Flavor Physics workshop 2022 (FPWS2022)

Contribution ID: 17

Beam loss at SuperKEKB: an analysis with the new loss monitor system for the Belle II experiment

Monday 07 Nov 2022 at 16:00 (00h20')

Content:

In order to get high in luminosity, it is needed to increase also the beam current. However sudden large beam loss at high beam current operation can lead to severe damage on SuperKEKB collimators or Belle II detector components. Therefore it is crucial to understand the cause of the loss, and, if possible, try to avoid it. In order to do that, we have developed a really fast loss monitor system. With this particular analysis we wanted to first calibrate the signals of different loss monitors to be able to compare them, and also to develop an automatic tool to categorise sudden beam aborts not immediatly associable to the electron or positron ring.

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Session classification: Presentations

Track classification: --not yet classified--

Type: --not specified--