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Λ_c^+ physics with BESIII threshold data

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The BESIII detector accumulated 567 pb^{-1} of data at the center-of-mass energy of 4.6 GeV, which is the world's largest e^+e^- sample at the Λ_c pair threshold. By analyzing this data sample, we report the determinations of the absolute branching fractions of the semi-leptonic decays of $\Lambda_c^+ \to \Lambda e^+ \nu$ and $\Lambda \mu^+ \nu$, the hadronic decays of $\Lambda_c^+ \to pK_s, pK^-\pi^+, pK_s\pi^0, pK_s\pi^+\pi^-, \Lambda\pi^+, \Lambda\pi^+\pi^0, \Lambda\pi^+\pi^+\pi^-, pK^-\pi^+\pi^0, \Sigma^0\pi^+, \Sigma^+\pi^0, \Sigma^+\pi^+\pi^-, \Sigma^+\omega, nK_s\pi^+, p\pi^+\pi^-, p$ and $\Sigma^-\pi^+\pi^+\pi^0$, as well as the inclusive Λ and electron decays. The accurancies of the absolute branching fractions for most decays are improved significantly compared to the previous measurements. We will aslo report cross section measurement of $e^+e^- \to \Lambda_c^+\Lambda_c^-$ near threshold at BESIII.

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