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# Status and performance of LumiBelle2 in the 2025 beam operation of SuperKEKB

*Monday 2 June 2025 16:00 (2 hours)*

LumiBelle2 is a fast luminosity monitor used for beam parameter tuning and feedback at the interaction point of SuperKEKB. It uses sCVD diamond detectors placed in both the electron and positron rings to measure the rates of single bremsstrahlung events. Luminosity signals are provided both for averaging all bunches and for each bunch crossing at 1 Hz. The averaged luminosity signal over all bunches is also provided at 1 kHz as input to a dithering feedback system used to maintain optimum overlap between the colliding beams in the horizontal plane. In 2025, new LGAD sensors will be tried as potential alternative to the sCVD diamond sensors. This paper will describe the overall status and performance of LumiBelle2 in the Autumn 2024 and Winter 2025 SuperKEK operation, as well as report on the tests with the new LGAD sensors.

## Footnotes

## Paper preparation format

LaTeX

## Region represented

Europe

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