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CEPC Partial Double Ring Lattice Design and SPPC Lattice Design

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In this paper, we introduced the layout and lattice design of Circular-Electron-Positron-Collider (CEPC) partial double ring (PDR) scheme. The baseline design of CEPC is a single beam-pipe electron positron collider, which has to adopt pretzel orbit scheme. And it is not suitable to serve as a high luminosity Z factory. If we choose partial double ring scheme, we can get a higher luminosity with lower power and be suitable to serve as a high luminosity Z factory. We discussed the details of CEPC partial double ring lattice design and showed the dynamic aperture study and optimization. We also showed the first version of SPPC lattice and the beam dynamics study.

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