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Title:	Study of $K^0_S$ pair production in single-tag two-photon collisions
Authors:	Bhardwaj, V. (/jspui/browse?type=author&value=Bhardwaj%2C+V.)
Keywords:	Sigma Models two-photon collisions Photon
Issue Date:	2018
Publisher:	American Physical Society
Citation:	Physical Review D, 97(5)
Abstract:	We report a measurement of the cross section for $K^0_S$ pair production in single-tag two-photon collisions, $\gamma^*\gamma \rightarrow K^0_S K^0_S$ , for $Q^2$ up to $30 \text{ GeV}^2$ , where $Q^2$ is the negative of the invariant mass squared of the tagged photon. The measurement covers the kinematic range $1.0 \text{ GeV} < W < 2.6 \text{ GeV}$ and $ \cos\theta^*  < 1.0$ for the total energy and kaon scattering angle, respectively, in the $\gamma^*\gamma$ center-of-mass system. These results are based on a data sample of $759 \text{ fb}^{-1}$ collected with the Belle detector at the KEKB asymmetric-energy $e^+e^-$ collider. For the first time, the transition form factor of the $f_2'(1525)$ meson is measured separately for the helicity-0, -1, and -2 components and also compared with theoretical calculations. We have derived the cross section for the process for $W < 2.6 \text{ GeV}$ from 121 signal candidate events. Finally, the $\gamma^*\gamma$ partial decay widths of the $\chi_{c0}$ and $\chi_{c2}$ mesons are measured as a function of $Q^2$ based on 10 candidate events in total.
Description:	Only IISERM authors are available in the record.
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