

New Results on Charmonium like states at Belle

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Collaboration

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Abstract content

The Belle experiment, the first generation B factory using e^+e^- asymmetric collider at the KEKB in KEK Japan, has collected a total data sample of 710 fb^{-1} at the center of mass energy of the $\Upsilon(4S)$. Belle has played a leading role in the charmonium spectroscopy by finding many new charmonium(-like) states. In this talk, new measurement results on the angular analysis of $e^+e^- \rightarrow D^{*+}D^{*-}$ process near the open charm threshold will be presented. The recent results on the observation of new charmonium like-state produced in $e^+e^- \rightarrow J/\psi D\bar{D}$ will also be discussed. In addition, the results on the first observation of the $\Xi_c(2930)^0$ charmed-strange baryon will be presented, where $\Xi_c(2930)^0$ is found in its decay to $K^-\Lambda_c^+$ in $B^- \rightarrow K^-\Lambda_c^+\bar{\Lambda}_c^-$ decays. Further, analysis efforts for the precision measurement of the branching ratio of $B^- \rightarrow K^-\Lambda_c^+\bar{\Lambda}_c^-$ and to search for the charmonium-like state $Y(4660)$ and its spin partner Y_n in the invariant mass spectrum of $\Lambda_c^+\bar{\Lambda}_c^-$ will also be discussed. The measurement results of the absolute branching fractions of $B^+ \rightarrow X_c\bar{c}K^+$ and $B^+ \rightarrow \bar{D}^{*0}\pi^+$ decays will also be discussed, where $X_c\bar{c}$ denotes $\eta_c, J/\psi, \chi_{c0}, \chi_{c1}, \eta_c(2S), \psi(2S), \psi(3770), X(3872)$ and $X(3915)$.

Further, the analysis results for the search of Z_c pair production in $\Upsilon(1S)$ and $\Upsilon(2S)$ decays and in the e^+e^- annihilation will be presented at the center of mass energies of 10.52, 10.58 and 10.867 GeV with Belle experiment.

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