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Type: Talk (invited speaker only)

[A07] Tracking performance and interaction point properties at the Belle II experiment

Tuesday 6 October 2020 20:00 (30 minutes)

The Belle II experiment is located in Tsukuba, Japan along the SuperKEKB e^+e^- collider, which achieved in 2020 the world's highest instantaneous luminosity and is aiming to reach in the years to come an instantaneous luminosity of $8 \times 10^{35} \text{cm}^{-2}\text{s}^{-1}$, a value ~ 40 times larger than the instantaneous luminosity delivered for the previous experiment (Belle). Compared to Belle, the Belle II experiment also has an improved vertex detector that can be used as a stand-alone tracking device and offers a better impact parameter resolution. This presentation gives a brief overview of the Belle II tracking system and shows a measurement of the impact parameter resolution and of several properties of the interaction point using a selection of $e^+e^- \rightarrow e^+e^-$ and $e^+e^- \rightarrow \mu^+\mu^-$ events collected in 2019 and 2020 at a centre-of-mass energy of 10.6 GeV.

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