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Study of $\phi(2170)$ at BESIII

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The nature of $\phi(2170)$ is still unclear. $\phi(2170)$ is proposed to be a traditional $s\bar{s}$ state, an $s\bar{s}g$ hybrid, a tetraquark state, a $\Lambda\bar{\Lambda}$ bound state, or a ϕKK resonance state. The predicted decay width of the individual explanations is quite different. Information from experiments on the known decay modes of $\phi(2170)$ is limited, and the measured values of mass and width of $\phi(2170)$ are inconsistent. With 500 fb^{-1} data collected by the BESIII detector between 2.0 GeV and 3.08 GeV, we measure the line-shape of $e^+e^- \rightarrow K^+K^-/2(K^+K^-)/\phi\eta/\phi\eta'/\omega\pi^0/\omega\eta/K^+K^-\pi^0\pi^0$, and extract resonance parameters by fitting the Born cross sections of the exclusive decay modes

Primary author: YAN, Wenbiao (University of Science and Technology of China)

Presenter: YAN, Wenbiao (University of Science and Technology of China)

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