



Contribution ID: 1

Type: **not specified**

Measurements of cross-sections of e^+e^- annihilation into hidden charm states

Wednesday 23 October 2024 14:00 (20 minutes)

This abstract discusses three recent measurements conducted at BESIII on the cross-sections of electron-positron annihilation into hidden charm final states:

1) The Born cross-section for the reaction $e^+ e^- \rightarrow \eta_c h_c$ is measured at center-of-mass energies ranging from 4.129 to 4.600 GeV. A resonant structure in the cross-section line shape near 4.200 GeV is observed with a statistical significance of 7σ ; 2) Using e^+e^- collision data, corresponding to an integrated luminosity of 892pb^{-1} collected at center-of-mass energies from 4.84 to 4.95 GeV with the BESIII detector, we search for the process $e^+ e^- \rightarrow K^+ K^- \psi(3770)$ by reconstructing two charged kaons and one D meson from $\psi(3770)$. No significant signal of $e^+ e^- \rightarrow K^+ K^- \psi(3770)$ is found, and the upper limits of the Born cross-sections are reported at a 90% confidence level; 3) The energy-dependent cross-section for $e^+ e^- \rightarrow \eta_c \psi(2S)$ is measured at eighteen center-of-mass energies from 4.288 GeV to 4.951 GeV using the BESIII detector. Using the same data samples, we also perform the first search for the reaction $e^+ e^- \rightarrow \eta_c \tilde{X}(3872)$, but no evidence is found for the \tilde{X} in the $\pi^+ \pi^- J/\psi$ mass distribution.

Authors: LIU, Bei Jiang; LI, Qixin (Shandong University)

Presenter: LI, Qixin (Shandong University)

Session Classification: Parallel Session 3