Jefferson Lab Alignment Group

Data Transmittal

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DETAILS:

data : aalign\electron\2017\E122217A

Below are the results from five different pointing surveys of the left spectrometer on December 21st and 22nd , 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 result.

(page down)

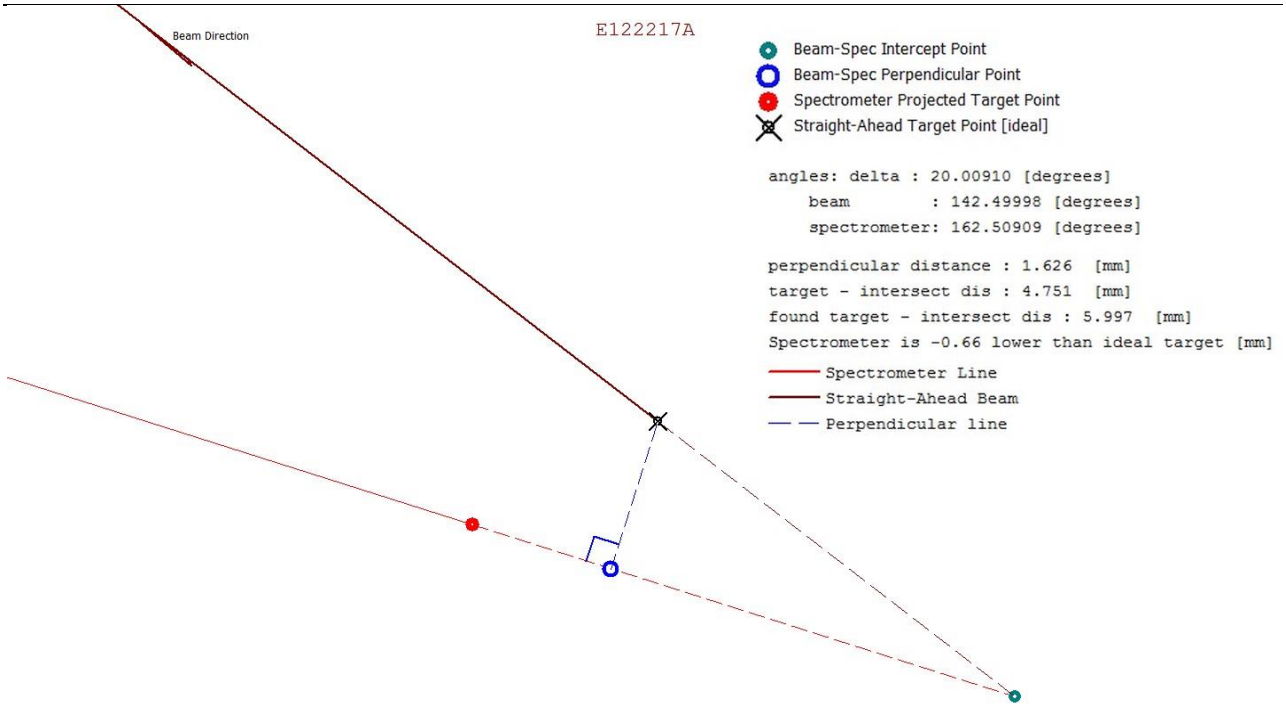
========== RESULTS ========== E122217A – 20 deg

The central ray of the spectrometer is at -20.009 degrees
The central ray is missing the defined target center by 1.62 [mm] Downstream
and -0.66 mm vertically [positive value is up]

If the offset is corrected by secondary alignment, the
spectrometer will be at -20.020 degrees

To achieve this optimal setting
make the following adjustments:
spectrometer will be at -20.020 degrees
Horizontal corrections:
Move rear jacks along tangent -1.65 mm Downstream

9 Par A posteriori value : 0.11 (mm)



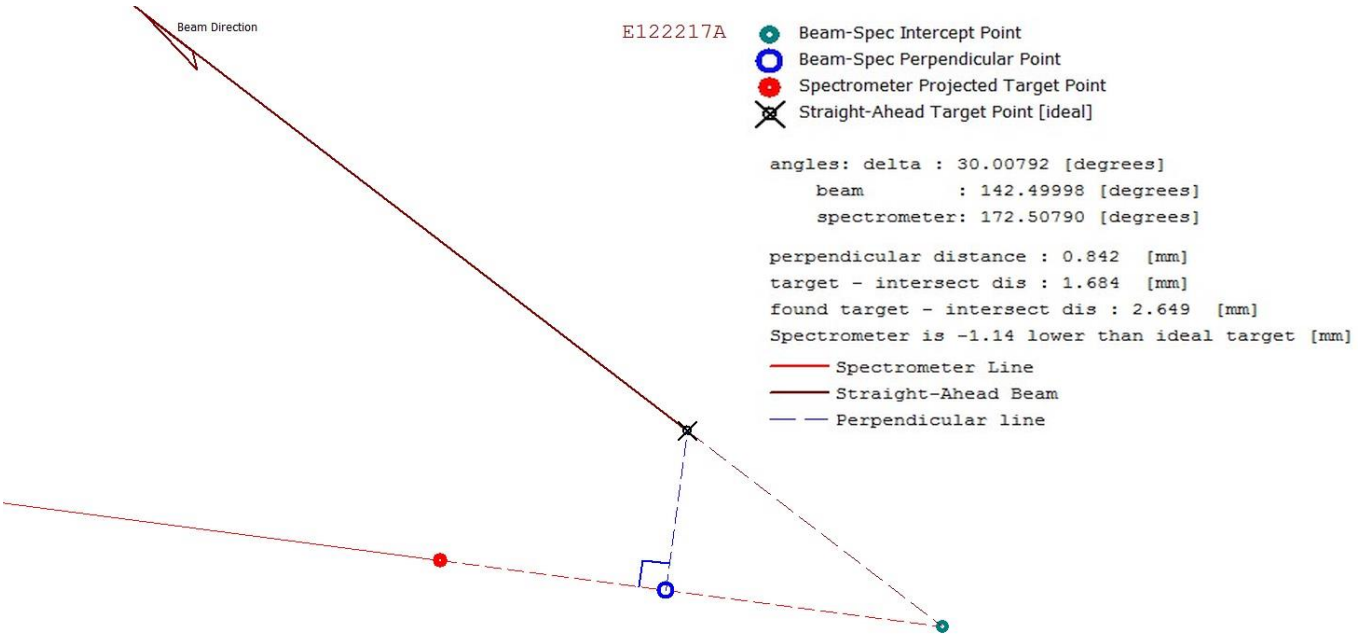
========== RESULTS ========== E122217A – 30 deg

The central ray of the spectrometer is at -30.008 degrees
The central ray is missing the defined target center by 0.84 [mm] Downstream
and -1.14 mm vertically [positive value is up]

If the offset is corrected by secondary alignment, the
spectrometer will be at -30.014 degrees

To achieve this optimal setting
make the following adjustments:
spectrometer will be at -30.014 degrees
Horizontal corrections:
Move rear jacks along tangent 0.85 mm Downstream

9 Par A posteriori value : 0.12 (mm)



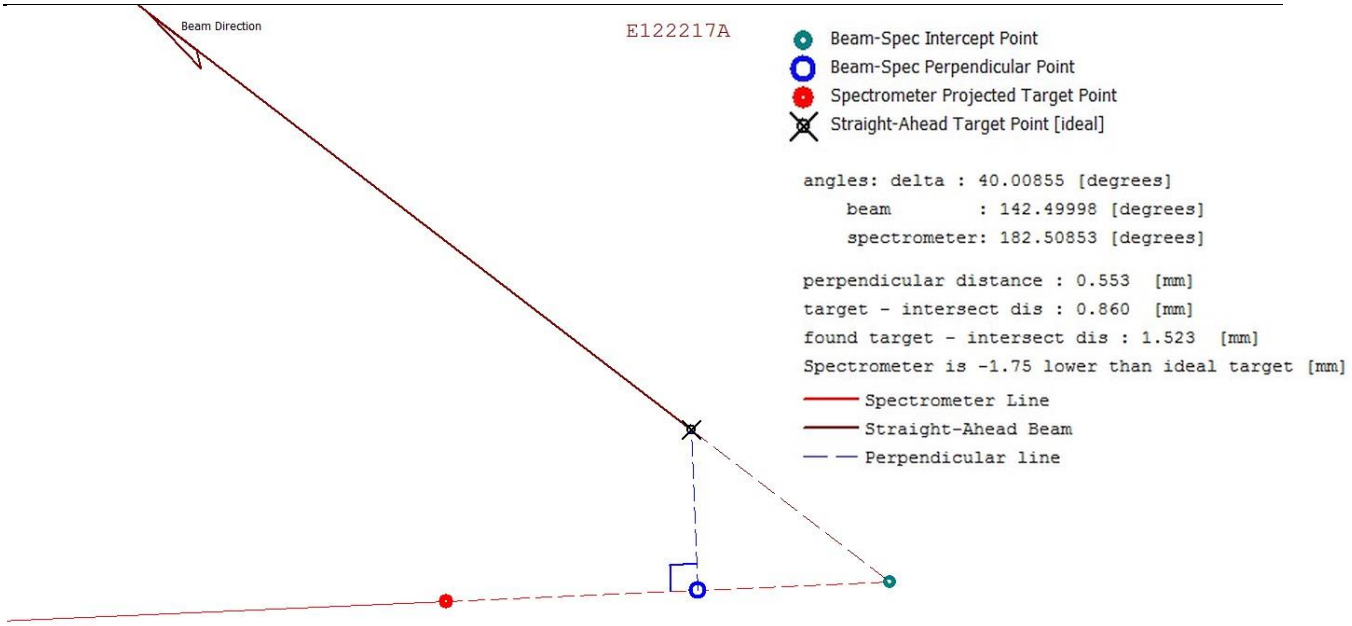
========== RESULTS ========== E122217A – 40 deg

The central ray of the spectrometer is at 40.009 degrees
The central ray is missing the defined target center by 0.56 [mm] Downstream
and -1.75 mm vertically [positive value is up]

If the offset is corrected by secondary alignment, the
spectrometer will be at -40.012 degrees

To achieve this optimal setting
make the following adjustments:
spectrometer will be at -40.012 degrees
Horizontal corrections:
Move rear jacks along tangent 0.57 mm Downstream

9 Par A posteriori value : 0.11 (mm)



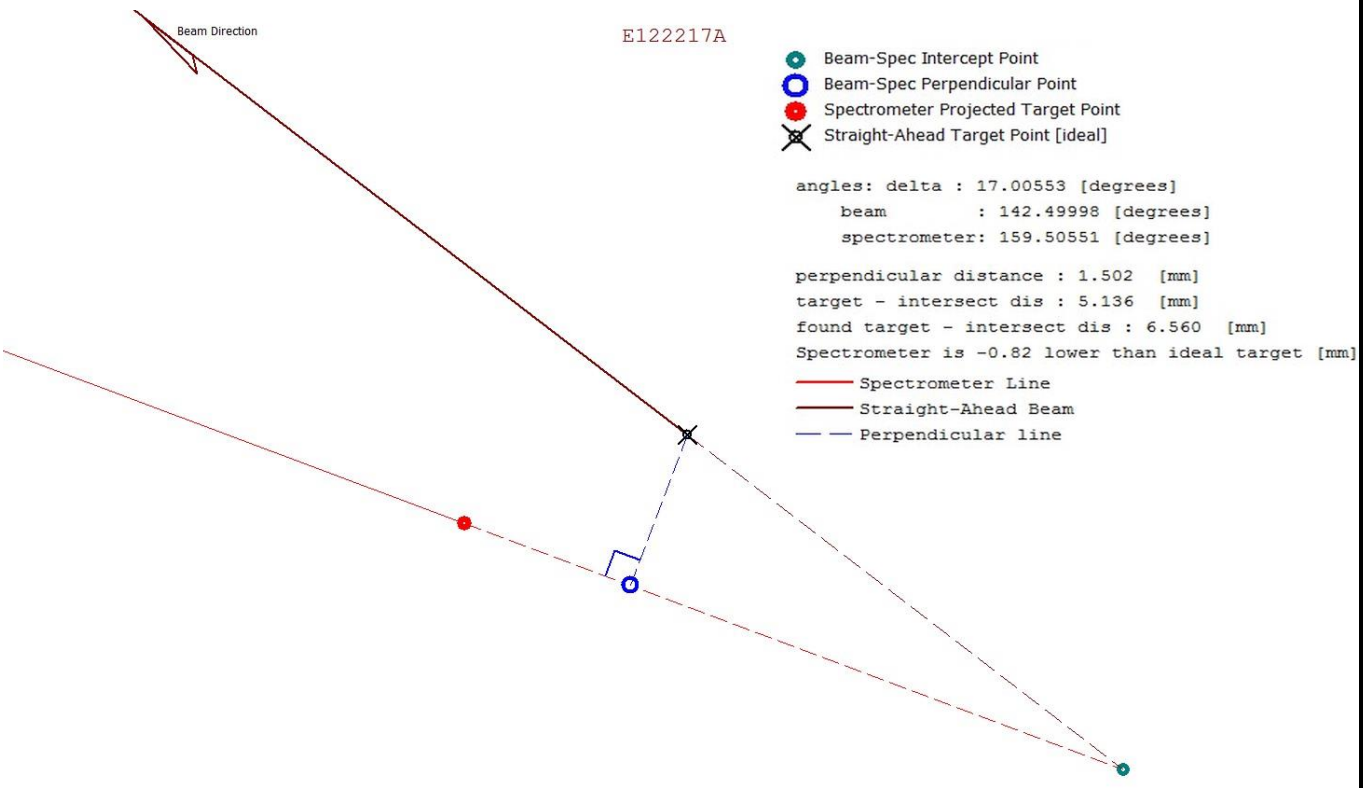
========== RESULTS ========== E122217A – 17 deg

The central ray of the spectrometer is at -17.005 degrees
The central ray is missing the defined target center by 1.51 [mm] Downstream
and -0.82 mm vertically [positive value is up]

If the offset is corrected by secondary alignment, the
spectrometer will be at -17.016 degrees

To achieve this optimal setting
make the following adjustments:
spectrometer will be at -17.016 degrees
Horizontal corrections:
Move rear jacks along tangent -1.53 mm Downstream

9 Par A posteriori value : 0.12 (mm)



========== RESULTS ========== E122217A – 35 deg

The central ray of the spectrometer is at 35.007 degrees
The central ray is missing the defined target center by 0.65 [mm] Downstream
and -1.43 mm vertically [positive value is up]

If the offset is corrected by secondary alignment, the
spectrometer will be at -35.011 degrees

To achieve this optimal setting
make the following adjustments:
spectrometer will be at -35.011 degrees
Horizontal corrections:
Move rear jacks along tangent 0.66 mm Downstream

9 Par A posteriori value : 0.12 (mm)