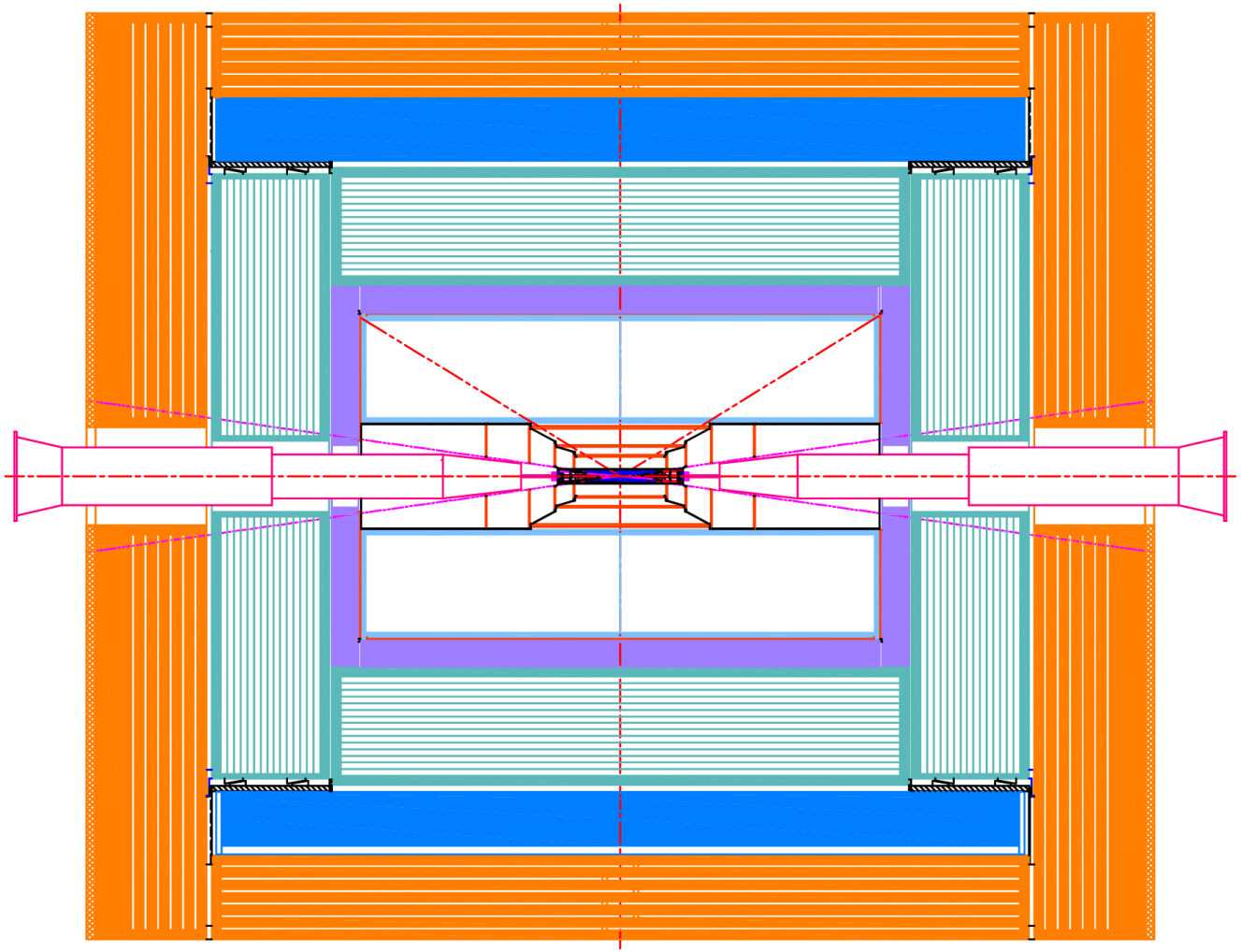
Progress in mechanical design of CEPC detector TDR

Ji Quan

November 19, 2024

Progress and problems --- Based on Regular meetings (November 18)

1. Overall mechanical layout

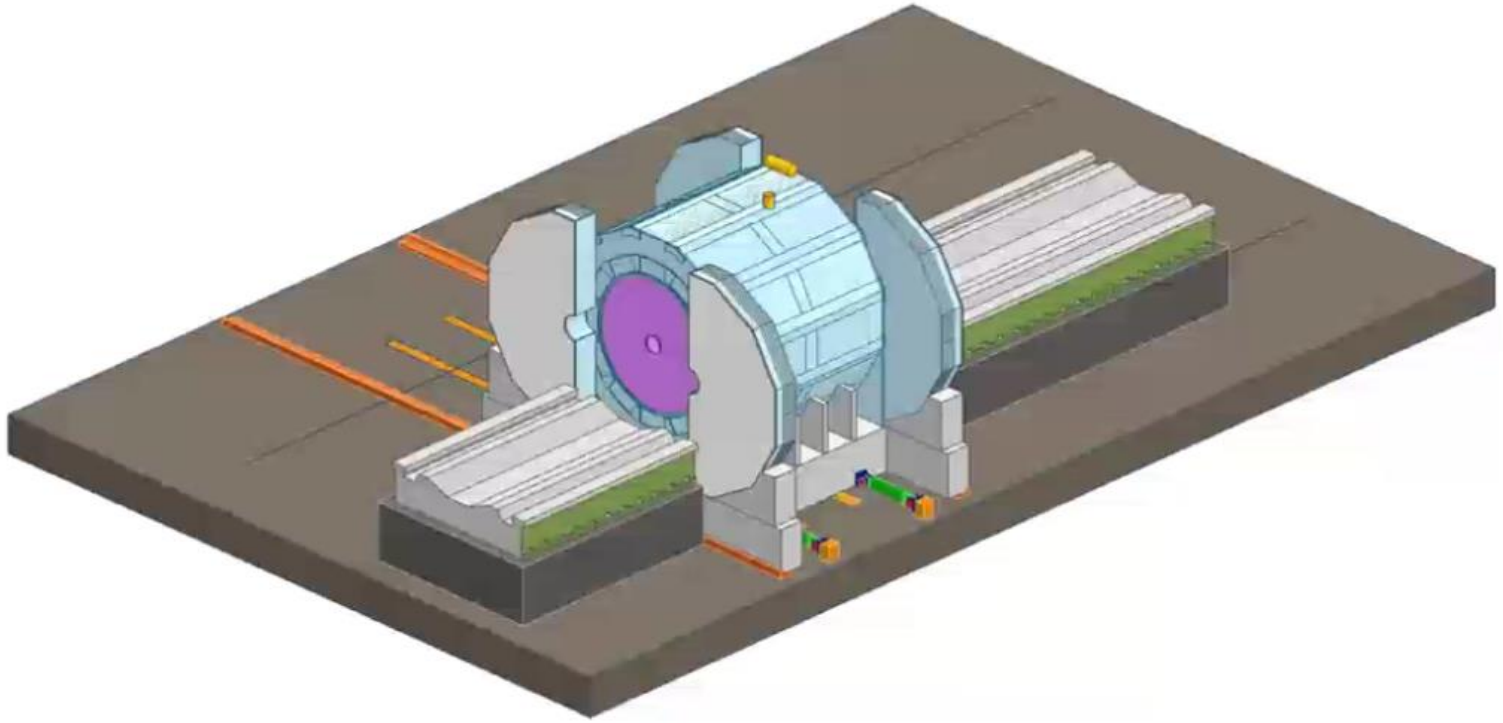


Progress :
basically completed

Problems :
pipeline space optimization

Progress and problems --- Based on Regular meetings (November 18)

2. Connection and installation

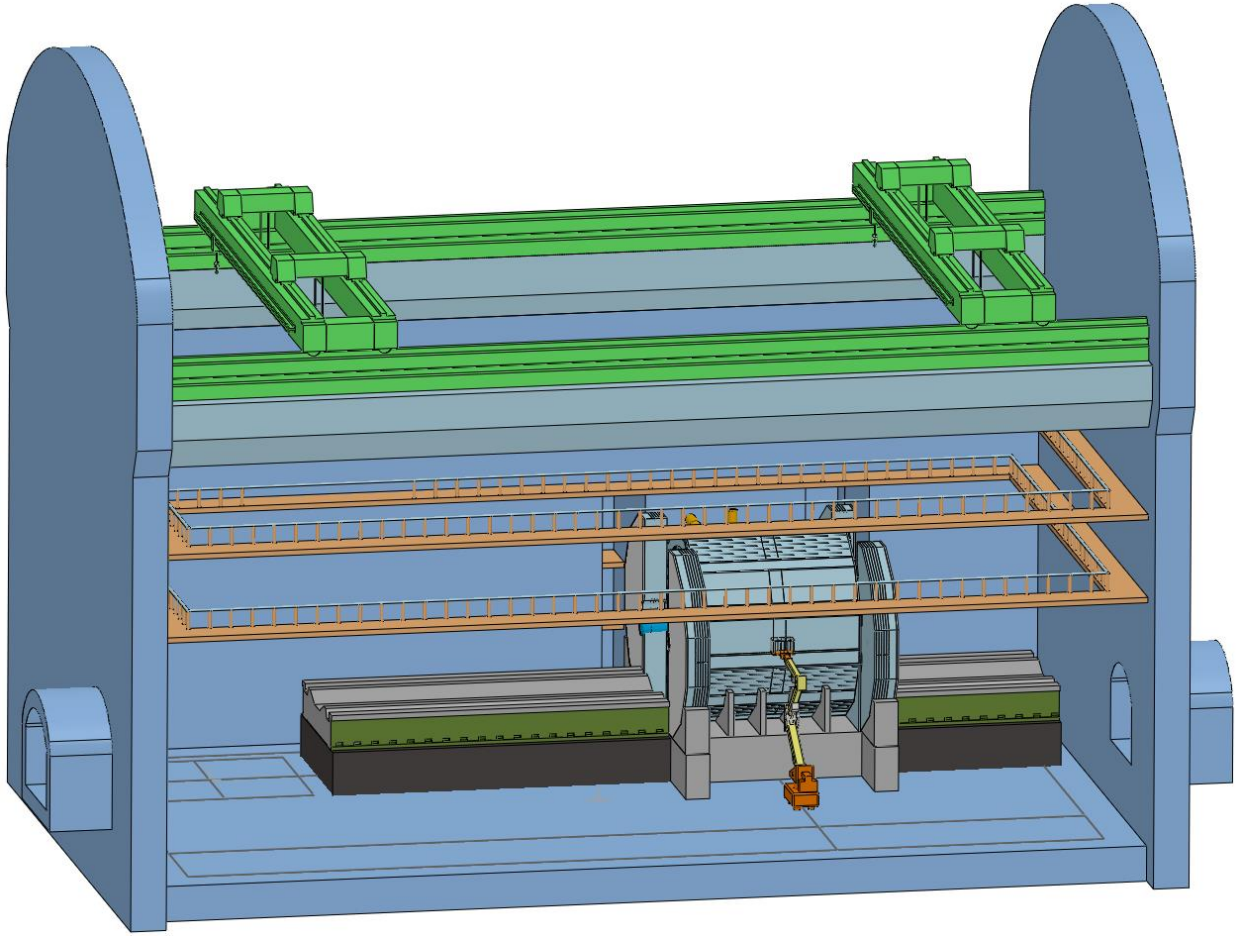


Progress :
basically completed

Problems :
connection design

Progress and problems --- Based on Regular meetings (November 18)

3. Configuration of the underground experimental Hall



Progress :

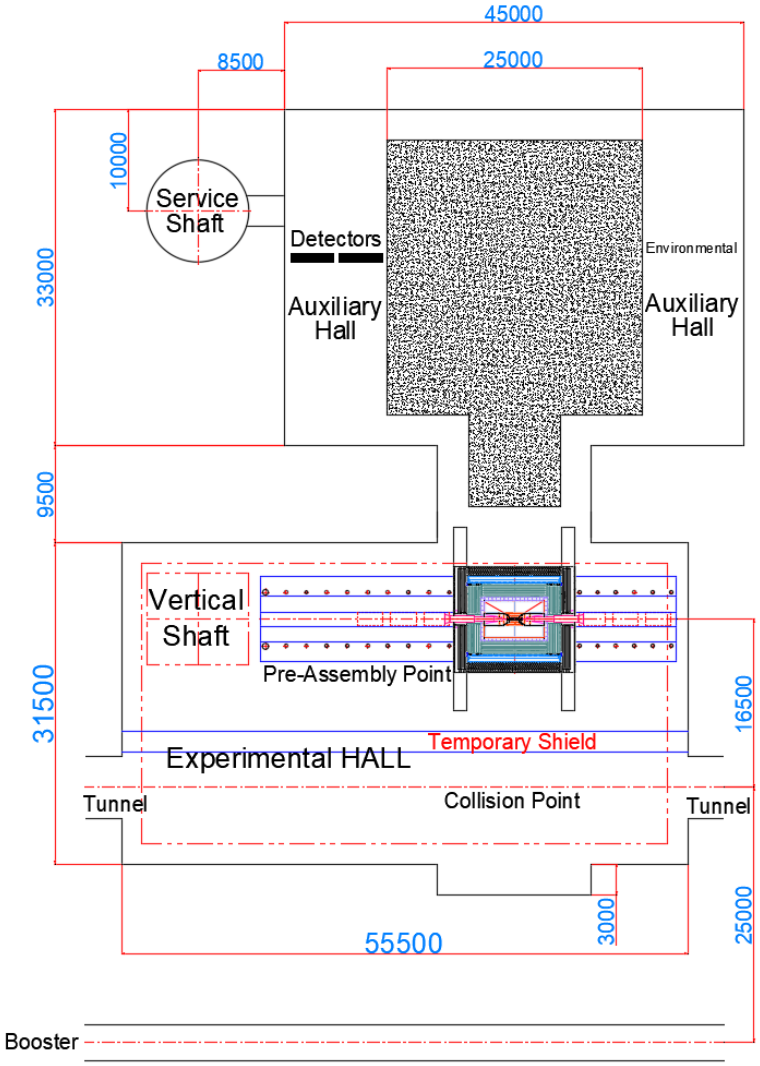
basically completed (Installation)

Problems :

? Interfaces to the auxiliary hall

Progress and problems --- Based on Regular meetings (November 18)

4. Underground auxiliary hall, Ground Halls



Progress :
basic framework

Problems :
?Empty?

Progress and problems --- Based on Regular meetings (November 18)

5. Sub-detector design (Take HCAL as an example 裴亚田)

Progress : (Starting writing)

Problems :

8.6 The Mechanics

8.6.1 The barrel part

(1) Overview and requirements of barrel HCAL

Barrel HCAL is located between magnet and barrel ECAL, which has been shown in Fig.8.6-1 with purple color and a red box. The gap between barrel HCAL and end-cap HCAL is 30mm. Barrel HCAL will be held by two auxiliary rings on both ends. And the auxiliary rings will be fixed with barrel Yoke.

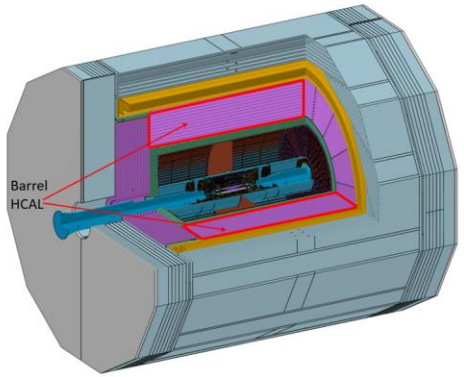


Fig.8.6-1 Location of barrel HCAL

The contour dimension of barrel HCAL has been shown in Fig.8.6-2. The total length is 6460mm except the edge sealings which located in the gap between barrel HCAL and end-cap HCAL. The cross section of barrel HCAL is a regular hendecagon which means barrel HCAL is composed by 16 wedges. The outer hendecagon inscribed circle diameter is 6910mm and the inner hendecagon inscribed circle diameter is 4280mm.