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Title:	Measurements of branching fractions and asymmetry parameters of $\Xi 0c \to \Lambda \bar{K}^{*0}$, $\Xi 0c \to \Sigma 0\bar{K}^{*0}$, and $\Xi 0c \to \Sigma + K_* -$ decays at Belle
Authors:	Patra, Sourav (/jspui/browse?type=author&value=Patra%2C+Sourav)
Keywords:	Branching fraction Charm physics e +-e − Experiments
Issue Date:	2021
Publisher:	Springer Nature
Citation:	Journal Of High Energy Physics, (6).
Abstract:	Using a data sample of 980 fb−1 collected with the Belle detector at the KEKB asymmetric-energy $e +e −$ collider, we study the processes of $\Xi 0 c \to \Lambda \bar{K}^{*0}$, $\Xi 0 c \to \Sigma 0 \bar{K}^{*0}$, and $\Xi 0 c \to \Sigma +K_*-$ for the first time. The relative branching ratios to the normalization mode of $\Xi 0 c \to \Xi -\pi +$ are measured to be $B(\Xi 0 c \to \Lambda \bar{K}^{*0})/B(\Xi 0 c \to \Xi -\pi +) = 0.18 \pm 0.02(stat.) \pm 0.01(syst.)$, $B(\Xi 0 c \to \Sigma 0\bar{K}^{*0})/B(\Xi 0 c \to \Xi -\pi +) = 0.69 \pm 0.03(stat.) \pm 0.03(syst.)$, $B(\Xi 0 c \to \Sigma +K_*-)/B(\Xi 0 c \to \Xi -\pi +) = 0.34 \pm 0.06(stat.) \pm 0.02(syst.)$, where the uncertainties are statistical and systematic, respectively. We obtain $B(\Xi 0 c \to \Lambda \bar{K}^{*0}) = (3.3 \pm 0.3(stat.) \pm 0.2(syst.) \pm 1.0(ref.)) \times 10-3$, $B(\Xi 0 c \to \Sigma 0\bar{K}^{*0}) = (12.4 \pm 0.5(stat.) \pm 0.5(syst.) \pm 3.6(ref.)) \times 10-3$, $B(\Xi 0 c \to \Sigma +K_*-) = (6.1 \pm 1.0(stat.) \pm 0.4(syst.) \pm 1.8(ref.)) \times 10-3$, where the uncertainties are statistical, systematic, and from $B(\Xi 0 c \to \Xi -\pi +)$, respectively. The asymmetry parameters $\alpha(\Xi 0 c \to \Lambda \bar{K}^{*0})$ and $\alpha(\Xi 0 c \to \Sigma +K_*-)$ are $0.15 \pm 0.22(stat.) \pm 0.04(syst.)$ and $-0.52 \pm 0.30(stat.) \pm 0.02(syst.)$, respectively, where the uncertainties are statistical followed by systematic.
Description:	Only IISER Mohali authors are available in the record.
URI:	http://dx.doi.org/10.1007/JHEP06(2021)160 (http://dx.doi.org/10.1007/JHEP06(2021)160) http://hdl.handle.net/123456789/5187 (http://hdl.handle.net/123456789/5187)
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