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Hadron spectroscopy and exotics (experiment and theory)

Experiment: BES Collaboration

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# Partial Wave Analysis of $J/\psi$ decays below 2 GeV

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## Abstract

Using a sample of 58M  $J/\psi$  events obtained with the BESII detector, partial wave analyses are performed below 2 GeV for the decay channels:  $J/\Psi \rightarrow \gamma K\bar{K}$ ,  $\gamma\pi^+\pi^-$ ,  $\phi\pi^+\pi^-$ , and  $\phi K^+K^-$ . Among the many interesting structures seen, a large spin zero component at about 1.7 GeV/ $c^2$  is observed in  $J/\Psi \rightarrow \gamma K\bar{K}$ . The  $f_0(980)$  is observed clearly in both  $J/\psi \rightarrow \phi K^+K^-$  and  $\phi\pi^+\pi^-$ , and the parameters of the  $f_0(980)$  are determined.

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