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Cross-Sections of e^+e^- Annihilation into Hidden Charm States at BESIII

In this presentation, we'll discuss the recent measurements of the cross-sections for e^+e^- annihilation into hidden charm states at BESIII. These measurements include: 1) A precise measurement of the $e^+e^- \rightarrow \pi^+\pi^- h_c$ cross section line shape at center-of-mass energies from 4.009 to 4.950 GeV. A plateau-like shape between 4.3 and 4.45 GeV, followed by a sharp drop near 4.5 GeV, reveals three resonant structures for the first time. 2) A search for the process $e^+e^- \rightarrow K_s K_s h_c$ is conducted at 13 center-of-mass energies ranging from 4.600 to 4.950 GeV. No significant signal is observed, and the upper limits of the Born cross-sections at each center-of-mass energy are presented; 3) The observation of the process $e^+e^- \rightarrow K_s K_s(3686)$ at eight center-of-mass energies from 4.682 to 4.951 GeV, with an integrated luminosity of 4.1 fb^{-1} . This process is reported for the first time with a statistical significance of 6.3σ , and the cross-sections at each center-of-mass energy are measured; 4) The inclusive cross-sections for prompt J/ψ and $\psi(3686)$ production at center-of-mass energies ranging from 3.808 to 4.951 GeV, based on 22 fb^{-1} of annihilation data. Average cross-section values for J/ψ and $\psi(3686)$ are determined within specific energy ranges.

Secondary track

T07 - Flavour Physics and CP Violation

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