



Direct CP violation in charm at Belle

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We measure the time-integrated rate R_{WS} of the wrong-sign decay $D^0 \rightarrow K^+\pi^-\pi^+\pi^-$ relative to the Cabibbo-favored right-sign process. The data was recorded with the Belle detector and corresponds to an integrated luminosity of 800 fb^{-1} at the $\Upsilon(4S)$ resonance. We also report a measurement of the CP asymmetry factor A_{CP} by fitting the D^0 and \bar{D}^0 samples separately.

We observe evidence for CP violation in the decay $D^+ \rightarrow K_S^0\pi^+$ using a data set corresponding to an integrated luminosity of 977 fb^{-1} collected with the Belle detector at the KEKB asymmetric-energy e^+e^- collider. The CP asymmetry in the decay is measured to be $(-0.363 \pm 0.094 \pm 0.067)\%$, which is 3.2 standard deviations away from zero. This is consistent with the expected CP violation due to neutral kaons in the final state.

Using data from the Belle experiment at KEKB asymmetric-energy e^+e^- collider, we present a measurement of the weak-decay asymmetry parameter α_{Λ_c} in the decay $\Lambda_c^+ \rightarrow \Lambda\pi^+$. By comparing the results for particle and antiparticle decays, we also present a measurement of the CP violating asymmetry parameter $A_{CP} = (\alpha_{\Lambda_c}\alpha_{\Lambda} - \alpha_{\bar{\Lambda}_c}\alpha_{\bar{\Lambda}})/(\alpha_{\Lambda_c}\alpha_{\Lambda} + \alpha_{\bar{\Lambda}_c}\alpha_{\bar{\Lambda}})$.

We report preliminary results on the time-integrated CP asymmetry A_{CP} in the decay $D^0 \rightarrow \pi^+\pi^-\pi^0$ using a 673 fb^{-1} data sample collected with the Belle detector at the KEKB asymmetric-energy e^+e^- collider. We set an upper limit on the rate of the Dalitz-distribution-dependent asymmetry between two flavor samples: D^0 and \bar{D}^0 .

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