

Charmonium-like states at BESIII

Thursday, 19 October 2023 14:30 (20 minutes)

In this talk, several searches for charmonium-like states will be presented. They are i) using data samples at CMS energies from threshold to 4.95 GeV collected with the BESIII detector, the cross-sections of process $e^+e^- \rightarrow D^+sD^-s$ are measured, and three structures with masses around 4.19, 4.41, and 4.79 GeV are found; ii) using a data sample corresponding to 2.93/fb collected at a CMS energy of 3.773 GeV with the BESIII detector, a scalar partner of the $X(3872)$, denoted as $X(3700)$ is searched, via $\psi(3770) \rightarrow \gamma\eta\eta'$ and $\gamma\pi^+\pi^-J/\psi$ processes. No significant signals are observed, and the upper limits are provided; iii) the Born cross-sections of the process $e^+e^- \rightarrow D^0D^-\pi^+$ at CMS from 4.189 to 4.951 GeV, using 17.9/fb data collected at BESIII, are measured for the first time. Three enhancements around 4.20, 4.47 and 4.67 GeV are visible, and they are assigned to $\psi(4230)$, $\psi(4500)$, and $\psi(4660)$, respectively.

Parallel Session

Hadron Spectroscopy

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Session Classification: Hadron spectroscopy