



# Jefferson Lab Alignment Group

## Data Transmittal

**TO:** B. Miller, C.Wiggins

**DATE:** 25 Oct 2019

**FROM:** Kelly Tremblay

**Checked:** LEB

**# :** B1943

### DETAILS:

data: inspection\hallb\htcc\191025a

The Hall B HTCC detector was inspected October 25<sup>th</sup>, 2019. The cone inner ring (facing upstream) and furthest upstream outer ring positions were checked. The data shown below was transformed to the HTCC's July 2018 position (memo B1872). The grid shows the center of the large upstream calculated circle, and small ring circle in the Cebaf coordinate system (meters). Additionally the data points are shown relative to the Hall B 12G target center (mm) looking downstream. The beam following coordinates are also shown. A positive x is to the beam right of beamline; negative y is lower than the beamline.

The large plane points are shown as there is a discrepancy of 3.7 millimeters in Z on the plane points (yawed). The plane itself fit to a plane with a maximum deviation of .28 mm.

The 2018 HTCC data is shown for reference.

	Cebaf Coordinates			Hall B 12G Coordinates			BFS Coordinates	
	x [m]	y [m]	z [m]	x [mm]	y[mm]	z[mm]	x bfs o/s	y bfs o/s
Large US	-80.60123	103.35183	-398.33546	1.23	-3.43	-486.07	1.23	-3.43
Small Ring	-80.60025	103.35502	-399.17888	0.25	-0.24	357.35	0.25	-0.24
large Plane								
P1	-81.95505	103.59018	-398.33590	1355.1	234.9	-485.6		
P2	-81.82349	103.97785	-398.33523	1223.5	622.6	-486.3		
P3	-81.52760	102.33850	-398.33755	927.6	-1016.8	-484.0		
P4	-81.16482	102.09768	-398.33770	564.8	-1257.6	-483.8		
P5	-79.79047	102.19600	-398.33674	-809.5	-1159.3	-484.8		
P6	-80.42279	101.95176	-398.33749	-177.2	-1403.5	-484.0		
P7	-79.19672	103.28238	-398.33474	-1403.3	-72.9	-486.8		
P8	-79.27423	103.79091	-398.33401	-1325.8	435.6	-487.5		

2018 July B1872 memo

Component	Cebaf Coordinate System Ideal			Beam Following System			Angular Deltas		
	X[m]	Y[m]	Z[m]	dx [mm]	dy [mm]	dz [mm]	dYaw (deg)	dPitch (deg)	dRoll (deg)
HBHTCC	-80.60000	103.35526	-398.82153	0.14	0.05	-20.21	0.00286	-0.00315	-0.00029
SOLEN	-80.60000	103.35526	-398.82153	-1.07	-0.84	-29.56	-0.02034	0.00602	0.00315