

A Proposal on the Search for the Hybrid with $I^G(J^{PC})=1^-(1^{+-})$ in the Process $J/\psi \rightarrow \rho\omega\pi\pi$ at Upgraded BEPC/BES

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Abstract: We give the moment expressions for the boson resonances X with spin-parity $J_X^{PC}=0^{++}, 1^{-+}, 1^{++}$ and 2^{++} possibly produced in the process $J/\psi \rightarrow \rho X, X \rightarrow b_1(1235)\pi, b_1 \rightarrow \omega\pi$ in terms of the generalized moment analysis method. The resonance with $J_X^{PC}=1^{-+}$ can be distinguished from other resonances by means of these moments except for some rather special cases. The suggestion that the search for the hybrid with $I^G(J^{PC})=1^-(1^{+-})$ can be performed in the decay channel $J/\psi \rightarrow \rho\omega\pi\pi$ at upgraded BEPC/BES is presented.

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