



Jefferson Lab Alignment Group

Data Transmittal

TO: A. Somov, T. Whitlatch

DATE: 02 Nov 2015

FROM: J. Dahlberg

Checked:

: D1680

DETAILS:

Data: Step2b\HallD\Target\151030a
 HighGranDet\151104a
 LowGranDet\151029a

Below are the results from the recent surveys carried out on the Hall D Target assembly and Pair spectrometer. Values are in machine coordinates (meters). A + roll angle (in degrees), is clockwise looking from upstream, a + pitch angle is cw looking from the beam right, and a + yaw angle is ccw looking from above. The spectrometer detector values are based on the inner most upstream corner centered vertically on the upstream and downstream arrays.

Note: The ideal machine values for the low granularity detectors have changed. The ideal values for the high granularity detectors have also been changed based on fiducial data now centered on the inner upstream corner. Updated coordinates are listed below.

| LOCATION | Z | X | Y |
|--|-----------|----------|-----------|
| Target CL (150.13 mm us from end) | 398.77146 | 80.59982 | 104.69998 |
| Target Cell DS tip | 398.92159 | 80.59979 | 104.69998 |
| Target Cell G10 flange (ds face) | 398.51892 | 80.59982 | 104.70001 |
| Target Tube DS flange | 398.19652 | 80.59976 | 104.70143 |
| | | | |
| Scatter Chamber CL (196.63 mm us from end) | 398.77336 | 80.60081 | 104.70119 |
| Scatter Chamber US flange (ds face) | 398.43150 | 80.60002 | 104.70143 |
| Scatter Chamber US on Cylinder | 398.58106 | 80.60051 | 104.70132 |
| Scatter Chamber DS on Cylinder | 398.92386 | 80.60104 | 104.70107 |
| Scatter Chamber DS End | 398.96999 | 80.60122 | 104.70104 |
| | | | |
| Start Counter CL | 398.77076 | 80.60039 | 104.70063 |
| Start Counter US Cylinder | 398.53831 | 80.59987 | 104.70135 |
| Start Counter DS Cylinder | 398.89565 | 80.60066 | 104.70025 |
| Start Counter DS end | 399.09456 | 80.60110 | 104.69963 |
| Start Counter US flange (ds face) | 398.42151 | 80.60005 | 104.70129 |

| | | | |
|--------------------|--------------|-----------------|------------------|
| IDEAL LGDET | Z: 390.17743 | Left X: 80.8743 | Right X: 80.3257 |
| IDEAL HGDET | Z: 389.64926 | Left X: 80.835 | Right X: 80.365 |

| SPECTROMETER | Z | X | Y | ROLL | PITCH | YAW |
|----------------------|-----------|----------|-----------|-------------|--------------|------------|
| Pair Spec. Dip. CL | 386.76745 | 80.59980 | 104.69981 | 0.0009 | -0.0112 | 0.0057 |
| Left Low Gran Det. | 390.18358 | 80.87461 | 104.70077 | -0.0811 | 0.0504 | 4.6742 |
| Right Low Gran Det. | 390.18365 | 80.32538 | 104.70237 | 0.0573 | -0.0705 | -4.7067 |
| Left High Gran Det. | 389.69578 | 80.83810 | 104.70182 | 0.0072 | -0.0278 | 4.6797 |
| Right High Gran Det. | 389.69587 | 80.36113 | 104.70181 | 0.0175 | -0.0014 | -4.6757 |

