

Beam positions through pair spectrometer magnet.

Redone study, June 7, 2011, full field maps.

[Long writeup of study](#)

Mapped Field, Results:

Note: The Z Pos is the position of the beam relative to the target. The X pos, is relative to the "absolute coordinates", which means relative to the beam when all magnets are off.

The center of the magnet in this simulation is at 88.485 mm. So to get the position of the beam relative to the center of the magnet, take (X_pos - 88.485 mm).

The last two columns are the numbers from Takashi's separate study, the results of which he email on June 6th 2011.

		Electron	Photon	TM e-	TM gamma
Name	Z Pos	X Pos	X Pos	X	X
A1 - 110	-314.2 mm	55.71 mm	-		
A2 - 111	-100 mm	64.14 mm	-		
B1 - 10 Target (+2 mm)	2 mm	67.37 mm	-	66.31 mm	-
A3 - 112 Silicon 1	+100 mm	69.64 mm	70.36 mm	69.05 mm	69.36 mm
A4 - 113 Silicon 2	+200 mm	71.48 mm	73.42 mm	71.12 mm	72.4 mm
A5 - 114 Silicon 3	+300 mm	72.63 mm	76.47 mm	72.51 mm	75.45 mm
A6 - 115 Silicon 4	+500 mm	73.22 mm	82.58 mm	73.25 mm	81.54 mm
A7 - 116 Silicon 5	+700 mm	71.10 mm	88.68 mm	71.26 mm	87.63 mm
A8 - 117 Magnet Exit	+900.1 mm	66.29 mm	94.79 mm		
B3 - 12 Ecal Entry	1319 mm	50.64 mm	107.6 mm	51.48 mm	106.49 mm
B4 - 13 Ecal Middle	1549 mm	41.54 mm	114.6 m m		

Results from GEMC simulation, June 4, 2011. [See attachment for full study.](#)

Results for Electron Beam Constant field

Name	Z Pos	X Pos	Local Z pos	Local X pos
A1 - 110	-314.2 mm	55.71 mm		-32.78 mm
A2 - 111	-100 mm	64.14 mm		-24.34 mm
B1 - Target (+2 mm)	2 mm	67.67		-20.82 mm
A3 - 112 Silicon 1	+100 mm	70.4 mm	-400 mm	-18.1 mm
A4 - 113 Silicon 2	+200 mm	72.49 mm	-300 mm	-16. mm
A5 - 114 Silicon 3	+300 mm	73.91 mm	-200 mm	-14.85 mm
A6 - 115 Silicon 4	+500 mm	74.71 mm	0 mm	-13.79 mm
A7 - 116 Silicon 5	+700 mm	72.77 mm	+200 mm	-15.72 mm
A8 - 117 Magnet Exit	+900.1 mm	68.12 mm	+400 mm	-20.38 mm
B3 - 12 Ecal Entry	1319 mm	52.28 mm		-36.24 mm
B4 - 13 Ecal Middle	1549 mm	43.25 mm	-135 mm	-45.27 mm

Results for Photon Beam Constant Field

Name	Z Pos	X Pos	Local Z pos	Local X pos
A1 - 110	-314.2 mm	-		
A2 - 111	-100 mm	-		
B1 - 10 Target	0 mm	-		
A3 - 112 Silicon 1	+100 mm	70.73 mm	-400 mm	-17.75 mm
A4 - 113 Silicon 2	+200 mm	73.86 mm	-300 mm	-14.63 mm
A5 - 114 Silicon 3	+300 mm	76.98 mm	-200 mm	-11.5 mm
A6 - 115 Silicon 4	+500 mm	83.23 mm	0 mm	-5.26 mm
A7 - 116 Silicon 5	+700 mm	89.48 mm	+200 mm	0.99 mm
A8 - 117 Magnet exit	+900.1 mm	95.73 mm	+400 mm	7.24 mm
B3 - 12 Ecal Entry	1319 mm	108.8 mm		20.33 mm
B4 - 13 Ecal Middle	1549 mm	116. mm	-135 mm	27.52 mm