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Title:	Search for the radiative penguin decays B 0 → K 0 S K 0 S γ in the Belle experiment
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Keywords:	radiative penguin decays B 0 → K 0 S K 0 S γ Belle experiment
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Abstract:	We report results from the first search for the rare penguin-dominated decay mode B 0 → K 0 S K 0 S γ , which can result from the production of tensor mesons f (1270) and f ′ (1525) in association with a photon. The search uses the full data sample of 772 × 10 6 B ¯ B pairs collected with the Belle detector at the KEKB asymmetric-energy e + e − collider. No statistically significant signals are observed in the K 0 S K 0 S invariant mass range 1 GeV / c 2 < M K 0 S K 0 S < 3 GeV / c 2 , and the following upper limits at the 90% confidence level are obtained: B (B 0 → K 0 S K 0 S γ) < 5.8 × 10 − 7 , B (B 0 → f 2 γ) × B (f 2 (1270) → K 0 S K 0 S) < 3.1 × 10 − 7 , and B (B 0 → f ′ 2 γ) × B (f ′ 2 (1525) → K 0 S K 0 S) < 2.1 × 10 − 7 . In addition, 90% confidence-level upper limits in the range of [0.7 – 2.9] × 10 − 7 are also obtained on the B 0 → K 0 S K 0 S γ branching fraction in bins of M K 0 S K 0 S .
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