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The effect of insertion devices on beam dynamics for the Hefei Light Source

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The insertion devices (IDs) can affect the electron beam quality of storage ring light source. We investigate how the IDs in Hefei Light Source (HLS) affect the linear and nonlinear beam dynamics. We use the kick map approach to simulate the IDs fields. To correct the linear optics perturbation due to the IDs, we use the adjacent quadrupoles to compensate the beta functions beating. We calculate the dynamic aperture and beam lifetime after linear optics compensation. The details of the IDs effect investigation are presented in this paper.

Footnotes

Paper preparation format

LaTeX

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