

Early charmless B decay physics at Belle II

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The physics of charmless B decays is an essential portion of the Belle II program.

The expected large yields of charmless B decays will enable significant advancements in the understanding of quark dynamics, including a world-leading determination of the CKM phase α/ϕ_2 , a conclusive understanding of the so-called K-pi CP-puzzle, and a deeper insight into phenomenological models of non-perturbative QCD in heavy meson decays.

We present preliminary results based on the Belle II sample collected in 2019-2020. First charmless B signals are reconstructed for a variety of two-body and multibody decays.

Measurements of their branching fractions and CP-violating asymmetries are used as data-driven benchmarks of current and projected detector and reconstruction performance.

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