



Jefferson Lab Alignment Group

Data Transmittal

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DETAILS:

Below are the results from the surveys of the left and right spectrometers on March 7, 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.

A graphical sketch is shown after each of the four results.

===== RESULTS ===== E030717A

The central ray of the spectrometer is at -20.004 degrees

The central ray is missing the defined target center by -1.89 [mm] Downstream
and -0.58 mm vertically [positive value is up]

If the offset is corrected by secondary alignment, the spectrometer will be at -20.016 degrees

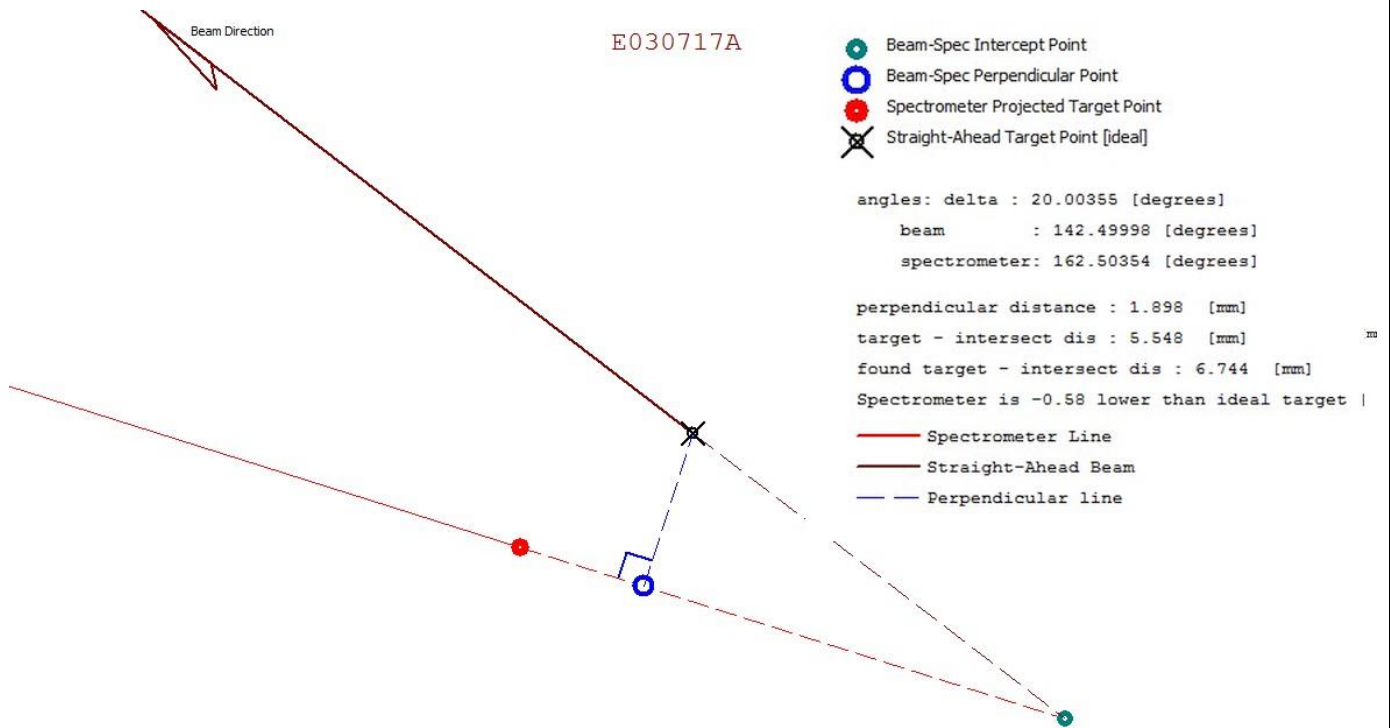
To achieve this optimal setting
make the following adjustments:
spectrometer will be at -20.016 degrees

Horizontal corrections:

Move rear jacks along tangent -1.92 mm Downstream

9 Par Aposter Val : 0.14 (mm)

No 3DD output file available to report std. dev



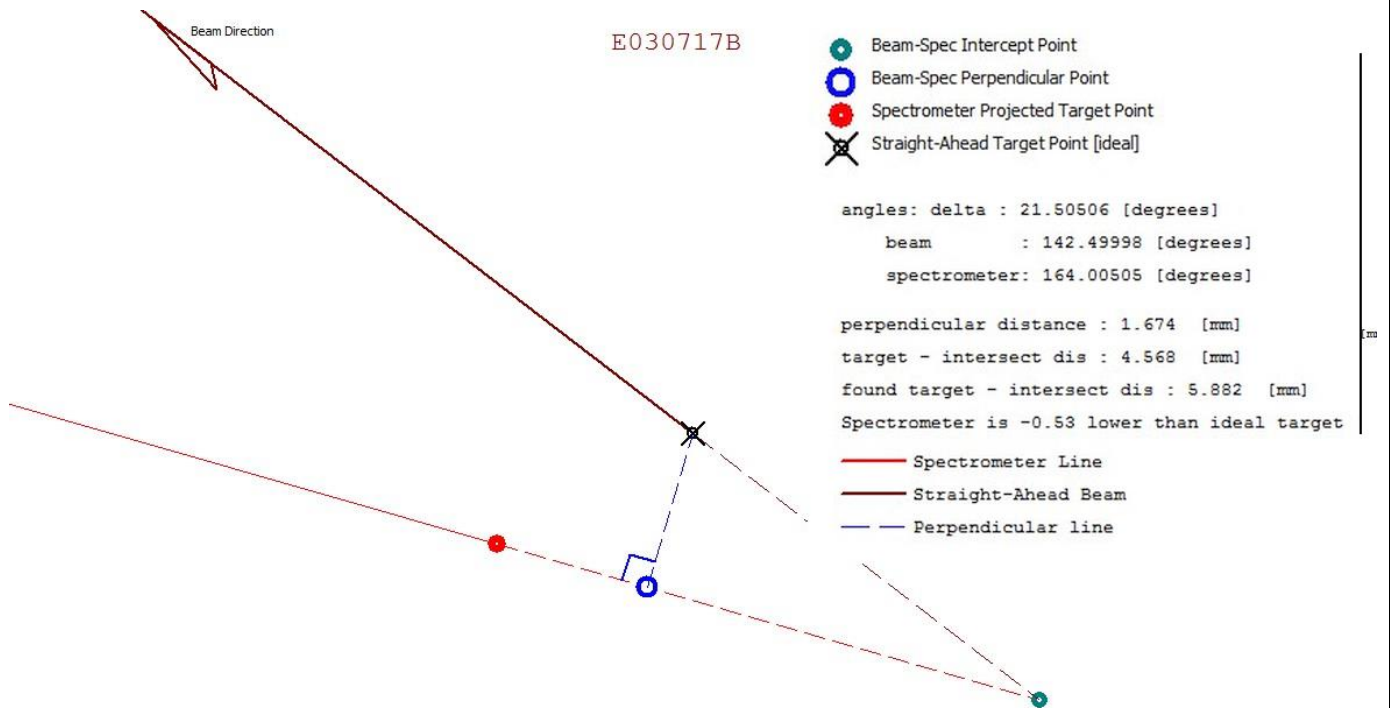
===== RESULTS ===== E030717B

The central ray of the spectrometer is at -21.505 degrees
 The central ray is missing the defined target center by 1.68 [mm] Upstream
 and -0.53 mm vertically [positive value is up]

If the offset is corrected by secondary alignment, the
 spectrometer will be at -21.516 degrees

To achieve this optimal setting
 make the following adjustments:
 spectrometer will be at -21.516 degrees
 Horizontal corrections:
 Move rear jacks along tangent 1.71 mm Upstream

9 Par Aposter Val : 0.13 (mm)
 No 3DD output file available to report std. dev



===== RESULTS ===== H030717A

The central ray of the spectrometer is at 44.006 degrees
 The central ray is missing the defined target center by -0.73 [mm] Upstream
 and -1.58 mm vertically [positive value is up]

If the offset is corrected by secondary alignment, the spectrometer will be at 44.001 degrees

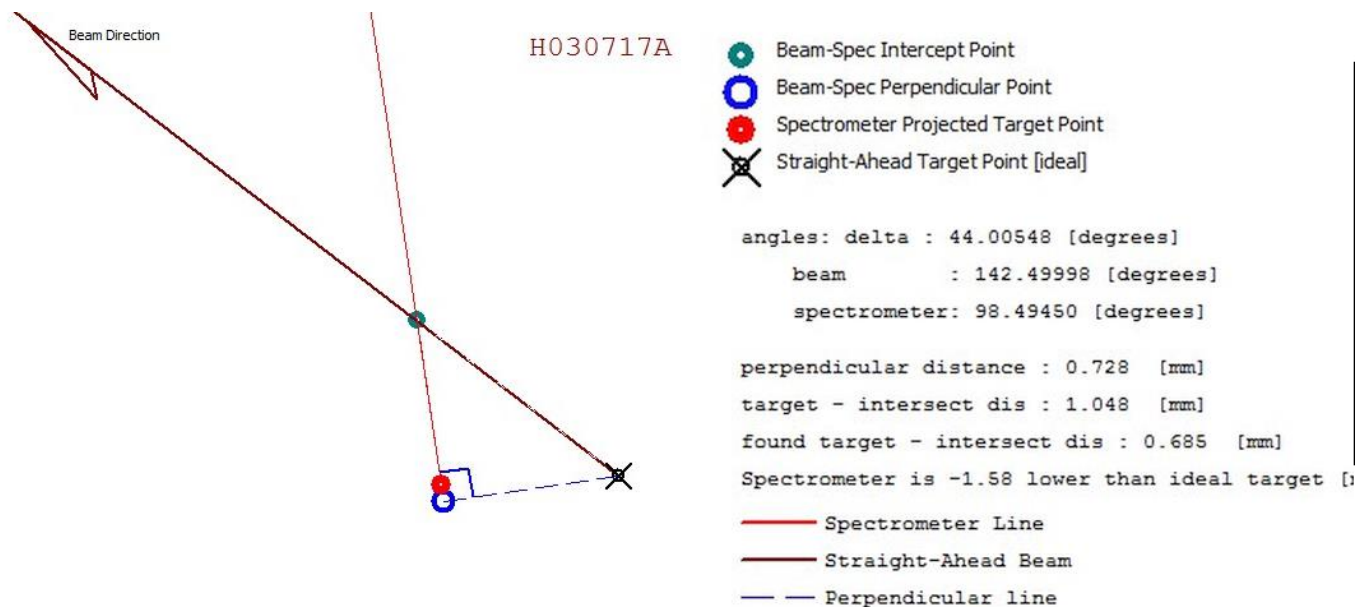
To achieve this optimal setting
 make the following adjustments:
 spectrometer will be at 44.001 degrees

Horizontal corrections:

Move rear jacks along tangent -0.75 mm Upstream

9 Par Aposter Val : 0.22 (mm)

No 3DD output file available to report std. dev



===== RESULTS ===== H030717B

The central ray of the spectrometer is at 50.005 degrees
 The central ray is missing the defined target center by -0.84 [mm] Upstream
 and -1.55 mm vertically [positive value is up]





If the offset is corrected by secondary alignment, the
 spectrometer will be at 49.999 degrees

To achieve this optimal setting
 make the following adjustments:
 spectrometer will be at 49.999 degrees
 Horizontal corrections:
 Move rear jacks along tangent -0.85 mm Upstream

9 Par Aposter Val : 0.23 (mm)
 No 3DD output file available to report std. dev




Beam Direction

H030717B

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

angles: delta : 50.00494 [degrees]
beam : 142.49998 [degrees]
spectrometer: 92.49504 [degrees]

perpendicular distance : 0.833 [mm]
target - intersect dis : 1.087 [mm]
found target - intersect dis : 0.753 [mm]
Spectrometer is -1.55 lower than ideal target [mm]

-  Spectrometer Line
-  Straight-Ahead Beam
-  Perpendicular line

