Jefferson Lab Alignment Group

Data Transmittal

TO: J. Gubeli, S. Benson		**DATE:** 08/16/2019
FROM: Kelly Tremblay	**Checked:** SEH	**# :** F1936

DETAILS:

data : step2b\lerf\iso\190329a

The dipole magnet (DQ2F_90) in the ISO line was aligned on March 29th, 2019. The results are shown below.

The ideal and found coordinates are shown in meters relative to the FEL coordinate system. The beam following coordinates (millimeters) are also shown and are described as follows: Positive x is to the beam left from ideal beam looking downstream; Positive y is the amount lower than beamline; negative z is amount upstream from the ideal position.

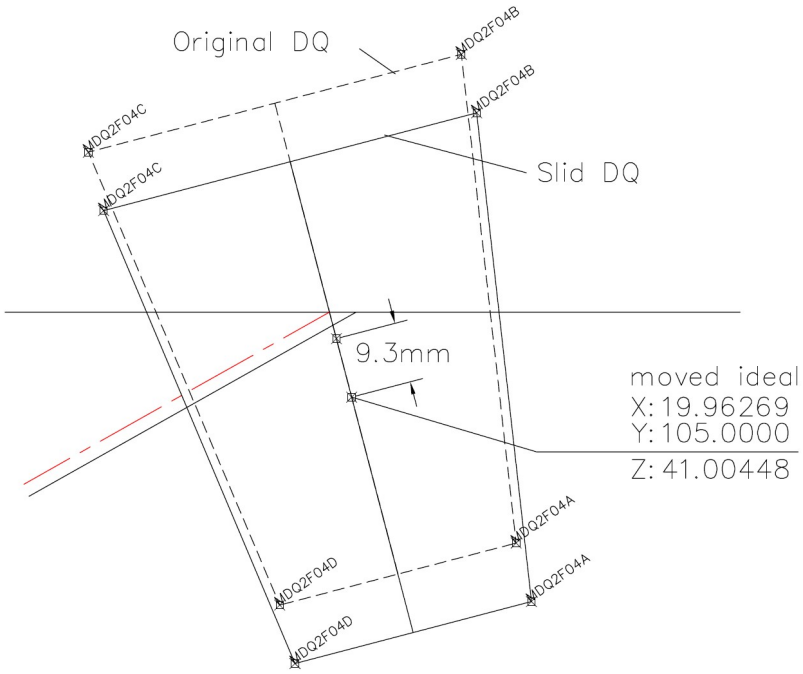
The angular displacements are shown in degrees. Positive yaw is the counter clockwise rotation about the Y axis; negative pitch is the clockwise rotation about the X axis (physics standard); positive roll is the clockwise rotation about the Z axis.

Note: the ideal center coordinates are based on the location of the alignment pins on the DQ magnet obtained from J. Gubeli (ref dwg LERF-ISO-500). The final 'ideal' location had to be slid along the center axis of the DQ magnet 9.3 millimeters.to accommodate the vacuum chamber. The ideal center is the midpoint between the 4 alignment pins.
See sketch on 2nd page.

	Ideal			Found			Beam Following		
	x [m]	y[m]	z[m]	x [m]	y[m]	z[m]	dx[mm]	dy[mm]	dz[mm]
DQ2F_90	19.96269	105.00000	41.00448	19.96266	104.99693	41.00454	-0.055	-3.073	-0.044

Ideal Angular (degrees)		
Yaw	Pitch	Roll
104.6584	0.0000	0.0000

Angular displacements BFS		
dYaw	dPitch	dRoll
0.0237	-0.0172	-0.0126


Original DQ
MDQ2F04B
MDQ2F04B
MDQ2F04C
MDQ2F04C
Slid DQ
9.3mm
moved ideal
X: 19.96269
Y: 105.0000
Z: 41.00448
MDQ2F04A
MDQ2F04A
MDQ2F04D
MDQ2F04D