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Measurement of branching fractions of Λ_c^+ decays to $\Sigma^+\eta$ and $\Sigma^+\eta'$

By analyzing e^+e^- collision data taken at center-of-mass energies \sqrt{s} between 4.600 and 4.699 GeV with the BESIII detector at the BEPCII collider, corresponding to an integrated luminosity of 4.5 fb^{-1} , we study the hadronic decays $\Lambda_c^+ \rightarrow \Sigma^+\eta$ and $\Lambda_c^+ \rightarrow \Sigma^+\eta'$ using the single-tag method. The branching fraction ratio of $\Lambda_c^+ \rightarrow \Sigma^+\eta$ relative to $\Lambda_c^+ \rightarrow \Sigma^+\pi^0$ is determined to be $0.305 \pm 0.046_{\text{stat.}} \pm 0.007_{\text{syst.}}$, and that of $\Lambda_c^+ \rightarrow \Sigma^+\eta'$ relative to $\Lambda_c^+ \rightarrow \Sigma^+\omega$ is $0.336 \pm 0.094_{\text{stat.}} \pm 0.037_{\text{syst.}}$. The ratio of $\frac{\mathcal{B}(\Lambda_c^+ \rightarrow \Sigma^+\eta')}{\mathcal{B}(\Lambda_c^+ \rightarrow \Sigma^+\eta)}$ is determined to be $1.73 \pm 0.22_{\text{stat.}} \pm 0.16_{\text{syst.}}$. These results enrich our knowledge of charmed baryon decays.

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