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Operational Experience and commissioning of the Belle II tracker

The construction of the new accelerator at the Super Flavor Factory in Tsukuba, Japan, has been finalized and the commissioning of its detector (Belle II) has started. This new $e+e-$ machine (SuperKEKB) will deliver an instantaneous luminosity of $8 \cdot 10^{35} \text{ cm}^{-2}\text{s}^{-1}$, which is 40 times higher than the world record set by KEKB. In order to be able to fully exploit the increased number of events and provide high precision measurements of the decay vertex of the B meson systems in such a harsh environment, the Belle II detector will include a new 6 layer silicon vertex detector. Close to the beam pipe, 2 pixel and 4 double-sided strip detector layers will be installed. During its first data taking period in 2018, the inner volume of the Belle II detector was only partially equipped with the final vertex detector technologies. The remaining volume was covered with dedicated radiation monitors, collectively called BEAST II, in order to investigate the particle and synchrotron radiation backgrounds near the interaction point. In this talk, the milestones of the commissioning of the Belle II tracker and BEAST II are reviewed and the detector performance and selected background measurements will be presented.

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