Hall C Target Configuration

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1 Target Configuration

Table 1 shows the list of target available for the April 2003 running in Hall C. The list starts with the uppermost target. The solid target ladder has not been used in lue of a more comprehensive optics/dummy target. A BeO view screen has been added to the bottom of the target stack.

Table 1: Target postions and materials. Note: BDS positons are given before accounting for vacuum and cryo motion.

Position	Target	BDS postion
4cm Dummy 1	Thin 4 cm foils	18016185
4cm Dummy 2	Thick 4 cm foils	17040825
15 cm Dummy	Thick 15 cm foils	16390585
8cm Optics	$\pm$4 cm Carbon foils	15740345
Central Carbon	Central carbon foil	15090105
5 foil optics	$\pm$15,$\pm$8,0 foils	14439865
Loop 1	Hydrogen	12488310
Loop 2	Spare	8782977
Loop 3	Deuterium	5008001
Viewer	BeO	637569
Empty	None	-988031

2 Target Cell Thicknesses

The target cell thicknesses have been measured before assembly in four positions. Figure 1 describes the positions and the Table 2 contains the data. The cell material is Al 7075 and they are 4 cm in diameter.

Table 2: Cell thicknesses. Dimensions for A, B, C, and D are in inches x 1000. Loops are numbered from the top down.

Cell	Loop	A (in x 1000)	B (in x 1000)	C (in x 1000)	D (in x 1000)	OD of cell (in)
1	1	5.45$\pm$0.05	5.35$\pm$0.05	5.00$\pm$0.05	5.15$\pm$0.05	1.580$\pm$0.003
2	2	4.80$\pm$0.05	4.65$\pm$0.05	4.80$\pm$0.05	4.75$\pm$0.05	1.582$\pm$0.003
5	3	4.85$\pm$0.05	4.85$\pm$0.05	4.70$\pm$0.05	4.40$\pm$0.05	1.581$\pm$0.003

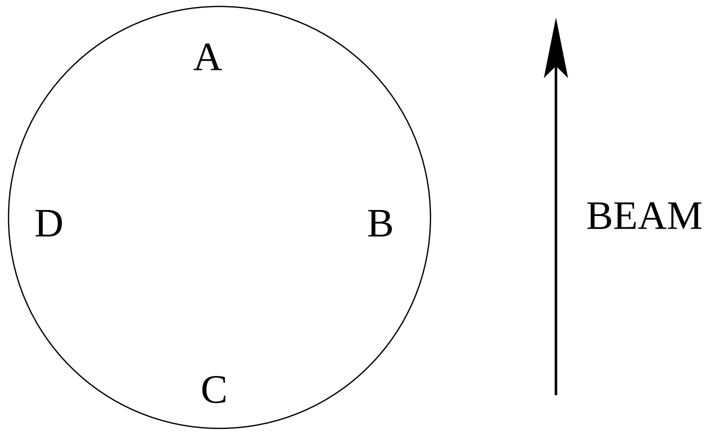

Figure 1: Target cell orientation. Thickness measurements have been made at the four lettered positions and are given in Table 2.

3 Dummy/Optics Target Thicknesses

A schematic of the optics target is shown in Figure 2. The foil thicknesses and materials are given in Table 3.

Table 3: Optics target foil thicknesses and materials. Note that the carbon foils are not made of pyrolytic graphite but simple graphite.

Target	Material	Thickness (g/cm^2)
4cm dummy foil #1	Al 6061-T6	0.2618±0.0003
4cm dummy foil #2	Al 6061-T6	0.2621±0.0003
15cm dummy foil #1	Al 6061-T6	0.2626±0.0003
15cm dummy foil #2	Al 6061-T6	0.2633±0.0003
Central ^{12}C foil	^{12}C 99.95%	0.1733±0.0002
8cm ^{12}C foil #1	^{12}C 99.95%	0.1729±0.0002
8cm ^{12}C foil #2	^{12}C 99.95%	0.1729±0.0002
Thin Al 4cm dummy foil #1	Al 6061-T6	0.0920±0.0001
Thin Al 4cm dummy foil #2	Al 6061-T6	0.0927±0.0001

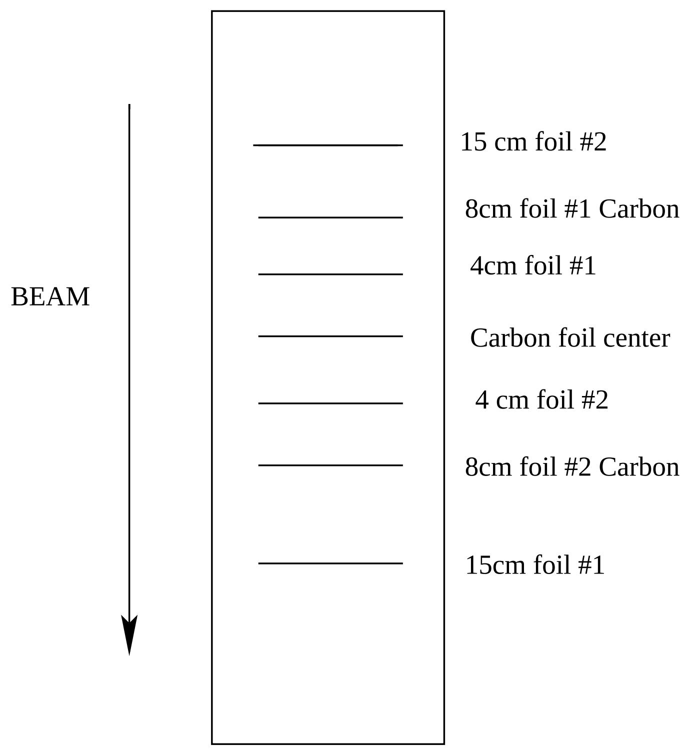

Figure 2: Optics target schematic. Figure shows the layout of the foils in the beam path.