



Jefferson Lab Alignment Group

Data Transmittal

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DATE: 01/07/2019

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Checked: [kjt]

: A1899

DETAILS:

data : aalign\Electron\2019\E010419 & Hadron\2019\H010419

Below are the results from the survey of the left and right spectrometer on January 4th, 2019. 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 at the end of this transmittal

===== RESULTS ===== E010419A

The central ray of the spectrometer is at -12.510 degrees
The central ray is missing the defined target center by 1.69 [mm] Downstream
and -1.79 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 -1.72 mm Downstream

9 Par A posteriori value : 0.16 (mm)

===== RESULTS ===== H010419A

The central ray of the spectrometer is at 12.511 degrees
The central ray is missing the defined target center by 2.22 [mm] Downstream
and -2.87 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 -2.26 mm Downstream

9 Par A posteriori value : 0.23 (mm)

E010419

Beam Direction

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

angles: delta : 12.51004 [degrees]
beam : 142.49998 [degrees]
spectrometer: 155.01002 [degrees]

perpendicular distance : 1.690 [mm]
target - intersect dis : 7.803 [mm]
found target - intersect dis : 9.279 [mm]
Spectrometer is -1.79 lower than ideal target [mm]

- Spectrometer Line
- Straight-Ahead Beam
- Perpendicular line

H010419

Beam Direction

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

angles: delta : 12.51099 [degrees]
beam : 142.49998 [degrees]
spectrometer: 129.98899 [degrees]

perpendicular distance : 2.228 [mm]
target - intersect dis : 10.283 [mm]
found target - intersect dis : 9.567 [mm]
Spectrometer is -2.87 lower than ideal target [mm]

- Spectrometer Line
- Straight-Ahead Beam
- Perpendicular line