay $D^0 \rightarrow \rho^0 \gamma$ CP violation in decays $D^0 \rightarrow \rho^0 \gamma, \phi \gamma$ $K^0(892) \gamma$
Issue Date:	2017
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Citation:	Physical Review Letters, 118 (5)
Abstract:	We report the first observation of the radiative charm decay $D^0 \rightarrow \rho^0 \gamma$ and the first search for CP violation in decays $D^0 \rightarrow \rho^0 \gamma, \phi \gamma$, and $\bar{K}^0(892) \gamma$, using a data sample of 943 fb ⁻¹ collected with the Belle detector at the KEKB asymmetric-energy e ⁺ e ⁻ collider. The branching fraction is measured to be $B(D^0 \rightarrow \rho^0 \gamma) = (1.77 \pm 0.30 \pm 0.07) \times 10^{-5}$, where the first uncertainty is statistical and the second is systematic. The obtained CP asymmetries $ACP(D^0 \rightarrow \rho^0 \gamma) = +0.056 \pm 0.152 \pm 0.006$, $ACP(D^0 \rightarrow \phi \gamma) = -0.094 \pm 0.066 \pm 0.001$, and $ACP(D^0 \rightarrow \bar{K}^0 \gamma) = -0.003 \pm 0.020 \pm 0.000$ are consistent with no CP violation. We also present an improved measurement of the branching fractions $B(D^0 \rightarrow \phi \gamma) = (2.76 \pm 0.19 \pm 0.10) \times 10^{-5}$ and $B(D^0 \rightarrow \bar{K}^0 \gamma) = (4.66 \pm 0.21 \pm 0.21) \times 10^{-4}$.
Description:	Only IISERM authors are available in the record.
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