



# Jefferson Lab Alignment Group

## Data Transmittal

**TO:** S. Stepanyan, V. Burkert, B. Miller

**DATE:** 11 Jan 2018

**FROM:** Kelly Tremblay

**Checked:** TPS III

**# :** B1848

### DETAILS:

data : step2b\bsy\2c\_12\180111a & fiduc\hallb\12tgt\180109a

The Hall B target and beamline were surveyed January 11<sup>th</sup>, 2018. From the previous survey, (memo B1829 November 17<sup>th</sup>, 2017) the target was found to be 3.45 millimeters beam left, 0.42 millimeters below design (ideal) beamline and 19.4 millimeters upstream. The reason the target was not aligned closer was due to mechanical limitations of the cart / rails, plus not wanting to risk a collision of the scattering chamber and the inner detectors.

A decision was made (by S. Stepanyan and B. Miller) to move the target approximately 2 mm to the beam right. On January 9<sup>th</sup>, 2018, the target was offset in the x coordinate by 2.3 mm beam right and resulted in y coordinate being 0.2 mm higher than before. After aligning on the 11<sup>th</sup> of January, the target is now at the following location from ideal:

Component	As-Found BFS [mm]			As-Found Angular [degrees]		
	x[mm]	y[mm]	z[mm]	yaw[deg]	pitch[deg]	roll[deg]
Target	1.1	-0.9	-19.4	-0.0186	-0.0040	0.0138

Positive x is to the beam left from ideal beam; negative y is the amount lower than beamline; negative z is amount upstream from ideal target. Positive yaw is the counter clockwise rotation about the Y axis; negative pitch is the clockwise rotation about the X axis; positive roll is the clockwise rotation about the Z axis.

The ideal CEBAF coordinate for the target is shown below for reference.

Component	Cebaf Ideal [meters]		
	x[m]	y[m]	z[m]
Target	-80.60000	103.35526	-398.82153

The upstream beamline, IPM2H01 and IHA2H01 locations are shown below (z distance from 12G target in meters):

Component	As-Found BFS			As-Found Angular [degrees]		
	x[mm]	y[mm]	z[M]	yaw[deg]	pitch[deg]	roll[deg]
IPM2H01	-0.02	-0.20	-9.249	0.01346	0.01518	-0.04383
IHA2H01	-0.33	-0.20	-8.276			
beampipe	0.85	0.63	-11.271			
beampipe	2.57	0.90	-10.091			
beampipe	0.02	0.26	-9.477			
beampipe	-0.59	0.14	-8.442			

Component	As-Found BFS		
	x[mm]	y[mm]	z[M]
beampipe	0.28	-1.47	-7.950
beampipe	1.20	-0.59	-7.403
beampipe	-0.50	0.94	-7.229
beampipe	0.28	-1.47	-7.950