

# The role of an $h_1$ state in the $J/\psi \rightarrow \eta K^{*0} \bar{K}^{*0}$ decay

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## Collaboration

## Abstract content

The BES data on the  $J/\psi \rightarrow \eta K^{*0} \bar{K}^{*0}$  reaction show a clear enhancement in the  $K^{*0} \bar{K}^{*0}$  mass distribution close to the threshold of this channel. Such an enhancement is usually a signature of a L=0 resonance around threshold, which in this case would correspond to an  $h_1$  state with quantum numbers  $I^G(J^{PC}) = 0^-(1^{+-})$ . A state around 1800 MeV results from the interaction of the  $K^* \bar{K}^*$  using the local hidden gauge approach. We show that the peak observed in  $J/\psi \rightarrow \eta K^{*0} \bar{K}^{*0}$  naturally comes from the creation of this  $h_1$  state with mass and width around 1830 MeV and 110 MeV, respectively. 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.

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