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Cross-section measurements and search for vector states at cms energies 4-5 GeV

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In recent years, BESIII has accumulated tens of $1/\text{fb}$ electron-positron colliding data samples at cms energies from 4 to 5 GeV. Cross-section measurements are performed with specific final states to search for vector charmonium(-like) states. I shall present three corresponding recent results in this talk. It includes: 1) cross-sections of $e^+ e^- \rightarrow K_s K_s J/\psi$ from 4.13 to 4.95 GeV, in which $Y(4230)$ is observed and there is an evidence of a new vector charmonium-like state $Y(4710)$; 2) cross-sections of $e^+ e^- \rightarrow D^0 D^+ \pi^-$ from 4.19 to 4.95 GeV, where three enhancements around 4.20, 4.47 and 4.67 GeV has been observed; 3) helicity amplitude analysis of $e^+ e^- \rightarrow \pi^+ \pi^- \omega$ has been performed from 4.0 to 4.6 GeV, Born cross-sections of two body intermediate states have been presented and an evidence of a resonance state around 4.2 GeV is found.

Consent

I consent to recording/broadcasting my presentation.

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