



Jefferson Lab Alignment Group

Data Transmittal

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Checked:

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DETAILS:

data: aalign\shms\2019\s112619

Below are the results from the survey of SHMS spectrometer November 26th, 2019. The SHMS fiducial points were observed from the beam right side of the spectrometer.

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 ===== S112619

The central ray of the spectrometer is at -32.991 degrees

FOR SHMS REPORTING angle is : 29.9909 degrees

The central ray is missing the defined target center by 0.23 [mm]
Upstream and 2.37 mm vertically [positive value is up]

Bender Rotation Z (roll) = 0.00440 degrees

Bender Rotation X (pitch) = -0.00162 degrees

Bender Rotation Y (yaw) = 110.88715 degrees

Bender Rotation wrt Hall C Zero Azimuth = 31.59717 degrees

Bender Calc A posteriori value= 0.028 millimeters

9 Par A posteriori value : 0.97 (mm)

Sketch appears on next page:

S112619 --> MEASURED

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

angles: delta : 32.99089 [degrees]
beam : -142.48325 [degrees]
spectrometer: 250.50764 [degrees]

perpendicular distance : 0.228 [mm]
target - intersect dis : 0.419 [mm]
found target - intersect dis : 0.727 [mm]
Spectrometer is 2.37 higher than ideal target [mm]

- Spectrometer Line
- Straight-Ahead Beam
- Perpendicular line

SHMS CASE :

Bender Reporting Angle : 29.99089 [degrees]
Bender Rotation wrt Hall C Zero Az = 31.59717 [deg]

