Jefferson Lab Alignment Group

Data Transmittal

TO: B. Sawatzky, D. Gaskel, M. Jones, S. Lassiter, M. Fowler	**DATE:** 08/24/2017	
FROM: Kelly Tremblay	**Checked:** SEH	**# :** C1812

DETAILS: data: aalign\shms\s20170808

Below are the results from the survey of SHMS spectrometer August 8th, 2017. The SHMS fiducial points were observed from the beam right side only.

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The horizontal pointing value shows how much the central axis of the spectrometer misses the ideal target. This value is perpendicular to the spectrometer axis, not along the beam line. For the vertical pointing, a positive value indicates that the spectrometer is pointing above the target.

========== RESULTS ========== S20170808

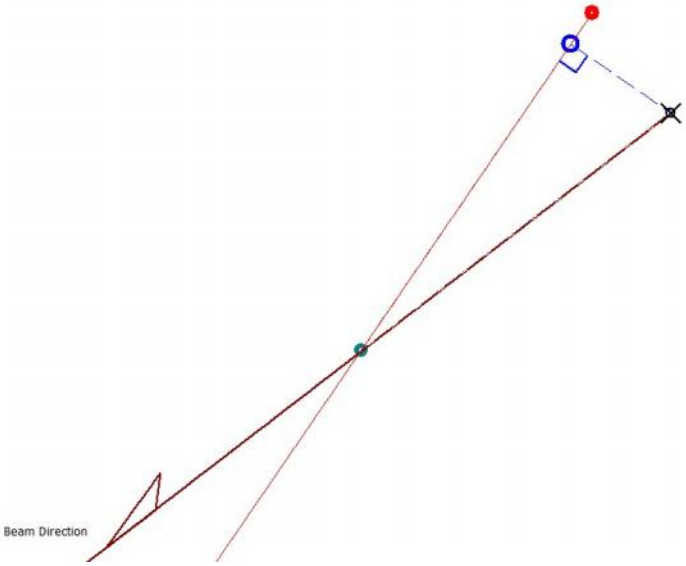
The central ray of the spectrometer is at 18.0143 degrees
FOR SHMS REPORTING angle is : 15.0143 degrees
[see bender RotY(yaw) for actual bender angle]
The central ray is missing the defined target center by 0.74 [mm] Upstream
and 1.34 mm vertically [positive value is up]

Bender RotZ (roll) = 0.00587 degrees
Bender RotX (pitch) = 0.02864 degrees
Bender RotY (yaw) = 125.89978 degrees
Bender Rotation wrt Hall C Zero Azimuth = 16.58454 degrees
Bender Calc A posteriori value= 0.043 millimenters

9 Par A posteriori value : 0.31 (mm)

Sketch for the data is shown on the next page.

S20170808



Beam-Spec Intercept Point
Beam-Spec Perpendicular Point
Spectrometer Projected Target Point
Straight-Ahead Target Point [ideal]

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angles: delta : 18.01429 [degrees]
    beam        : -142.48325 [degrees]
    spectrometer: 235.53104 [degrees]

perpendicular distance : 0.741  [mm]
target - intersect dis : 2.396  [mm]
found target - intersect dis : 2.510  [mm]
Spectrometer is 1.34 higher than ideal target [mm]
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Spectrometer Line
Straight-Ahead Beam
Perpendicular line

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     SHMS CASE :
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Bender Reporting Angle : 15.01429 [degrees]
Bender Rotation wrt Hall C Zero Az = 16.58454 [deg]
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