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## Photon-photon transition form factor for tensor meson quarkonium

*Friday 13 September 2024 13:50 (20 minutes)*

We will discuss the light-front formulation of quarkonium  $\gamma^*\gamma$  transition form factors for  $J^{PC} = 2^{++}$  meson states. We will present  $\gamma^*\gamma \rightarrow \chi_{c2}$  transition amplitudes and the pertinent helicity form factors. We show the results for the two-photon decay width of  $\chi_{c2}$  and three independent transition form factors of  $\chi_{c2}$  as a function of photon virtuality  $Q^2$ . We compare our results for the two-photon decay width to the recently measured ones by the Belle-2 and BES III collaborations. Our approach explains the value of  $\Gamma(\chi_{c2})/\Gamma(\chi_{c0})$  measured experimentally. We also present the off-shell widths as a function of photon virtuality and compare them to the Belle data.

Based on: I.B., et al., JHEP 06 (2024) 159, e-Print: 2402.13910 [hep-ph]

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