



Jefferson Lab Alignment Group

Data Transmittal

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Checked:

: C1810

DETAILS:

data: aalign\shms\s20170807

Below are the results from the survey of SHMS spectrometer August 7th, 2017. 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 ===== S20170807

The central ray of the spectrometer is at -42.945 degrees

FOR SHMS, Bender angle is at 39.9453 degrees

The central ray is missing the defined target center by 1.36 [mm] Upstream
and 0.00 mm vertically [positive value is up]

If the offset is corrected by secondary alignment, the spectrometer will be at -42.942 degrees

To achieve this optimal setting
make the following adjustments:
spectrometer will be at -42.942 degrees

Horizontal corrections:
Move rear jacks along tangent 0.47 mm Upstream

9 Par Aposter Val : 1.06 (mm)

Sketch for the SHMS survey is shown on the next page.

S20170807

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

angles: delta : 42.94535 [degrees]
beam : -142.48325 [degrees]
spectrometer: 260.46210 [degrees]

perpendicular distance : 1.355 [mm]
target - intersect dis : 1.988 [mm]
found target - intersect dis : 1.431 [mm]
Spectrometer is 0.00 higher than ideal target [m]

- Spectrometer Line
- Straight-Ahead Beam
- Perpendicular line

SHMS CASE :

Bender Magnet Angle : 39.94535 [degrees]

Beam Direction

