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

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

1) The Born cross-section for the reaction $e+e- \rightarrow$ eta hc 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 7sigma; 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 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 \tilde{X}(3872), but no evidence is found for the \tilde{X} in the pi+ pi- J/psi mass distribution.

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