

Search for semi-leptonic decays $\Lambda_c^+ \rightarrow \Lambda \pi^+ \pi^- e^+ \nu_e$ and $\Lambda_c^+ \rightarrow p K_S \pi^- e^+ \nu_e$

Wednesday, 17 August 2022 18:45 (10 minutes)

Based on $4.4 fb^{-1}$ of e^+e^- annihilation data collected in the energy region between 4.6 GeV and 4.7 GeV with the BESIII detector at the BEPCII collider, we search for semi-leptonic decays $\Lambda_c^+ \rightarrow \Lambda \pi^+ \pi^- e^+ \nu_e$ and $\Lambda_c^+ \rightarrow p K_S \pi^- e^+ \nu_e$, using double tag technique. The measurement of $\Lambda_c^+ \rightarrow \Lambda^* e^+ \nu_e$ is important for validating different theoretical-model calculations and helping us understand the nature of Λ^* baryon resonances. Since there is no significant signal on data, we set upper limits on branching fractions at 90% confidence level. This analysis will enhance our knowledges of charmed baryon decays.

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Session Classification: Posters

Track Classification: Posters