

## Measurements of Beam Backgrounds at SuperKEKB

The Belle II experiment at the SuperKEKB asymmetric energy  $e^+e^-$  collider in Tsukuba, Japan, finished its commissioning phase in 2018. In the years to follow the SuperKEKB will deliver an instantaneous luminosity of  $8 \cdot 10^{35} \text{ cm}^{-2} \text{ s}^{-1}$ , which is 40 times higher than the record luminosity of its predecessor, KEKB. In order to exploit the physics potential of this new generation flavor factory it is crucial for the Belle II detector to be able to cope with high beam induced background levels. These are critical from the point of detectors radiation hardness, data throughput capabilities, and performance of event reconstruction algorithms. During the early phase of Belle II and SuperKEKB operation the background levels were measured at different accelerator conditions by the Belle II detector systems and by a set of dedicated beam background detectors (collectively called BEAST II). These measurements enable us to disentangle backgrounds originating from different sources and help us to predict the behavior of background levels with further increase of SuperKEKB instantaneous luminosity. In the talk we present the first results of mentioned measurements, comparison with the background levels expected from the simulation, and discuss the impact of obtained results on the Belle II performance.

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