# Jefferson Lab Alignment Group Data Transmittal 

TO: J. P. Chen, J. LeRose, A. Deur
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FROM: J. Dahlberg
Checked:
\# A893

## DETAILS:

Below are the results of the Sep $3^{\text {rd }}$ post run survey performed on the Hall A target cell, sieve slits, and collimators. The deltas shown represent the offset from ideal (in millimeters and degrees). A positive $X$ indicates the target is to the beam left, positive $Y$ is up, and positive $Z$ is downstream. A positive pitch is counter-clockwise looking from the beam right, and a positive yaw is clockwise looking from above.

| Target Cell | Del Z | Del X | Del Y | Pitch | Yaw |
| :--- | ---: | :---: | ---: | ---: | ---: |
| Tgt. cell warm. | -0.83 | 1.42 | -0.34 | 0.21 | -0.09 |
| Ref. tgt. cell warm. | 0.26 | 0.44 | 105.23 | 0.09 | -0.21 |
| Tgt. cell cool. | -0.96 | 0.53 | -0.16 | -0.05 | 0.18 |
| Ref. tgt. cell cool. | 0.11 | 0.11 | 105.88 | 0.00 | -0.11 |

## HADRON SEPTUM SIEVE SLITS AT $9^{\circ}$

The ideal X values for the slits are calculated using the as found distance of the slit from the nominal He 3 target, i.e. (Dist $\mathrm{x} \sin 9^{\circ}$ ). For the reported locations and deltas the Z axis runs along the main Hall A beam line, not the $9^{\circ}$ line.

|  | $\mathbf{Z}$ |  | $\mathbf{X}$ |
| :--- | :---: | ---: | :---: |
|  | $\mathbf{Z}$ | $\mathbf{Y}$ |  |
| As-found (small hole) | 789.92 | -125.26 | 1.86 |
| Ideal |  | -125.11 | 0.00 |
| Delta |  | -0.15 | 1.86 |
|  |  |  |  |
| As-found (large hole) | 788.83 | -125.62 | 1.98 |
| Ideal |  | -124.96 | 0.00 |
| Delta |  | -0.66 | 1.98 |

## TARGET COLLIMATOR BLOCKS

The coordinates are based on the pre-determined location relative to the tooling balls, which were used for positioning into the beam line.

| Collimator Block | Z | X |
| :--- | ---: | ---: |
| BRS9U upstream beam left corner. | 22.96 | -12.63 |
| BRS9U downstream beam left corner. | 52.49 | -18.41 |
| BRS9D upstream beam right corner. | 301.64 | -31.33 |
| BRS9D downstream beam right corner. | 331.49 | -35.38 |

