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Search for Decay $B_s \rightarrow \eta' K_s$ in Belle Data

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We search for the decay $B_s \rightarrow \eta' K_s$ using 121.4 fb^{-1} of data collected at the $\Upsilon(5S)$ resonance with the Belle detector at the KEKB asymmetric-energy electron-positron collider. This decay is suppressed in the Standard Model of particle physics and proceeds through $b \rightarrow u$ and penguin transitions, which are sensitive to new physics. The expected branching fraction in the Standard Model is approximately 2×10^{-6} . This decay has not been observed yet. We use Monte Carlo simulation to study Belle sensitivity to these decays. We report the current status of our investigations to provide the best sensitivity to discovering this decay in the existing data.

Summary

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