

B lifetimes at Belle II

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The Belle II detector was completed with the installation of a silicon vertex detector that covers most of the solid angle around the interaction region. In 2019 Physics Run before summer shutdown, 5.15 /fb of data were collected at a center of mass energy corresponding to the mass of the $\Upsilon(4S)$. We utilize this dataset to characterize the performance of the detector about tracking of charged particles, reconstruction of known resonances, and capability of identifying displaced decay vertices. In order to assess the B Physics capabilities of the experiment, one of the first benchmarks to be reached consists in the measurement of the lifetime of B mesons and of the B^0 - B^0 bar mixing frequency. We present the first results, based on samples of B mesons that decay to hadronic and semi-leptonic final states.

I read the instructions

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