

Role of the $h_1(1800)$ and $f_1(1285)$ states in the J/ψ decays

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A state around 1800 MeV was generated from the interaction of the $K^* \bar{K}^*$ within the local hidden gauge approach. We show that the peak observed in $J/\psi \rightarrow \eta K^* \bar{K}^*$ naturally comes from the creation of this h_1 state. A second analysis, model independent, corroborates the first result, confirming the relationship of the enhancement in the invariant mass spectrum with the h_1 resonance. On the other hand, we study the role of the $f_1(1285)$ resonance in the decays of $J/\psi \rightarrow \phi K^* \bar{K}^*$ and $J/\psi \rightarrow \phi f_1(1285)$. The theoretical approach is based on the results of chiral unitary theory where the $f_1(1285)$ resonance is dynamically generated from the $K^* \bar{K}^*$ interaction. The results can be tested in future experiments and therefore offer new clues on the nature of the $f_1(1285)$ state.

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