

The CEPC radiation protection issues

Friday 19 July 2024 20:40 (20 minutes)

In my poster, I will present four sub-topics related to radiation protection for the CPEC:

1. Conceptual design for the collider dump system: This includes the parameters of two dilution kickers and the sizes of a graphite core and iron shell. The maximum temperature rises in the collider dump for four operations are calculated and they are below the graphite melting point.
2. Radiation level in collider tunnel: This will cover synchrotron radiation and beam loss simulation, shielding for magnet insulations and electronics, and the dose-equivalent rate in the tunnel.
3. Linac shielding design: The thickness of the Linac bulk shielding has been determined based on beam loss assumptions, and the sizes of Linac dumps have been optimized to ensure that the dose equivalent is within the safety limit.
4. Estimation for radioactivity production: The radioactivity in the air, cooling water, and rocks surrounding the tunnel are assessed. The results meet Chinese mandatory standards.

Alternate track

I read the instructions above

Yes

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