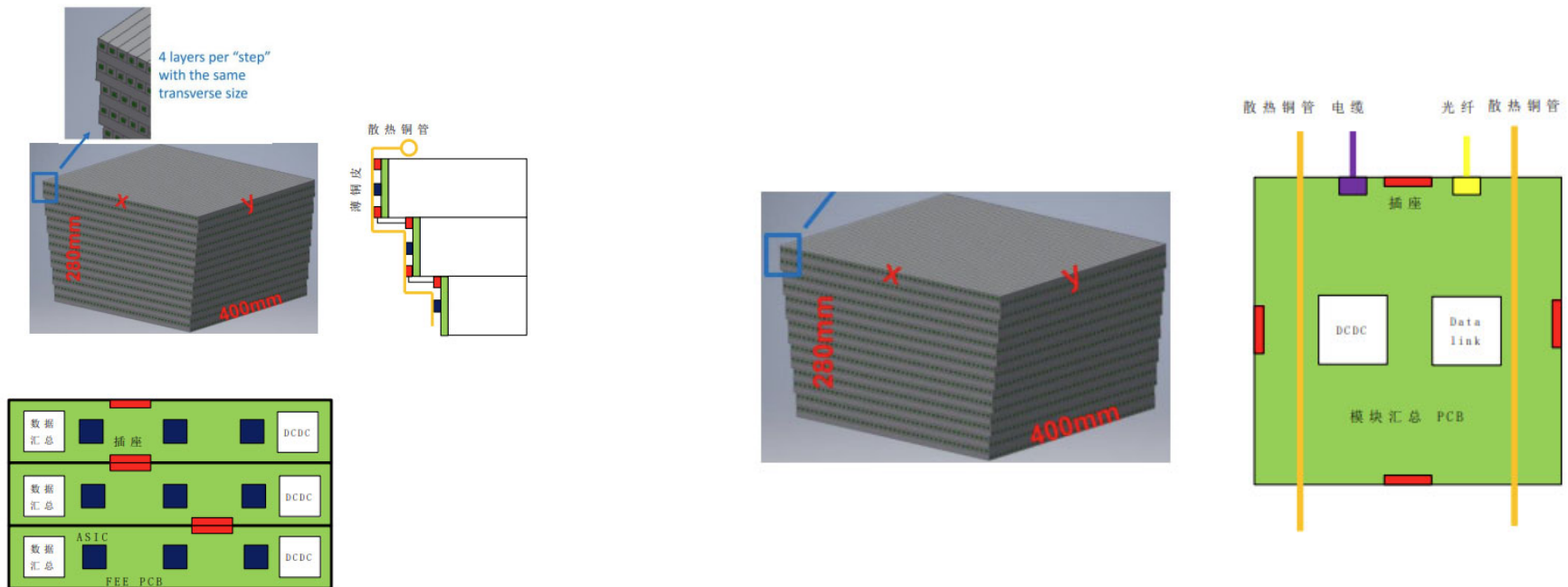


- HCAL thickness enlarged to 1470 mm to cover 6 lambda (48 layers) for ttbar running
- Detector boundaries are determined and agreed upon among different detector options
  - Everything of ECAL is required to stay within two concentric circles with  $dR=300\text{mm}$
  - Everything of HCAL is required to stay within two concentric circles with  $dR=1550\text{mm}$
- Many parameters for cost estimation have been identified and determined. CMS HGCal upgrade is used as an important source of information for cost estimation.
- First version of cost estimation presented for difference detector options. Needs to be reiterated with more reliable and consistent input.
- All detector options are refining their layout within the agreed-on boundaries. More details have to be considered, for example, the dead areas taken by services.

- Work on readout electronics and cooling designs needs to be reinforced and expedited.
- Need input from MDI about beam background in ECAL and HCAL for detector performance assessment and data rate estimation. This is of particular importance to long bar and stereo crystal configuration.



- Began to consider endcap layout design

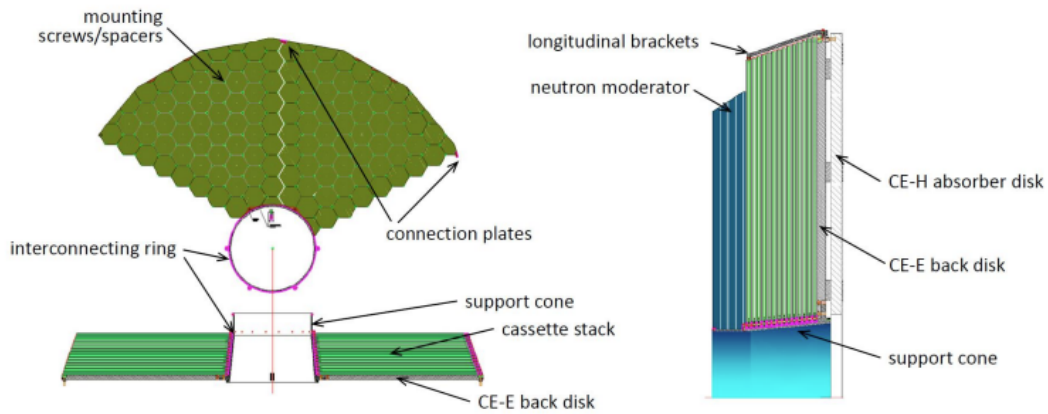


Figure 4.4: The structure of the CE-E shown in the assembly position (left) and operating position (right) with the main elements indicated.

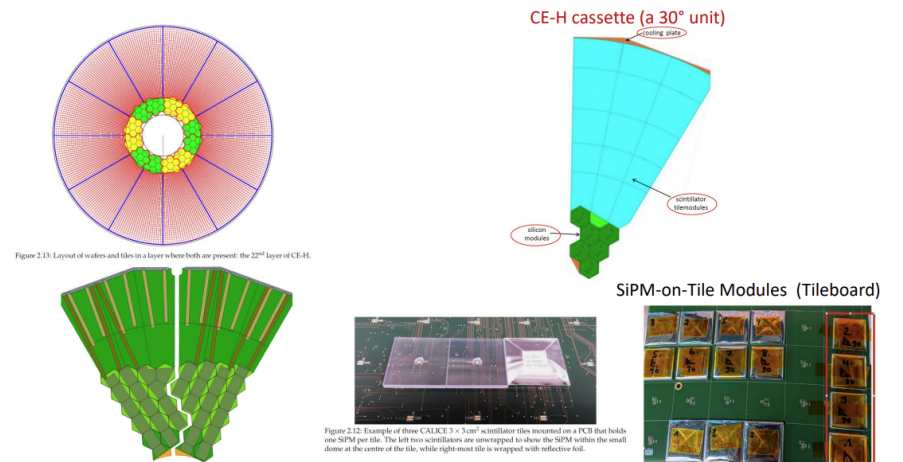


Figure 2.12: Example of three CALICE 3 x 5 cm² scintillator tiles mounted on a PCB that holds one SiPM per tile. The left two scintillators are unwrapped to show the SiPM within the small dome at the center of the tile, while right-most tile is wrapped with reflective foil.

