Abstract:

In the RF region, A set of electrostatic separators combined with dipole magnet (Electro-Magnetic Separator) are installed downstream of the RF cavities. They are used to avoid bending of incoming beam and deflect the outgoing beam in H mode.

We developed separator and magnet prototype respectively. The physical and mechanical design of the electrostatic separator have been completed. The fabrication and assembly of the prototype have been completed in IHEP and the test had been done. According the test results, the vacuum reached the target. During the voltage test, the arc occurred at the air side of feedthrough at ±90kV, which basically meets the requirements of Higgs Mode operation. In order to improve the redundancy, the feedthrough need further improvement.

The physical and mechanical design of magnet have been completed and The prototype of the magnet has been developed. The field measurement will be made in August.

A large number of power supplies are required for powering the magnets in CEPC. We mainly study the serial-parallel technology and current control and tracking technology of the booster power supply and Multi-unit combination structure for Corrector power supply

the prototypes for Booster power supply and Correctors has been fabricated and finished the test. The current stability and tracking error reach the design indicators.