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Hadron spectroscopy and exotics (experiment and theory)
Heavy quark mesons and baryons (incl. lattice calculations)
Experiment: BES Collaboration
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$\psi(2S)$ decays to states containing an ω or ϕ

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Abstract

The decays of $\psi(2S)$ to hadronic final states containing ω and ϕ mesons are studied using a sample of 4 million $\psi(2S)$ events collected with the BES detector at the Beijing Electron-Positron Collider. First measurements of branching fractions for $\psi(2S)$ decays into $\omega\pi^+\pi^-$, $\phi\pi^+\pi^-$, ωK^+K^- , ϕK^+K^- , $\omega p\bar{p}$, ϕf_0 , and an upper limit on $\phi p\bar{p}$ are reported. The ratios of $\psi(2S)$ and J/ψ branching fractions for $\omega\pi^+\pi^-$ and $\omega p\bar{p}$ are suppressed with respect to the 14 % rule by at least a factor of two, while for ωK^+K^- , $\phi\pi^+\pi^-$, ϕK^+K^- , $\phi p\bar{p}$, and ϕf_0 , the ratios are consistent with expectations within errors.

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