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The Belle II experiment at SuperKEKB

The Belle detector at the KEKB electron-positron collider has collected approximately 800 million $Y(4S)$ events in its decade of operation. Many of the existing measurements have statistical uncertainties still higher than their systematics. More statistics would then bring a substantial improvement in the accuracy. However further increase of the luminosity at the same rate as now would not lead to significant reduction of uncertainties. The Japanese national accelerator laboratory KEK group has therefore started to build Super-KEKB, an upgrade of KEKB to increase the luminosity by two orders of magnitude during a four-year shutdown, with an ultimate goal of $8E35/cm^2/s$ luminosity. To exploit the increased luminosity, an upgrade of the Belle detector is under construction by new international collaboration Belle II. The document presents physics motivation, basic methods of the accelerator upgrade, as well as key improvements of the detector.

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