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Charm Status and Prospects at Belle II

Wednesday 28 July 2021 09:30 (15 minutes)

The Belle II experiment at the asymmetric e^+e^- collider, SuperKEKB, aims to record 50 ab^{-1} of data over the next decade, a factor of 50 more than Belle. During the first 1.5 years of operations, around 90 fb^{-1} of data were collected. This dataset is used to measure the lifetimes of a few charm hadrons, confirming the expected performance of the Belle II detector, in particular the vertexing, which plays a crucial role in time dependent measurements. Thanks to the performance of the detector and the amount of data that we expect to collect, Belle II will play a crucial role in measuring CP violation and $D^0 - \bar{D}^0$ mixing in many decay channels, especially those having neutral particles in the final state. In this presentation we will also show the sensitivity on mixing and CPV parameters in the golden channel $D^0 \rightarrow K_S \pi^+ \pi^-$ with a time-dependent Dalitz analysis, and other channels.

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Collaboration / Activity

Belle II

Presenter: DORIGO, Mirco (BELLE (BELLE II Experiment))**Session Classification:** T08: Flavour Physics and CP Violation**Track Classification:** Flavour Physics and CP Violation