

eeFACT 2025 - 70th ICFA Advanced Beam Dynamics Workshop on High Luminosity Circular e+e-Colliders



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CEPC Vacuum system development progress

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The vacuum system of the CEPC accelerator comprises the LINAC, Booster, collider rings, and transport lines. The Technical Design Report (TDR) was published in 2024, and the Engineering Design Report (EDR) has been under development since 2024, with reviews by IARC. A production line for massive NEG coating and heating spraying of vacuum chambers will be developed in the next two years to explore a new method for constructing vacuum chambers for the CEPC. NEG coating is utilized to maintain the vacuum of the beam pipe and suppress e-clouds in the positron ring. It is crucial to optimize the thickness and impedance of the NEG coating, as the impedance increases with thickness, but the coating's lifespan decreases significantly when the thickness is less than 200nm. The full-scale size prototypes of vacuum chambers, RF shielding Bellows for ultra Expansion/contraction, RF shielding All metal gate valve will be carried out in EDR.

Footnotes

Funding Agency

I have read and accept the Privacy Policy Statement

Yes

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