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Simulation studies of first-turn commissioning for the HEPS storage ring

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The High Energy Photon Source (HEPS), is an ultra-low emittance storage ring (USR) light source beingto be built in Beijing, China. Due to the characteristics of the compact 7BA structure with strong focusing, beam accumulation in an USR is expected to be very challenging. Our simulations confirmed the difficulty in the HEPS storage ring. This paper introduces the preparations made for the first-turns commissioning of the HEPS storage ring from the first injection to beam storage. The commissioning methods and simulation results for several key steps are discussed, including first-turns trajectory correction, RF parameters'optimization, as well as tune measurement and adjustment in the first turns.

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Footnotes

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Yes

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