

First observation of the doubly charmed baryon decay $\Xi_{cc}^{++} \rightarrow \Xi_{cc}^{+} \pi^{+}$

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The doubly charmed baryon decay $\Xi_{cc}^{++} \rightarrow \Xi_{cc}^{+} \pi^{+}$ is observed for the first time, with a statistical significance of 5.9σ , confirming a recent observation of the baryon in the $\Lambda_{cb}^{+} \rightarrow \Lambda_{c}^{+} \pi^{+} \pi^{+}$ final state. The data sample used corresponds to an integrated luminosity of 1.7 fb^{-1} , collected by the LHCb experiment in pp collisions at a center-of-mass energy of 13 TeV . The Ξ_{cc} mass is measured to be $3620.6 \pm 1.5(\text{stat}) \pm 0.4(\text{syst}) \pm 0.3(\text{Xic}^{+}) \text{ MeV}/c^2$, and is consistent with the previous result. The ratio of branching fractions between the decay modes is measured to be $0.035 \pm 0.009(\text{stat}) \pm 0.003(\text{syst})$.

Type

Parallel talk

Sessions (parallel only)

Heavy Flavor

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