Keisuke Yoshihara for Belle II Collaboration

Kobayashi-Maskawa Institute, Nagoya University, Nagoya, Japan
** Department, University, City ...

Status and prospects for SuperKEKB/Belle II experiment

Email: Keisuke.yoshihara@hepl.phys.nagoya-u.ac.jp

SuperKEKB/Belle II experiment is a successor of the KEKB/Belle experiment. Electron-position collisions at the energy of Y(4S) resonance are provided by the SuperKEKB accelerator and the collision data is collected with the Belle II detector. The goal of the experiment is to exceed the integrated luminosity of 50 ab⁻¹, which is roughly 50 times larger than the Belle dataset. With the large dataset, a variety of physics opportunities are provided such as BSM searches through precision measurement of the CKM matrix or through the so-called dark sector. After a substantial upgrade of the detector and the accelerator, the machine commissioning has been completed in 2018 and the data taking has begun since then. The Belle II has accumulated more than 350 fb⁻¹ of data so far (as of April 2022). In this talk, I am going to present the status of the machine and detector operation, the recent physics results with the initial data, and prospects for the Belle II physics.