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Study of K^0_S pair production in single-tag two-photon collisions at Belle

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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 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 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 $f^{\prime 2}(1525)$ meson is measured separately for the helicity-0, -1, and -2 components and also compared with theoretical calculations. Finally, the partial decay widths of the χ_{c0} and χ_{c2} mesons are measured as a function of Q^2 .

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