**CEPC booster and damping ring update**

Dou Wang

On behalf of CEPC accelerator physics group

From this May, much efforts have been made to update the booster design and damping ring design in order to reach higher luminosity goal of CEPC.

**1. Booster progress**

The efforts on the accelerator physics design with lower emittance and updated energy range (20GeV ~ 180GeV) will be presented, including but not limited to

- lattice design and DA for two different optics (TME & FODO)

- Beam-beam stability for on-axis injection (confirm the beam stability and the luminosity after the on-axis injection from booster to collider)

- error effects (including the DA with correction, the issue of earth field and dipole field precision at low energy)

- magnets’ requirements for two different optics (TME & FODO)

- dynamic beam physics (including the update for RF ramping and beam parameters’ evolution)

- booster ring parameters update based on the selected lattice

**3. Damping ring progress**

New design for positron damping ring will be presented, including but not limited to

- lattice and parameters for new damping ring

- injection & extraction, time structure for damping ring

- instability issues for new damping ring

- update for transport lines