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Sorting of sextupole and octupole magnets in the HEPS storage ring

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The High Energy Photon Source (HEPS) is a 6 GeV diffraction-limited storage ring light source, which started construction in 2019. The sextupole and octupole magnets in the storage ring of HEPS are divided into several groups, and each group of magnets shares one power supply. In the lattice design, magnets in the same group are identical, but the real magnets have errors, which violate the symmetry of the lattice. To optimize the performance of HEPS, it is necessary to carry out sorting of these magnets. By doing simulations with elegant, we studied the effect of sorting on the performance of the nonlinear beam dynamics. The details are presented in this paper.

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Footnotes

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Yes

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