



Jefferson Lab Alignment Group

Data Transmittal

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Checked: rtm

: A1988

DETAILS:

data: AAlign\Electron\2020\E110420 & Hadron\2020\H110420

Below are the results from the survey of the left and right spectrometer on 4th November 2020. The horizontal pointing value presents how far the central axis of the spectrometer is from 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 at the end of this transmittal.

===== LEFT SPECTROMETER RESULTS ===== E110420

The central ray of the spectrometer is at -12.511 degrees
The central ray is missing the defined target center by 1.42 [mm] Downstream
and -1.99 mm vertically [positive value is up]

If the offset is corrected by secondary alignment, the spectrometer will be at -12.521 degrees

To achieve this optimal setting make the following adjustments:
spectrometer will be at -12.521 degrees
Horizontal corrections:
Move rear jacks along tangent -1.44 mm Downstream

9 Par A posteriori value : 0.13 (mm)

===== RIGHT SPECTROMETER RESULTS ===== H110420

The central ray of the spectrometer is at 12.513 degrees
The central ray is missing the defined target center by 2.46 [mm] Downstream
and -2.46 mm vertically [positive value is up]

If the offset is corrected by secondary alignment, the spectrometer will be at 12.496 degrees

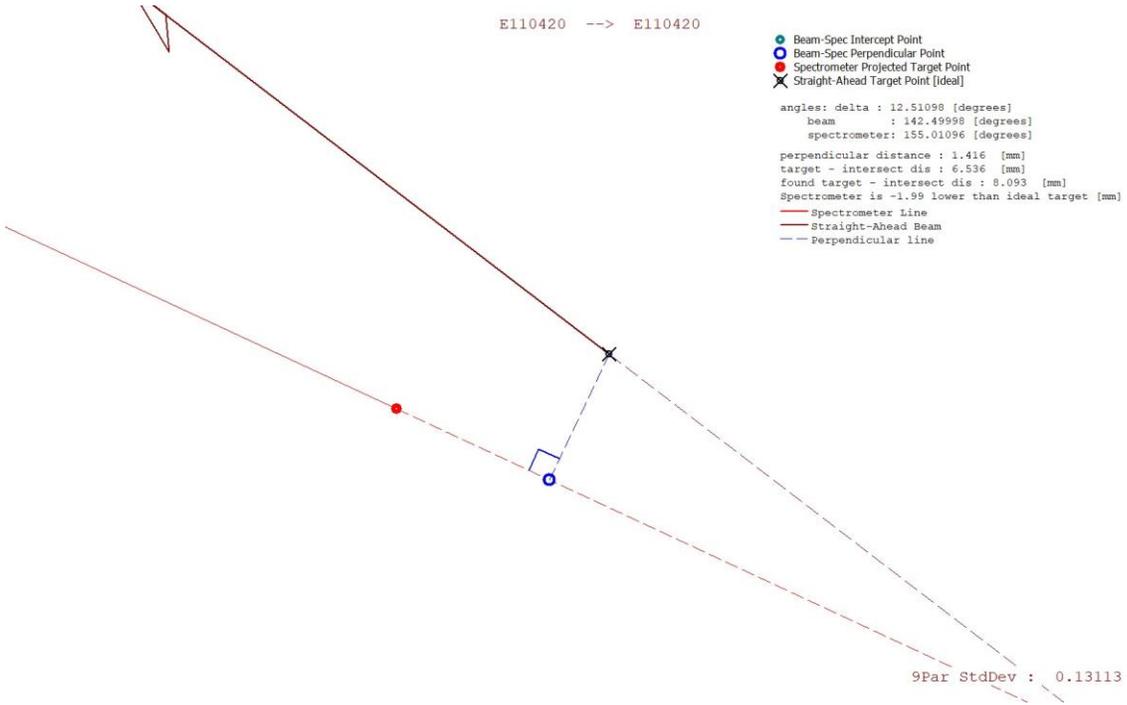
To achieve this optimal setting make the following adjustments:
spectrometer will be at 12.496 degrees
Horizontal corrections:
Move rear jacks along tangent -2.50 mm Downstream

9 Par A posteriori value : 0.09 (mm)

E110420 --> E110420

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

angles: delta : 12.51098 [degrees]
beam : 142.49998 [degrees]
spectrometer: 155.01096 [degrees]
perpendicular distance : 1.416 [mm]
target - intersect dis : 6.536 [mm]
found target - intersect dis : 8.093 [mm]
Spectrometer is -1.99 lower than ideal target [mm]
— Spectrometer Line
— Straight-Ahead Beam
— Perpendicular line



H110420 --> MEASURED

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

angles: delta : 12.51252 [degrees]
beam : 142.45998 [degrees]
spectrometer: 129.98707 [degrees]
perpendicular distance : 2.457 [mm]
target - intersect dis : 11.342 [mm]
found target - intersect dis : 10.329 [mm]
Spectrometer is -2.46 lower than ideal target [mm]
— Spectrometer Line
— Straight-Ahead Beam
— Perpendicular line

