LDC01Sc

This is an approximation of the LDC01Sc detector in Mokka. The compact description of this detector in xml format can be found at http://www.lcsim.org/detectors/ldc01app.zip . What follows is a plain text description of the file compact.xml found in this zip file.

The tracking region is defined to be a cylinder with radius 158. cm and z extent +/- 229.95 cm.

Beampipe:

The beampipe consists of cylinders and cones of Be and Fe. The inner radius of the central Be beampipe is 1 cm. A beam vacuum is defined inside the beampipe.

Luminosity Monitor:

The luminosity monitor is NOT included

Vertex Detector:

The vertex detector is composed of a central barrel system with five layers.

The first barrel layer is 10 cm long and the rest are 25. cm long, and are composed of 0.028 cm Beryllium and a .00375 cm Silicon slice which is sensitive.
The inner radii of the layers are:

1.55, 2.7, 3.8, 4.9, 6.0

Strip lines, electronics and supports are included

Tracker:

The intermediate tracker is composed of two barrels composed of 0.03 cm of silicon.
The inner radii and z extent of the two barrel layers are:

z	inner radius
38.	16.
66.	30.

The small angle endcap tracker is composed of 7 disks with sensitive slices of 0.03 cm dense silicon, 8.72 g/cc.
The position and size of the disks are:

z	inner radius	outer radius
20.0	3.8	14.0 cm
32.0	4.8	14.0 cm
44.	5.9	21.0 cm
55.	6.8	27.0 cm
80.	9.0	29.0 cm
105.0	11.1	29.0 cm
130.0	13.2	29.0 cm

The central TPC tracker consists of a 394 cm long, 158 cm radius sensitive volume filled with Ar.
The forward TPC endcap tracker consists of a disks with sensitive slices of 0.03 cm silicon at
z = 220 cm with inner and outer radii of 30.5 and 149 cm.

Calorimeters:
Electromagnetic Calorimeter:

The inner radius for the barrel is 160 cm.

The EM calorimeter is a sampling calorimeter composed of 20 layers of

material	thickness
Tungsten	.21cm
G10	.16cm

Silicon	.05cm
Air	.08cm

follow by 10 additional layers with 0.42 cm Tungsten.

The z extent of the barrel cylinder is +/- 220 cm.
The endcap starts at an inner radius of 30 cm and extends out to 179 cm.

Hadron calorimeter:

The hadron calorimeter is a Fe scintillator sampling calorimeter composed of 40 layers of

material	thickness
Iron	1.8 cm
Polystyrene	0.65 cm

The barrel inner radius is 180 cm with a z extent of +/- 220 cm.
The endcap extends from an inner radius of 30 cm to an outer radius of 247 cm.

Solenoid:

The Solenoid is NOT modeled. However the Field is, at a constant Bz of 4 Tesla.

Muon:

The muon system does not exit.

Masks and far forward detectors are NOT implemented.