Hall C Target Configuration

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1 Target Configuration

Table 1 shows the list of target available for the Jan 2005 running in Hall C. The list starts with the uppermost target. A solid target ladder is attached to the stack above the optics sled. See acompanying photos.

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

Position	Target	BDS postion
Copper	1% Copper	22070467
Carbon	1% Carbon	20769987
Gold	1% Gold	19469507
Iron	1% Iron	18169027
4 cm Dummy	4 cm aluminum	16389316
8cm Optics	± 4 cm Carbon foils	15739076
4 foil optics	$\pm 4.0, \pm 2.0$ foils	14438596
Loop 1	Hydrogen	12524740
Loop 2	Deuterium	8826564
Loop 3	Spare	5050921
Thick carbon	Carbon 1 cm	1014469
Empty	None	-901690

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 very nearly 4 cm in diameter.

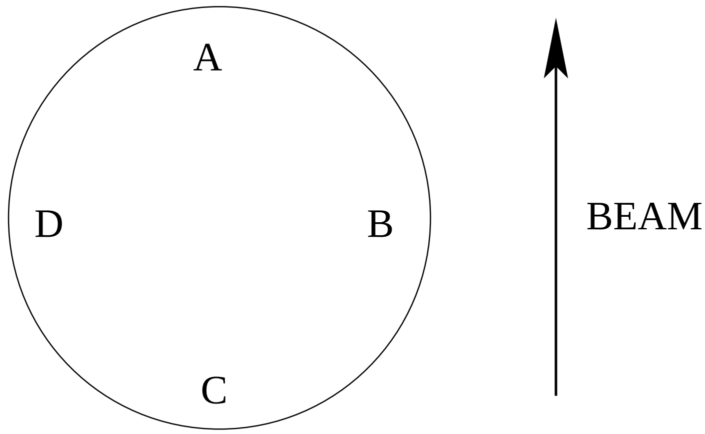


Figure 1: Target cell orientation. Thickness measurements have been made at the four lettered positions and are given in Table 2.

Table 2: Cell thicknesses. Loops are numbered from the top down.

Cell	Loop	A mm	B mm	C mm	D mm	OD mm
1	1	0.1384±0.0013	0.1359±0.0013	0.1270±0.0013	0.1308±0.0013	40.13±0.08
2	2	0.1219±0.0013	0.1181±0.0013	0.1219±0.0013	0.1207±0.0013	40.18±0.08
5	3	0.1232±0.0013	0.1232±0.0013	0.1194±0.0013	0.1118±0.0013	40.16±0.08

3 Dummy/Optics Target Thicknesses

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	0.2626±0.0003
4cm dummy foil #2	Al 6061-T6	0.2633±0.0003
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

4 Solid Target Thicknesses

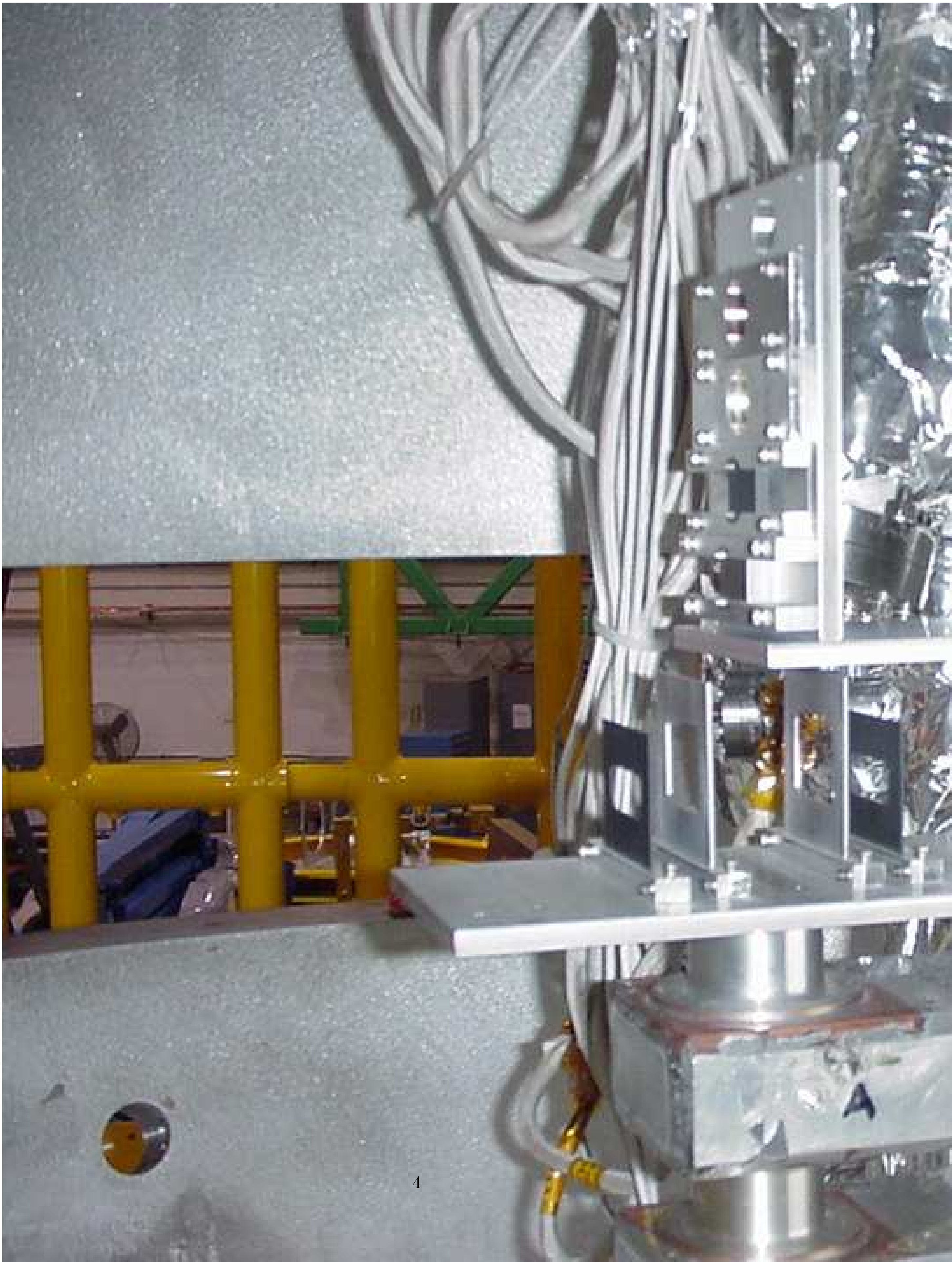
The following table gives the solid target thicknesses

Table 4: Solid target thicknesses.

Target	Material	Thickness (g/cm^2)
1% copper	Cu 99.995%	0.08898 $\pm$ 0.0002
1% gold	Au 99.95%	0.04166$\pm$ 0.0003
Carbon	C 99.95%	0.34604 $\pm$ 0.0003
Iron	Fe 99.5%	0.11851$\pm$ 0.0003
Thick Carbon	C 99.95%	1.789$\pm$ 0.001

5 Pictures

The following are pictures of the target taken prior to closing the scattering chamber.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