

Charged charmoniumlike states at Belle

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Recent results on charged charmoniumlike states at Belle are presented.

A full amplitude analysis of $\bar{B}^0 \rightarrow \psi(2S)K^-\pi^+$ decays, with $\psi(2S) \rightarrow \mu^+\mu^-$ or e^+e^- , was performed to constrain the spin and parity of the $Z_c(4430)^+$. The $J^P = 1^+$ hypothesis is favored over the 0^- , 1^- , 2^- and 2^+ hypotheses at the levels of 3.4σ , 3.7σ , 4.7σ and 5.1σ , respectively.

A full amplitude analysis of $\bar{B}^0 \rightarrow J/\psi K^-\pi^+$ decays was performed. A new charged charmoniumlike state $Z_c(4200)^+$ decaying to $J/\psi\pi^+$ is observed with a significance of 6.2σ . The mass and width of the $Z_c(4200)^+$ are $4196_{-29-13}^{+31+17} \text{ MeV}/c^2$ and $370_{-70-132}^{+70+70} \text{ MeV}$, respectively, the preferred assignment of the quantum numbers is $J^P = 1^+$. In addition, evidence for $Z_c(4430)^+ \rightarrow J/\psi\pi^+$ is found.

Presentation type

Section talk (10+5 min)

Primary author(s) : CHILIKIN, Kirill (ITEP, MPhI)

Presenter(s) : CHILIKIN, Kirill (ITEP, MPhI)

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