

Dark-sector physics at Belle II

The Belle II experiment at the asymmetric e^+e^- collider, SuperKEKB, is a substantial upgrade of the Belle/KEKB experiment. Belle II aims to record 50 ab^{-1} of data over the course of the project. During the first physics runs in 2018-2020, around 100 fb^{-1} of data were collected. These early data include specifically-designed low-multiplicity triggers which allow a variety of searches for light dark matter and dark-sector mediators in the GeV mass range.

This talk will present the very first world-leading physics results from Belle II: searches for the invisible decays of a new vector Z' , and visible decays of an axion-like particle; as well as the near-term prospects for other dark-sector searches. Many of these searches are competitive with the data already collected or the data expected in the next few years of operation.

Working group

WG5

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