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Type: Parallel Session Talk

Charmed Hadron Physics at Babar

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- Study of the inclusive production of the $D\pi$ and $D\pi$ final states
We present a study of the mass spectra of the $D^+\pi^-$, $D^+\pi^+$, and $D^0\pi^+$ final states in search for unobserved excited states of the D mesons. We use a dataset corresponding to $\sim 454 \text{ fb}^{-1}$ of e^+e^- collisions collected by the BABAR detector at center-of-mass energies near 10.58 GeV. The final states are reconstructed inclusively in reactions of the kind $e^+e^- \rightarrow c\bar{c} \rightarrow D^(\pi) X$ where X is any additional system. The $c\bar{c}$ events are selected through a cut on the center-of-mass momentum of the $D^*(\pi)$ system.*
- Precision Measurements of the Angular Momentum Excited Charmed Baryon $\Lambda_c(2880)^+$ decaying to the $\Lambda_c^+ \pi^+ \pi^-$ state
We report results on the measurements of the charmed baryon $\Lambda_c(2880)^+$ decaying to the $\Lambda_c^+ \pi^+ \pi^-$ state using approximately 354 fb^{-1} of BaBar data. We reconstruct the Λ_c^+ candidates in the decay mode $p K \pi$ with a goal of measuring the mass, intrinsic width, cross section and momentum spectra of the resonances decaying into $\Lambda_c^+ \pi^+ \pi^-$ final states. We also report the first measurements on the relative branching fractions of the $\Lambda_c(2880)^+$ decaying to the states $\Sigma_c^+(2455) \pi^+$, $\Sigma_c^{++}(2455) \pi^-$, $\Sigma_c^{++}(2520) \pi^-$, $\Sigma_c^+(2520) \pi^+$ and the non resonant $\Lambda_c^+ \pi^+ \pi^-$ mode.

Primary author: THE BABAR COLLABORATION

Co-author: BENITEZ, Jose (SLAC)

Presenter: BENITEZ, Jose (SLAC)

Session Classification: 04 - Hadronic Structure, Parton Distributions, soft QCD, Spectroscopy

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