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Performance of the DHH readout system for the Belle-II pixel detector

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The SuperKEKB accelerator in Tsukuba, Japan is providing e^+e^- beams for the Belle-II experiment since about one year. In order to deal with the aimed peak luminosity being forty times higher than the one recorded at Belle, a pixel detector based on DEPFET technology has been installed It features a long integration time of 20us resulting in an expected data rate of 20 GB/s at a maximum occupancy of 3%. In order to deal with this high amount of data the data handling hub (DHH) has been developed, it contains all necessary functionality for the control and readout of the detector. In this paper we describe the architecture and features of the DHH system. Further we will show the key performance characteristics after one year of operation.

Minioral

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