



Contribution ID: 84

Type: not specified

Recent results, status and prospects for the BESIII experiment

Friday 5 December 2014 14:30 (35 minutes)

We report the measurement of the asymmetry A_{CP} of the branching fractions of $D^0 \rightarrow K^- \pi^+$ in the CP-odd and CP-even eigenstates using a data sample of 2.92 fb^{-1} collected with the BESIII detector at the center-of-mass energy $\sqrt{s} = 3.773 \text{ GeV}$.

With the measured A_{CP} the strong phase difference $\delta_{K\pi}$ between the doubly Cabibbo-suppressed process $\bar{D}^0 \rightarrow K^- \pi^+$ and the Cabibbo-favored process $D^0 \rightarrow K^- \pi^+$ is extracted.

Using world-average values of external parameters, we obtain the most precise measurement of $\delta_{K\pi}$ to date: $\cos \delta_{K\pi} = 1.02 \pm 0.11 \pm 0.06 \pm 0.01$.

The first and second uncertainties are statistical and systematic, respectively, while the third arises from external input.

Based on the same data sample a preliminary results of the parameter y_{CP} in $D^0 - \bar{D}^0$ oscillation is obtained. Finally, a summary of the recent results from charmonium spectroscopy is reported.

The high statistics accumulated at the $Y(4260)$ and $Y(4360)$ energies help us to understand the nature and the properties of the XYZ states.

Author: GARZIA, Isabella (INFN)

Presenter: GARZIA, Isabella (INFN)

Session Classification: Parallel 4: Experiments-discrete-symmetries