



# Jefferson Lab Alignment Group

## Data Transmittal

**TO:** T. Whitlatch

**DATE:** 09/23/2021

**FROM:** Elena Balan

**Check** TPS III

**# :** D2007

**DETAILS:**

M:\align\DATA\Step2B\HallD\210726A  
 Step2B\HallD\210723A  
 HallD\COMPCAL\210824A

The data below shows the as found positions of the Hall D, 5H line components. The found coordinates are in the CEBAF coordinate system  
 For the local coordinates, positive x is to the beam left from zero position looking downstream; positive y is above the beamline; positive z is amount downstream.

Component names		CEBAF measured		
CED	Alignment team	X[m]	Y[m]	Z[m]
MPE5H00 ( PermanentMagnet )	TAGSWP	80.60017	104.67685	313.18343
IPC5H01 ( Collimator )	MCOAD01	80.59991	104.69962	374.48526
MPE5H02 ( PermanentMagnet )	MSWAD01	80.59991	104.69995	376.78365
IPC5H02 ( Collimator )	MCOAD02	80.60003	104.69999	380.37244
MSW5H02 ( SweepMagnet )	MSWAD02	80.60003	104.70001	381.13920
IPO5H02 ( Polarimeter )	HDPOLR	80.60005	104.70001	383.06250
ICN5H03 ( PairSpecConverter )	HDPBHA	80.60004	104.69998	385.23073
MPS5H03 ( PairSpecMagnet )	H DPRSP	80.59942	104.69992	386.76769
IPS5H03 ( PairSpectrometer )	HGDETL (left)	80.83853	104.70038	389.69478
	HGDETR (right)	80.36142	104.70036	389.69519
IPS5H03A ( PairSpectrometer )	LGDETL (left)	80.87492	104.70107	390.18425
	LGDETR (right)	80.32513	104.70304	390.18397
	HDTAC	80.60029	104.70070	414.40898

Component names		Beam Following System			Angular Position [ degrees ]		
CED list	Alignment team	dx[mm]	dy[mm]	dz[mm]	Yaw°	Pitch°	Roll°
MPE5H00 ( PermanentMagnet )	TAGSWP	0.17	-0.35	0.13	-0.00172	0.00315	0.00659
IPC5H01 ( Collimator )	MCOAD01	-0.09	-0.38	-0.07	0.02120	-0.00573	-0.02263
MPE5H02 ( PermanentMagnet )	MSWAD01	-0.09	-0.05	-0.38	0.00057	0.00487	-0.02951
IPC5H02 ( Collimator )	MCOAD02	0.03	-0.01	-0.36	-0.00917	0.01833	0.01146
MSW5H02 ( SweepMagnet )	MSWAD02	0.03	0.01	0.09	0.01003	0.02607	0.02722
IPO5H02 ( Polarimeter )	HDPOLR	0.05	0.01	0.09	0.02722	0.00716	0.01146
ICN5H03 ( PairSpecConverter )	HDPBHA	0.04	-0.02	-0.07	-0.01261	-0.02263	0.00745
MPS5H03 ( PairSpecMagnet )	H DPRSP	-0.58	-0.08	6.06	-0.00917	0.02664	0.00659
IPS5H03 ( PairSpectrometer )	HGDETL	-0.21	0.38	45.66	4.67595	-0.01261	0.01089

	(left)						
	HGDETR (right)	0.20	0.36	46.07	-4.68887	-0.00573	0.01318
IPS5H03A ( PairSpectrometer )	LGDETL (left)	0.06	1.07	6.85	4.66848	-0.06875	-0.08508
	LGDETR (right)	-0.03	3.04	6.57	-4.69175	0.08136	0.10371
	HDTAC	0.29	0.67	26.98			

For the IPS5H03 (Pair spectrometer high gain detector) and IPS5H03A (Pair spectrometer low gain detector) the alignment team surveyed the right and left side of each one of the detectors (HGDETL, HGDETR and LGDETL, LGDETR)  
Please consider that components MPE5H00/ TAGSWP and ICN5H03/HDPBHA do not have recent surveys and their coordinates were extracted from older surveys:  
M:\align\DATA\Step2B\HalID\TAGGER\150908B and M:\align\DATA\Step2B\HalID\140915A respectively.