Jefferson Lab Alignment Group

Data Transmittal

TO: D. Gaskel, B. Sawatzky, M. Jones		**DATE:** 06/07/2017
FROM: Kelly Tremblay	**Checked:** (seh)	**# :** C1793

DETAILS: data: aalign\shms\s170530

Below are the results from the survey of SHMS spectrometer on May 30^{h}, 2017. The location of the SHMS was close to the straight-ahead beamline. 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 ========== S170528

The central ray of the spectrometer is at -10.479 degrees

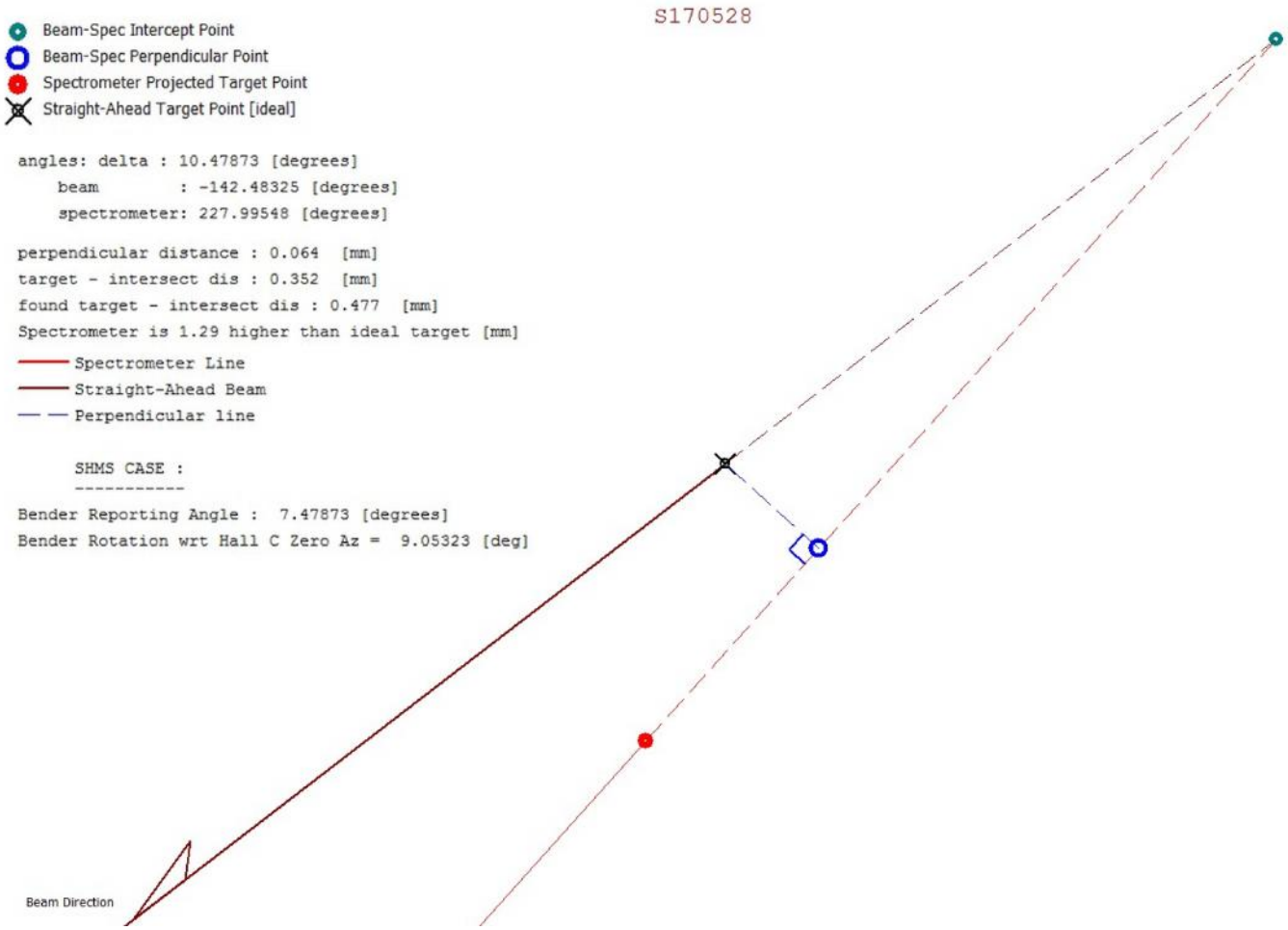
FOR SHMS REPORTING angle is : 7.4787 degrees

The central ray is missing the defined target center by -0.06 [mm] Downstream
and 1.29 mm vertically [positive value is up]

Bender RotZ (roll) = 0.00692 degrees
Bender RotX (pitch) = 0.02302 degrees
Bender RotY (yaw) = 133.43109 degrees
Bender Rotation wrt Hall C Zero Azimuth = 9.05323 degrees
Bender Calc A posteriori value= 0.020 millimenters

9 Par A posteriori value : 0.12 (mm)

A sketch shows the results on the following page.


S170528
Beam-Spec Intercept Point
Beam-Spec Perpendicular Point
Spectrometer Projected Target Point
Straight-Ahead Target Point [ideal]
angles: delta : 10.47873 [degrees]
beam : -142.48325 [degrees]
spectrometer: 227.99548 [degrees]
perpendicular distance : 0.064 [mm]
target - intersect dis : 0.352 [mm]
found target - intersect dis : 0.477 [mm]
Spectrometer is 1.29 higher than ideal target [mm]
Spectrometer Line
Straight-Ahead Beam
Perpendicular line
SHMS CASE :
Bender Reporting Angle : 7.47873 [degrees]
Bender Rotation wrt Hall C Zero Az = 9.05323 [deg]
Beam Direction