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Cabibbo-Suppressed Non-leptonic Decays of Λ_c and Final State Interaction

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Abstract: With the diquark structure of Λ_c, we investigate the branching ratio of $\Lambda_c \to n\pi^+$ and $p\pi^0$. The results show that without considering the final state interaction (FSI), the branching ratio of $\Lambda_c \to p\pi^0$ is only of order 10^{-6} whereas this ratio could reach 10^{-4} and is at the same order as $\Lambda_c \to n\pi^+$ if taking into account the FSI effects. Concrete values depend on phenomenological parameters adopted in the calculations. These branching ratios can be measured in the experiments to come.

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