



Jefferson Lab Alignment Group

Data Transmittal

TO: D. Gaskel, B. Sawatzky, M. Jones, B. Metzger

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FROM: Kelly Tremblay

Checked: (cwg)

: C1790

DETAILS:

data: aalign\SHMS\170515

Below are the results from the survey of SHMS spectrometer on May 15th, 2017. 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 ===== S170515

The central ray of the spectrometer is at -27.611 degrees

FOR SHMS, Bender angle is at -24.6112 degrees

The central ray is missing the defined target center by 0.87 [mm] Upstream,
and 0.21 mm vertically (positive value is above ideal)

Standard deviation of transformation : 0.18 (mm)

For the SHMS, the bender angle is at an angle 3.0 degrees less than the calculated spectrometer angle based on the centers of quads 1, 2 and 3.

See sketch below.

S170515

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

angles: delta : 27.61122 [degrees]
beam : -142.48325 [degrees]
spectrometer: 245.12797 [degrees]

perpendicular distance : 0.869 [mm]
target - intersect dis : 1.876 [mm]
found target - intersect dis : 1.612 [mm]
Spectrometer is 0.21 higher than ideal target [mm]

- Spectrometer Line
- Straight-Ahead Beam
- Perpendicular line

SHMS CASE :

Bender Magnet Angle : 24.61122 [degrees]

Beam Direction

