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Title:	Evidence for the decay $B^0 \rightarrow p^- \pi^0$
Authors:	Bhardwaj, V. (/jspui/browse?type=author&value=Bhardwaj%2C+V.)
Keywords:	Charmless Baryonic Luminosity
Issue Date:	2019
Publisher:	American Physical Society
Citation:	Physical Review D, 99(9).
Abstract:	We report a search for the charmless baryonic decay $B^0 \rightarrow p^- \pi^0$ with a data sample corresponding to an integrated luminosity of 711 fb^{-1} containing $(772 \pm 10) \times 10^6 B^+ B^-$ pairs. The data were collected by the Belle experiment running on the $\Upsilon(4S)$ resonance at the KEKB e^+e^- collider. We measure a branching fraction $B(B^0 \rightarrow p^- \pi^0) = (5.0 \pm 1.8 \pm 0.6) \times 10^{-7}$, where the first uncertainty is statistical and the second is systematic. The signal has a significance of 3.1 standard deviations and constitutes the first evidence for this decay mode. We also search for the intermediate two-body decays $B^0 \rightarrow \Delta^+ \bar{p}$ and $B^0 \rightarrow \bar{\Delta}^- p$, and set an upper limit on the branching fraction, $B(B^0 \rightarrow \Delta^+ \bar{p}) + B(B^0 \rightarrow \bar{\Delta}^- p) < 1.6 \times 10^{-6}$ at 90% confidence level.
Description:	Only IISERM authors are available in the record.
URI:	https://journals.aps.org/prd/abstract/10.1103/PhysRevD.99.091104 (https://journals.aps.org/prd/abstract/10.1103/PhysRevD.99.091104) http://hdl.handle.net/123456789/2089 (http://hdl.handle.net/123456789/2089)
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