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Probing $B \to K^*(892)\gamma$ decays at Belle II experiment

Tuesday 13 December 2022 14:00 (1 hour)

The first observation of an exclusive $b \to s\gamma$ process was made by CLEO in 1993 in the $B \to K^*(892)\gamma$ decay. Since then, the decay has been one of the most extensively studied radiative penguin processes. The decay of the B meson to the $K^*(892)\gamma$ final state is forbidden at tree level in the standard model (SM), which primarily occurs via a one-loop $b \to s\gamma$ diagram. Various extensions to the SM posit new particles that can contribute to the loop, altering the branching fraction and other observables from their SM predictions, making the decay an excellent probe for such models. We present a study based on data recorded by the Belle II experiment before its first long shutdown and discuss results obtained from the early data-taking period.

Session

Quark and Lepton Flavour Physics

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