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Charged charmoniumlike states at Belle

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Recent results on charged charmoniumlike states at Belle are presented.

A full amplitude analysis of $\bar{B}^0 \to \psi(2S)K^-\pi^+$ decays, with $\psi(2S) \to \mu^+\mu^-$ 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 $\bar{B}^0 \to J/\psi K^-\pi^+$ 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^{+31+17}_{-29-13} MeV/c^2 and $370^{+70+70}_{-70-132}$ MeV, respectively, the preferred assignment of the quantum numbers is $J^P = 1^+$. In addition, evidence for $Z_c(4430)^+ \to J/\psi\pi^+$ is found.

Presentation type

Section talk (10+5 min)

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