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Title:	Observation of $\Xi_c(2930)0$ and updated measurement of $B \rightarrow K-\Lambda+c\Lambda^-$ at Belle
Authors:	Bhardwaj, V. (/jspui/browse?type=author&value=Bhardwaj%2C+V.)
Keywords:	Charm (Particle Physics) Belle
Issue Date:	2018
Publisher:	Springer Ltd.
Citation:	European Physical Journal C, 78(3)
Abstract:	We report the first observation of the $\Xi_c(2930)0$ charmed-strange baryon with a significance greater than 5σ . The $\Xi_c(2930)0$ is found in its decay to $K-\Lambda+c$ in $B \rightarrow K-\Lambda+c\Lambda^-$ decays. The measured mass and width are $[2928.9 \pm 3.0(\text{stat.}) - 12.0 \pm 0.9(\text{syst.})] \text{ MeV}/c^2$ and $[19.5 \pm 8.4(\text{stat.}) - 7.9 \pm 5.9(\text{syst.})] \text{ MeV}$, respectively, and the product branching fraction is $B(B \rightarrow \Xi_c(2930)0 \Lambda^- c) B(\Xi_c(2930)0 \rightarrow K-\Lambda+c) = [1.73 \pm 0.45(\text{stat.}) \pm 0.21(\text{syst.})] \times 10^{-4}$. We also measure $B(B \rightarrow K-\Lambda+c \Lambda^- c) = [4.80 \pm 0.43(\text{stat.}) \pm 0.60(\text{syst.})] \times 10^{-4}$ with improved precision, and search for the charmonium-like state $Y(4660)$ and its spin partner, $Y\eta$, in the $\Lambda+c\Lambda^-$ invariant mass spectrum. No clear signals of the $Y(4660)$ nor its spin partner are observed and the 90% credibility level (C.L.) upper limits on their production rates are determined. These measurements are obtained from a sample of $(772 \pm 11) \times 10^6 BB^-$ pairs collected at the $Y(4S)$ resonance by the Belle detector at the KEKB asymmetric energy electron-positron collider.
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