

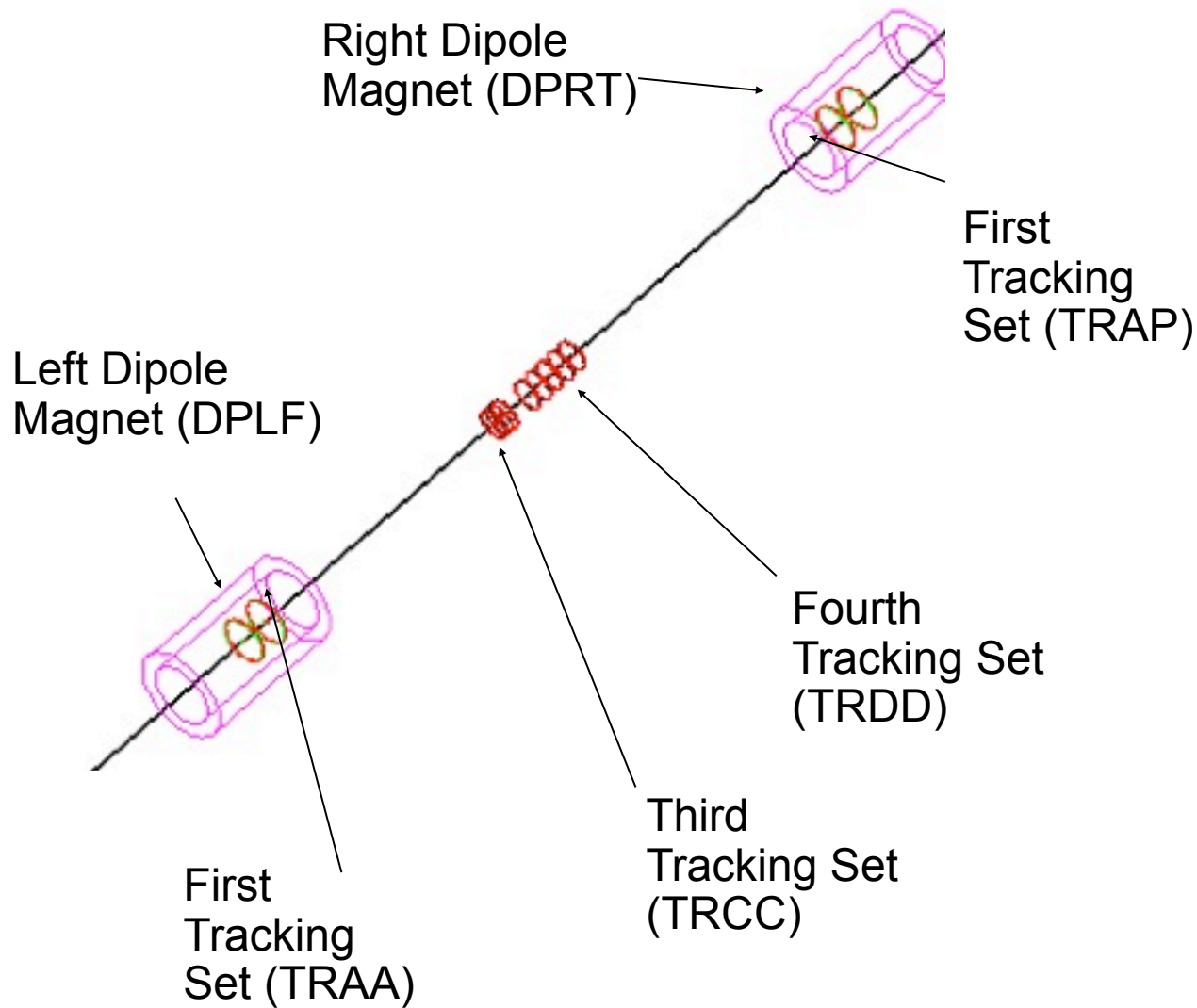
Detector Breakdown

Owen Vail

All dimensions are given in centimetres.

For cylindrical objects, when no inner radius is given, $r_{\text{minimum}} = 2$ cm to accommodate beam pipe

Beam Pipe (PIPE + BEAM):
Inner Radius= 0
Outer Radius= 2.0
Z= {-1300, 1300}



TRAA/TRAP:

Radius= 45

Z= {-759, -641}

TRAA

Z= {841, 959}

TRAP

Divisions= 2

TRCC:

Radius= 30

Z= {-60, -20}

Divisions= 3

TRDD:

Radius= 30

Z= {22, 172}

Divisions= 5

DPRT/DPLF:

Inner Radius= 60

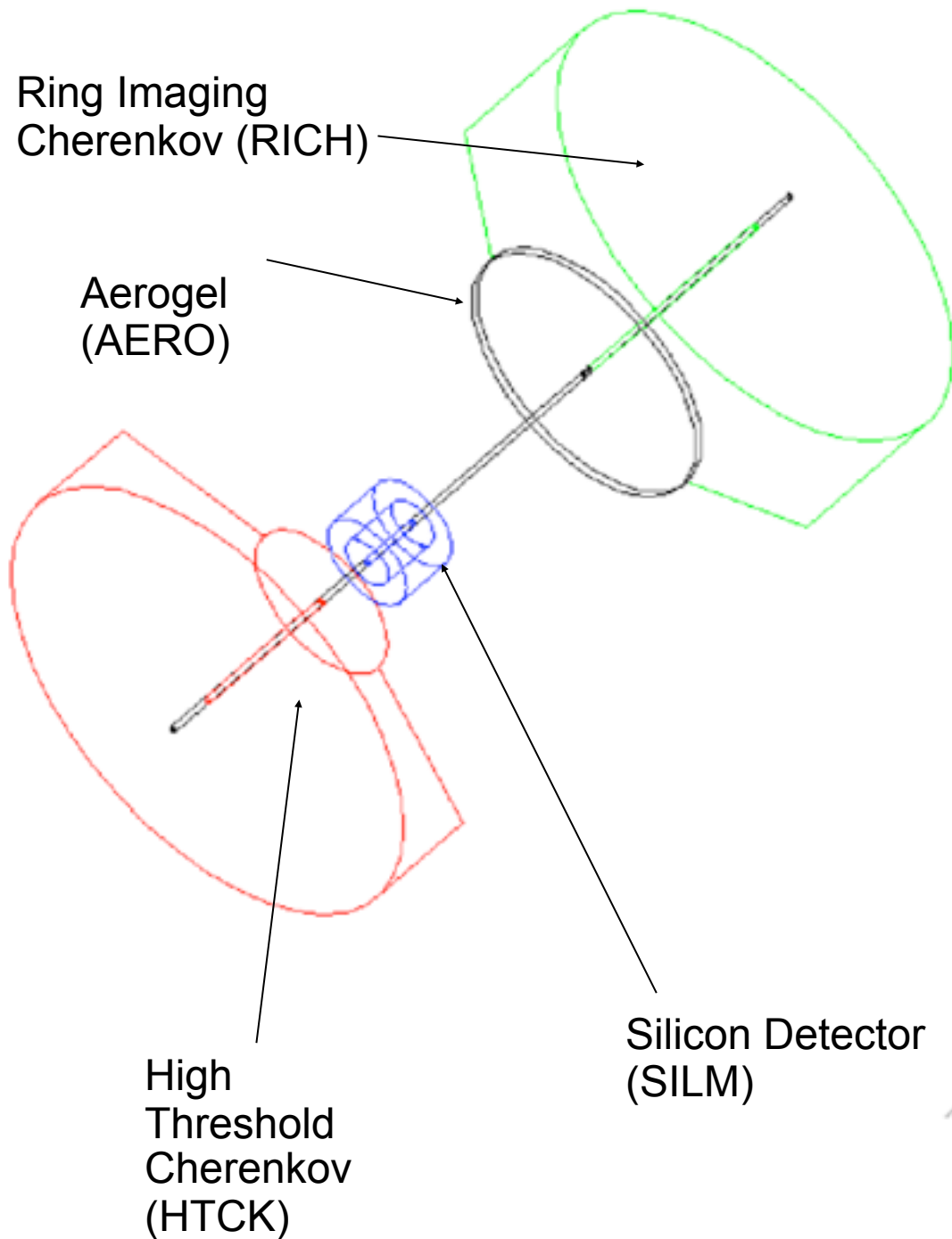
Outer Radius= 90

Z= {800, 1100}

DPRT

Z= {-900, -600}

DPLF



HTCK:

Inner Radius= 2 > 2
 Outer Radius= 149 > 50
 Z= {-160, -85} > {-85,-60}

RICH:

Inner Radius= 2 > 2
 Outer Radius= 85 > 150
 Z= {175, 215} > {215,320}

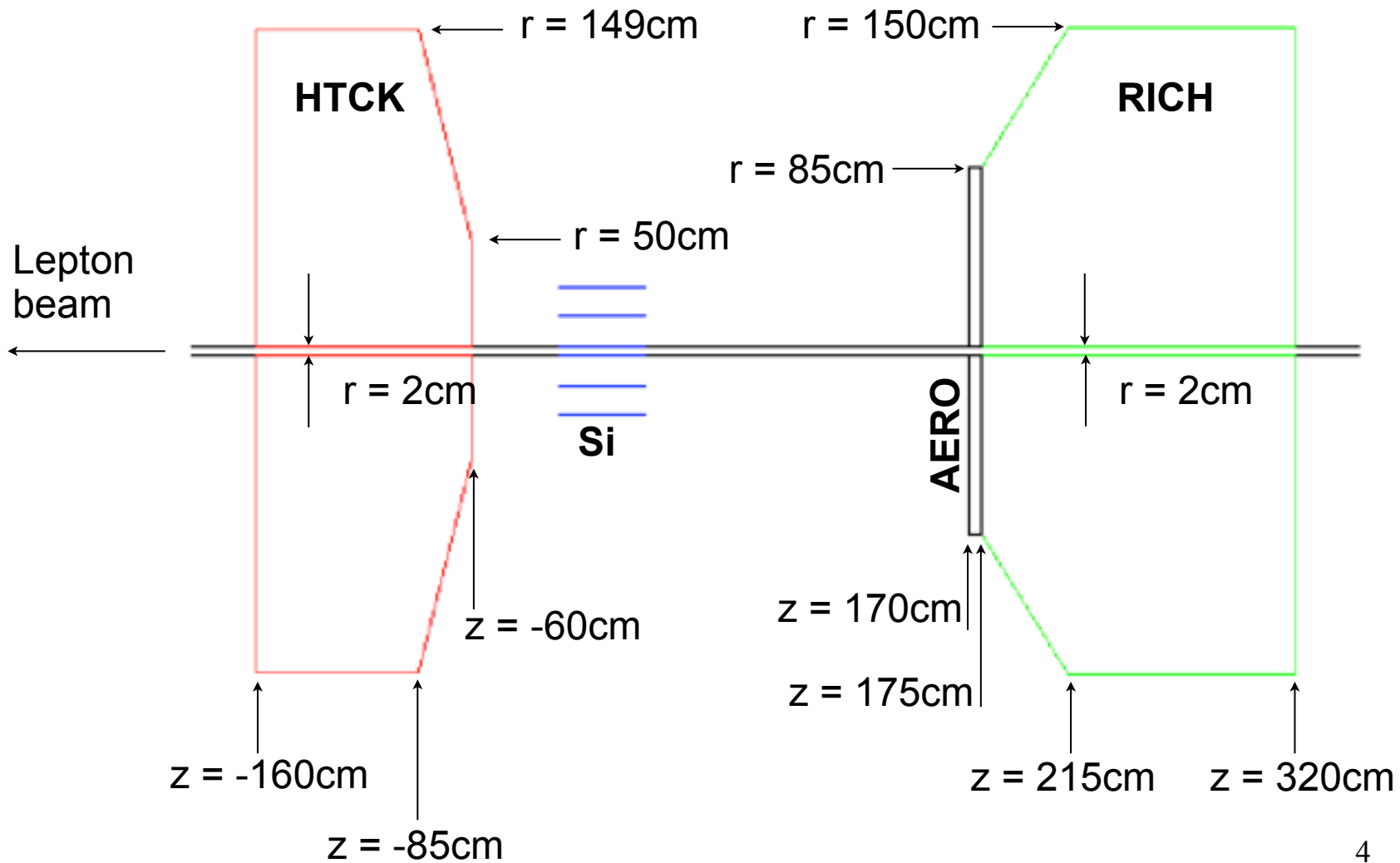
AERO:

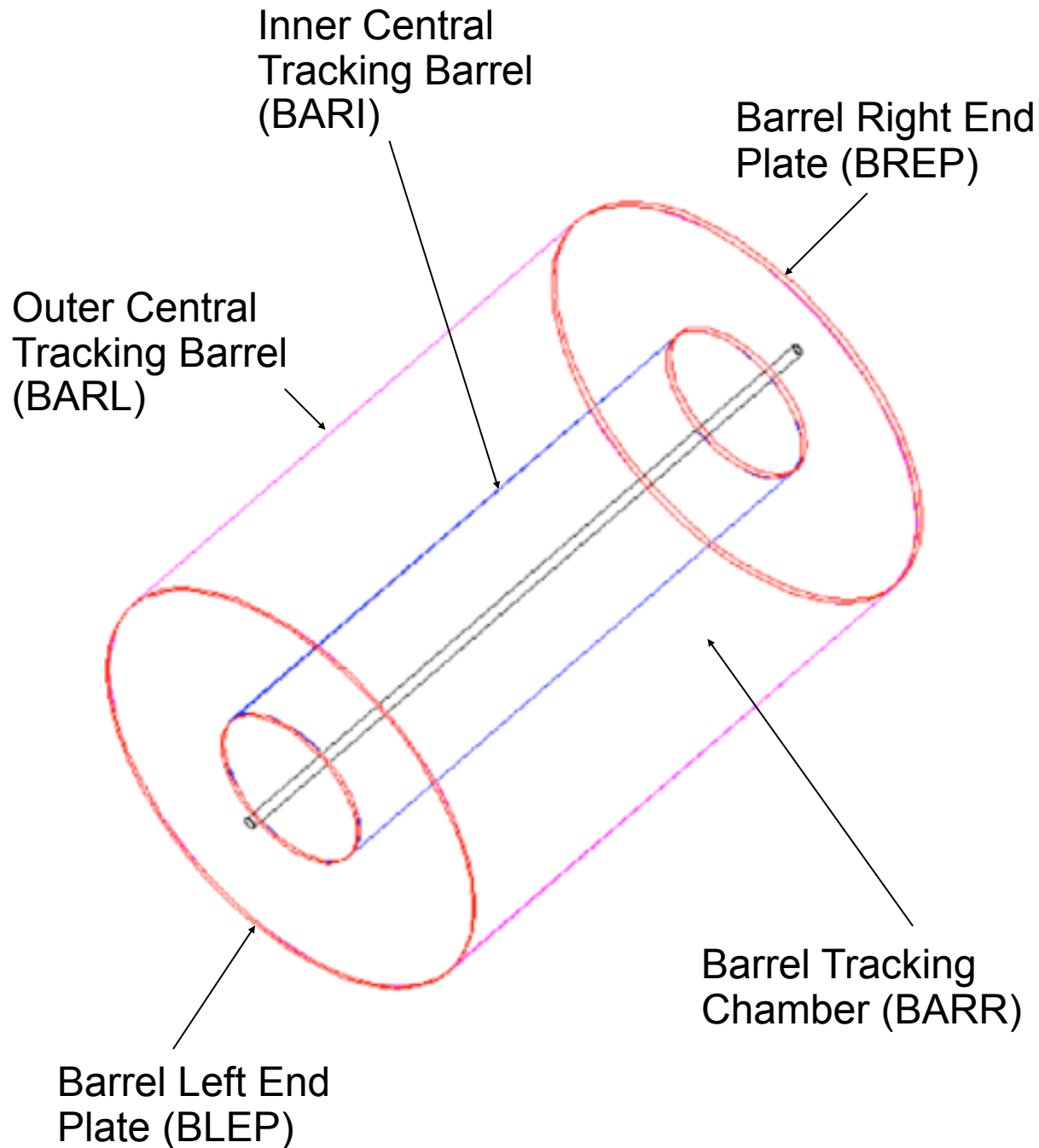
Inner Radius= 2
 Outer Radius= 85
 Z= {170, 175}

SILM:

Radius= {2, 16, 30}
 Z= {-20, 20}
 Subsections= 3

HTCK/RICH cross section





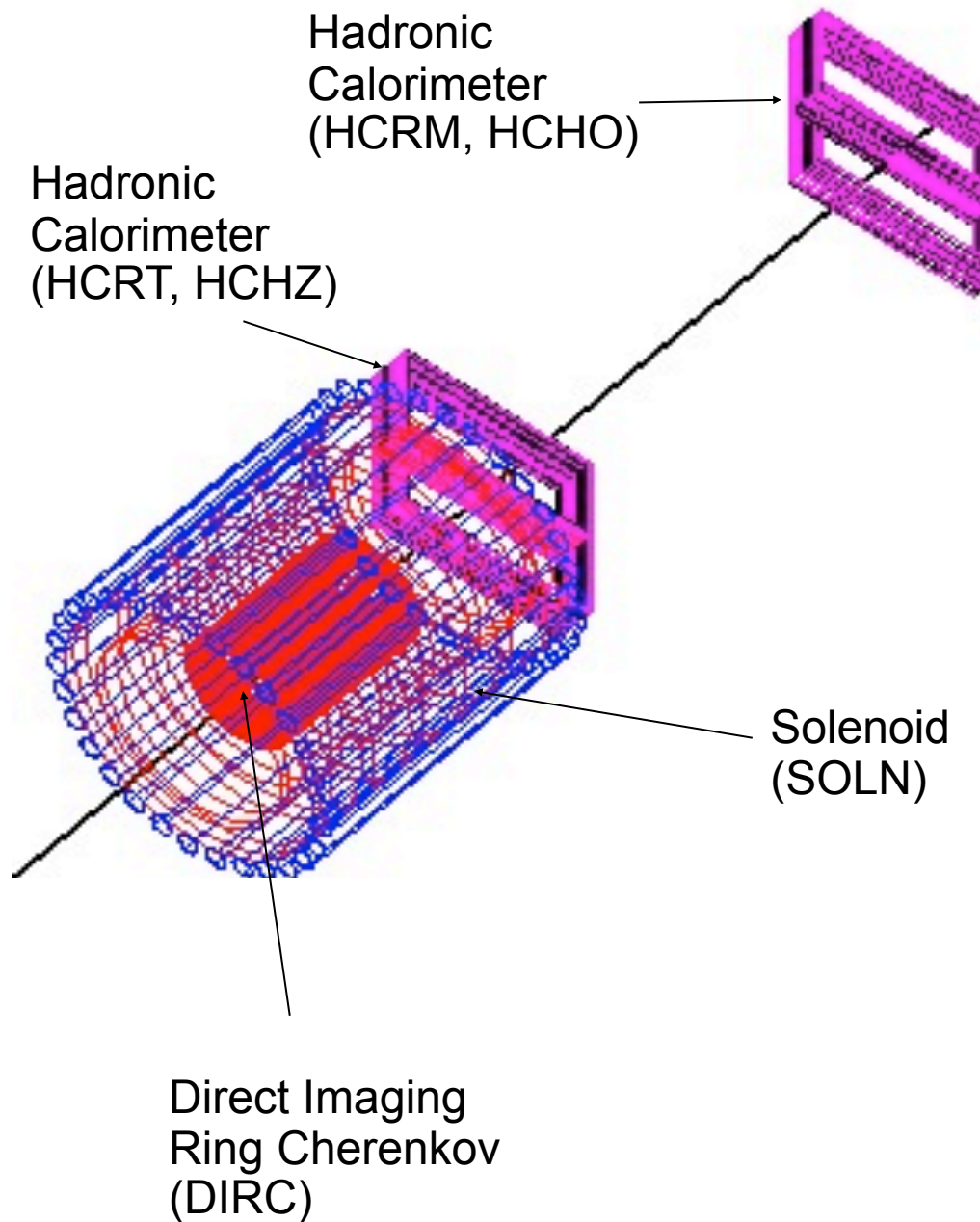
BARL:
 Inner Radius= 81
 Outer Radius= 81.1
 Z= {-58.6, 167.6}

BARI:
 Inner Radius= 30
 Outer Radius= 30.1
 Z= {-58.6, 167.6}

BLEP:
 Inner Radius= 30
 Outer Radius= 81.1
 Z= {-59.9, -58.7}

BREP:
 Inner Radius= 30
 Outer Radius= 81.1
 Z= {169.9, 167.7}

BARR:
 Inner Radius= 30.2
 Outer Radius= 80.9
 Z= {-58.5, 167.5}



HCRT/HCHZ:

$Z = \{360, 422\}$

HCRM/HCHO:

$Z = \{1140, 1202\}$

SOLN:

Inner Radius= 150

Outer Radius= 225

$Z = \{-160, 320\}$

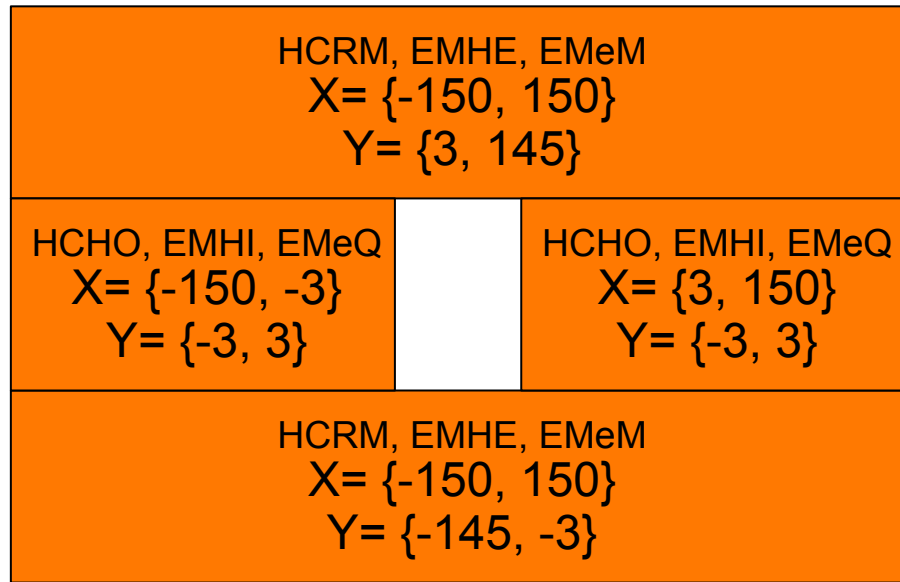
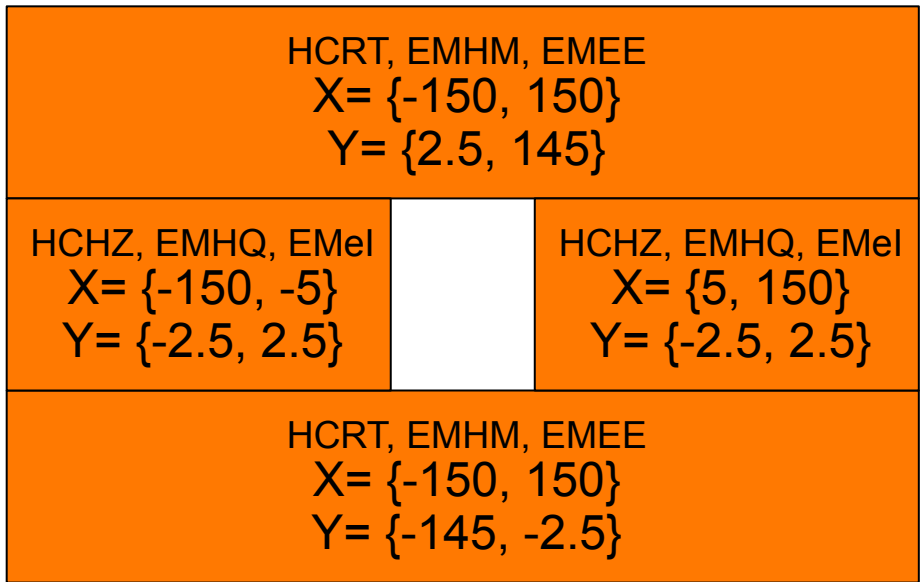
DIRC:

Inner Radius= 85

Outer Radius= 87

$Z = \{-65, 175\}$

See next slide for X and Y coordinates of Hadronic Calorimeters



Inner

Outer

Calorimeters not to scale.

Δ 's = space saved for the pipe and can be derived from the numbers above.

Inner Calorimeters:

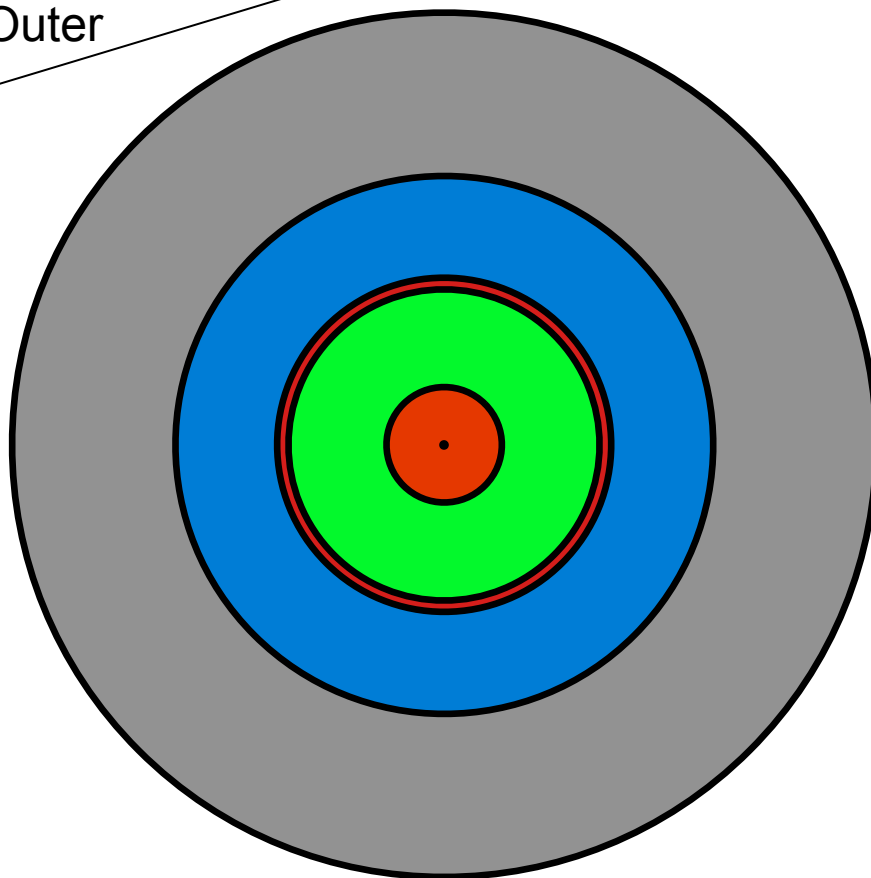
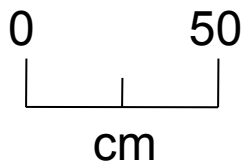
$$\Delta X = 5$$

$$\Delta Y = 5$$

Outer Calorimeters:

$$\Delta X = 6$$

$$\Delta Y = 6$$



From inside out:

Beam Pipe: $\{1.9, 2\}$

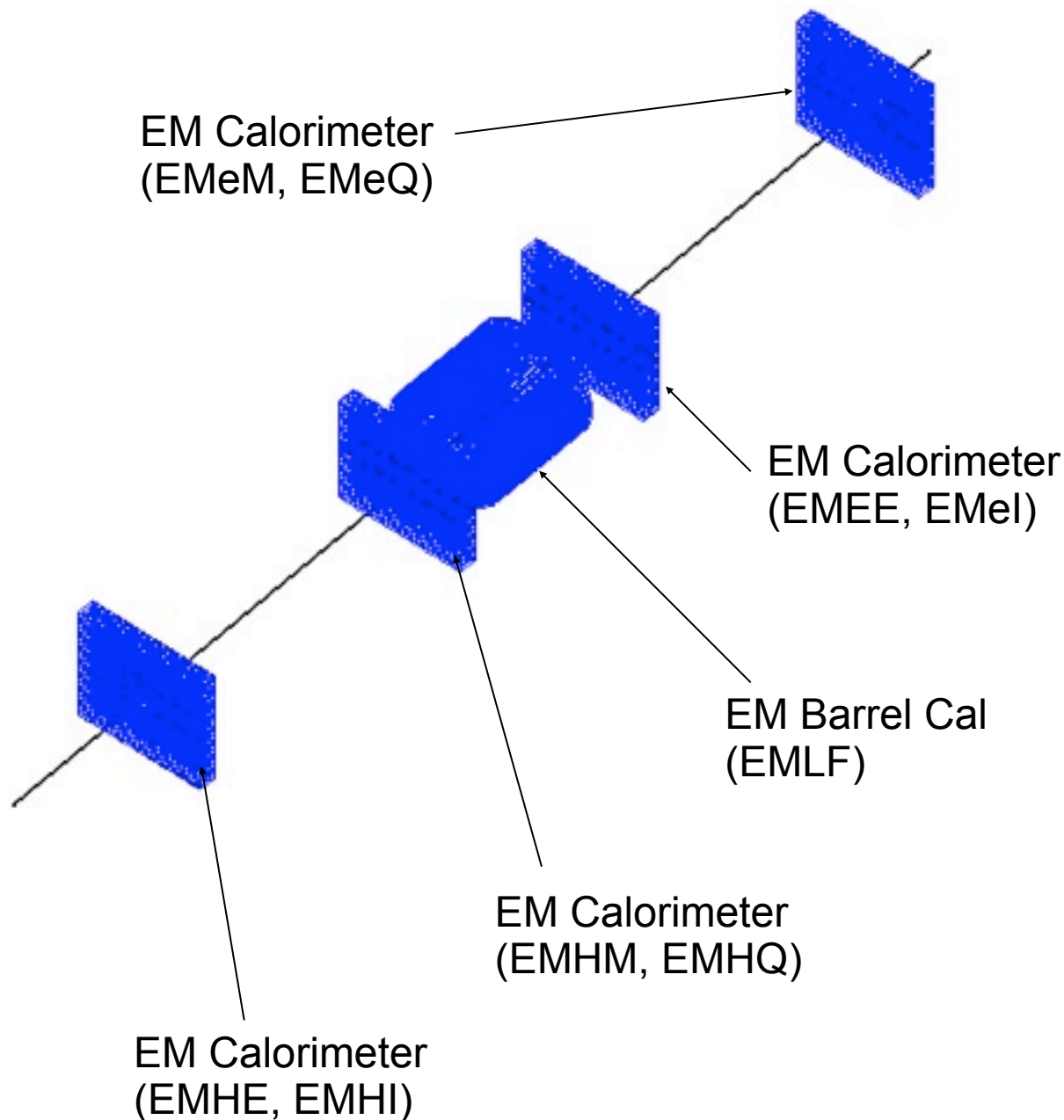
Silicon: $\{2, 30\}$

Barrel Tracking:
 $\{30, 81.1\}$

DIRC: $\{85, 87\}$

EM cal: $\{100, 140\}$

Solenoid: $\{150, 225\}$



EMLF:

Inner Radius= 100
 Outer Radius= 140
 $Z = \{-70, 180\}$

EMEE/EMEl:

$Z = \{320, 360\}$

EMeM/EMeQ:

$Z = \{1100, 1140\}$

EMHM/EMHQ:

$Z = \{-200, -160\}$

EMHE/EMHI:

$Z = \{-940, -900\}$

See previous slide for X and Y coordinates of Electromagnetic Calorimeters