



Jefferson Lab Alignment Group

Data Transmittal

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Checked:

: C1982

DETAILS:

data: aalign\shms\2019\s112719

Below are the results from the survey of SHMS spectrometer November 27th, 2019. The SHMS fiducial points were observed from the beam left side of the spectrometer. The geometry for the observed laser tracker positions was not optimal due to obstructions when observing the targets on the SHMS components.

Note: the bender magnet target fiducials cannot be observed from the SHMS beam left surveys.

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.

===== SUPER HMS RESULTS ===== S112719

The central ray of the spectrometer is at -15.499 degrees

FOR SHMS REPORTING angle is : 12.4989 degrees

The central ray is missing the defined target center by 0.97 [mm]
Downstream

and 0.02 mm vertically [positive value is up]

*** note Bender check is not possible from SHMS left side surveys ***

Bender Rotation Z (roll) = 0.00000 degrees

Bender Rotation X (pitch) = 0.00000 degrees

Bender Rotation Y (yaw) = 0.00000 degrees





Bender Rotation wrt Hall C Zero Azimuth = 142.48432 degrees

Bender Calc A posteriori value= 0.000 millimeters

9 Par A posteriori value : 0.17 (mm)




Sketch appears on next page:

S112719 --> S112719

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

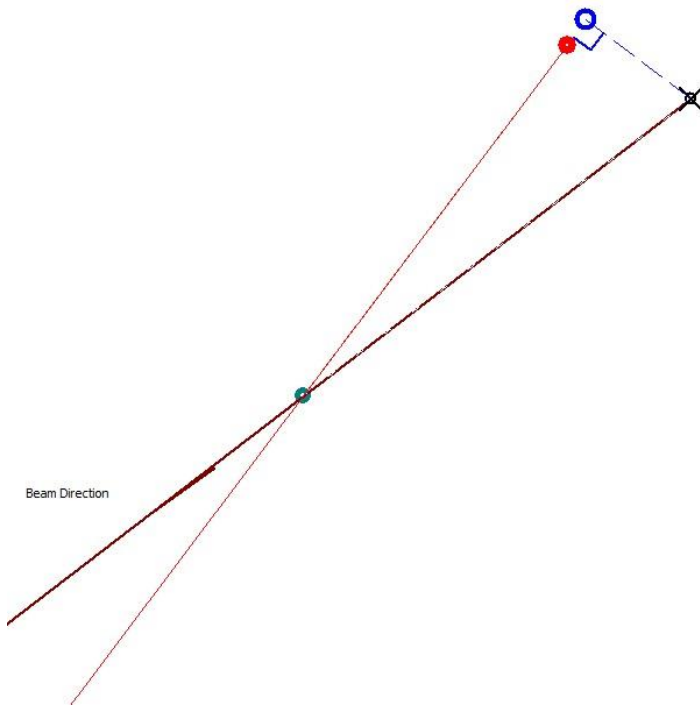
angles: delta : 15.49893 [degrees]
beam : -142.48325 [degrees]
spectrometer: 233.01568 [degrees]

perpendicular distance : 0.976 [mm]
target - intersect dis : 3.651 [mm]
found target - intersect dis : 3.284 [mm]
Spectrometer is 0.02 higher than ideal target [mm]

-  Spectrometer Line
-  Straight-Ahead Beam
-  Perpendicular line

SHMS CASE :

Bender Reporting Angle : 12.49893 [degrees]
Bender Rotation wrt Hall C Zero Az = 142.48432 [deg]



9Par StdDev : 0.1743