

# Recent studies on vector charmonium-(like) states at BESIII

Saturday 20 July 2024 09:15 (15 minutes)

This talk will present four recent measurements conducted by BESIII, focusing on the cross-sections of electron-positron annihilation into open-charm and hidden-charm final states within the center-of-mass energies ranging from 3.80 to 4.95 GeV. The open charm final states include  $e^+e^- \rightarrow D\bar{D}$  and  $D_s^+D_s^-$ , revealing abundant structures in their cross-section line shapes. The hidden-charm final states encompass  $e^+e^- \rightarrow \eta h_c$  and  $\omega\chi_{c1/2}$ , with an observed structure near 4.2 GeV in the former channel and two structures in the latter. While one of these structures can be linked to the previously discovered  $\psi(4415)$ , the others represent novel observations. These new cross-section measurements at the  $\tau$ -charm energy region provide crucial insights into the spectrum of vector charmonium and charmonium-like states.

## Alternate track

1. Quark and Lepton Flavour Physics

## I read the instructions above

Yes

**Author:** BIANCHI, Fabrizio

**Co-author:** GUO, Yuping

**Presenter:** GUO, Yuping

**Session Classification:** Strong interactions and Hadron Physics

**Track Classification:** 06. Strong Interactions and Hadron Physics