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Compensation of an elliptically polarizing undulator in the HLS-II storage ring

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The insertion devices (IDs) can severely affect the beam dynamics of a storage ring. Recently, a new elliptically polarizing undulator(EPU) is installed in the Hefei Light Source II (HLS-II) storage ring. The effects of this EPU can be modeled using the kick map method. In this paper, we present the kick map of the EPU with vertical mode and how it affects the beam dynamics. Since the HLS-II storage ring is compact, only four quadrupoles in the same straight section can be used to compensated the ID effect. The compensation result is also reported in this paper.

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