



# Jefferson Lab Alignment Group

## Data Transmittal

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**DATE:** 30 Nov 2015

**FROM:** J. Walker

**Checked:** JCD

**# :** A1686

**DETAILS:**

DATA: Step2B\HALLA\Moller solenoid\151125A  
 Fiduc\HallA\Moller\Target Ladder\151124A  
 Inspection\HallA\MOLLER\Moller\target\151123A

Below are the results from the recent surveys carried out on the Hall A moeller solenoid and target. **Note:** As set distance between MMA1H01 steel center and target foil upstream face is 4.1625M

### Target and Solenoid Locations:

Coordinates are given in meters and relative to an ideal beam following system (+X is Beam Left, +Y is above beam. Z is upstream from Hall A pivot. A +pitch is counter clockwise looking from beam right side. A +yaw is ccw looking from above, and a + roll value is cw looking from upstream.

Component	X(m)	Y(m)	Z(m)	Pitch(deg)	Yaw(deg)	Roll(deg)
Moller Solenoid	-0.00009	-0.00004	-17.43442	0.001°	0.003°	0.010°
Moller Target	0.00206	-0.00031	-17.43457	0.267°	-0.576°	0.060°

### Ladder and Foil Inspection:

A coordinate system was established on the moeller target ladder where the XYZ origin was the average center of each target when placed in ideal beam position. This coordinate system is rotated to match the pitch and yaw of the average plane created using all four foil targets.

Foils @ Beamline	X(m)	Y(m)	Z(m)	Pitch(deg)	Yaw(deg)	
Foil1	-0.11	0.05	0.13	0.006°	-0.123°	
Foil2	-0.08	-0.15	0.00	-0.025°	0.082°	
Foil3	0.18	0.05	-0.16	0.092°	-0.078°	
Foil4	0.01	0.04	0.04	-0.072°	0.119°	
Ladder Pitch and Yaw						
DS Ladder Face				0.100°	0.006°	
Rotation at limit switches						
Positive Switch					13.667°	
Center of Switches					0.514°	
Negative Switch					-7.511°	