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## Belle-II VXD radiation monitoring and beam abort with scCVD diamond sensors.

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The Belle-II VerteX Detector has been designed to improve the performances with respect to Belle and to cope with the unprecedented luminosity of  $8 \times 10^{35} \text{ cm}^{-2}\text{s}^{-1}$  achievable by SUPERKEKB.

Special care is needed to monitor both the radiation dose accumulated through the life of the experiment and the instantaneous radiation rate, in order to be able to react quickly to sudden spikes for the purpose of protecting the detectors. A radiation monitoring and beam abort system based on single-crystal diamond sensors is now under development for the VXD.

The sensors will be placed in several key positions in the vicinity of the interaction region. The severe space limitations require a challenging remote readout of the sensors. The system design will be described, along with the sensor characterization procedure and the design of the readout electronics.

### Collaboration

Belle-II

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