

## CP Violation sensitivity at the Belle II Experiment

The measurement of the time-dependent CP violation parameters for B-meson decays is crucial for tightening the constraints on the unitarity triangle and for the search of new physics beyond the Standard Model. A clean environment for the study of B decay channels is provided by B-factories. With a design luminosity of  $8 \cdot 10^{35} \text{ cm}^{-2}\text{s}^{-1}$ , leading ultimately to an integrated luminosity beyond  $50 \text{ ab}^{-1}$ , the new B-factory SuperKEKB will exceed the record instantaneous luminosity of its predecessor KEKB by a factor 40. The new Belle II detector will exploit the expected high statistics data sample thanks to a major upgrade of the tracking system, including a novel pixel vertex detector in its innermost part. Additionally, the detector capabilities will be complemented by substantial improvements in the reconstruction software. We develop a strategy for CP violation analysis in order to maximally exploit the new data set and to characterize the sensitivity of Belle II for various benchmark B decay channels.

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