

## A new method for a lattice QCD calculation of $\eta_c \rightarrow 2\gamma$

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The two-photon decay process  $\eta_c \rightarrow 2\gamma$  can provide an ideal testing ground for the understanding of nonperturbative nature of QCD. In this study, we propose a direct method to calculate the matrix element of a hadron decaying to two-photon. Various systematic effects are examined in this work. The method developed here can also be applied for other processes which involve the leptonic or radiative particles in the final states.

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