



# Jefferson Lab Alignment Group

## Data Transmittal

**TO:** Tim Whitlatch

**DATE:** 01 Nov 2011

**FROM:** Kelly Tremblay

**Checked:** (cg)

**# :** D1415

**DETAILS:**

data : step2a\halld\111028B\

The Hall D solenoid cryostat chimneys were located on October 28<sup>th</sup>, 2011. The data below show a center radial point for the bottom flange of each chimney, the unit vector values at that point and the radius to the outside surface at the bottom flange. The x,y,z coordinates are relative to the most upstream endplate of the solenoid's ideal center (0,0,0), with units in millimeters. A +x value is to the ideal beam left, +y is above ideal beamline and +z is downstream from the upstream endplate's origin. The radius values are in millimeters.

Chimney	X (mm)	Y (mm)	Z (mm)	i	j	k	Rad (mm)
2	1.0	2874.0	1193.2	-0.00002	0.99998	0.00617	228.8
1	-4.5	2878.2	2520.1	-0.00927	0.99996	0.00161	227.1
3	1.4	2852.3	3306.9	0.00328	0.99989	0.01470	228.9
4	-2.4	2857.4	4068.9	0.00248	-0.99998	-0.00523	228.5

Additionally, the calculated center differences from design of the 4 yokes and 2 endplates are given below. The yokes/plates are at their initial aligned values, not the finals. The values are in millimeters. A + dx is to the beam left of design, +dy is above design, and +dz is downstream from design. D-yaw/d-pitch/d-roll is the amount of rotations that the parts are from ideal. A +yaw is counter clockwise along the y axis, +pitch is clockwise along the x axis and +roll is clockwise along the z axis. The rotational units are decimal degrees.

Yoke	dx(mm)	dy(mm)	dz(mm)	d-yaw°	d-pitch°	d-roll°
UpPlate	-0.3	-1.3	-1.2	0.0063	0.0275	-0.0060
2	0.2	-0.3	-0.7	0.0301	0.0040	0.0183
1	0.0	-0.4	-1.0	0.0315	0.0052	0.0140
3	0.4	-0.1	2.9	0.0060	-0.0269	-0.0009
4	0.1	0.3	4.7	0.0123	-0.0255	0.0140
DnPlate	0.8	-0.5	10.0	0.0178	-0.0367	-0.0092