# Jefferson Lab Alignment Group

## Data Transmittal

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| **TO:** D. Higinbotham, K. Paschke, J. LeRose | | **DATE:** 24 Aug 2009 |
| **FROM:** Kelly Tremblay | **Checked:** | **# :** A1241 |

**DETAILS:** data: aalign\electron&sh\2009\E081709a & aalign\hadron\2009\H081809a

Below are the results from the survey of the left and right spectrometers, superharps, cavity bpm's and the calorimeter carried out on August 17th and 18th 2009. The values represent the difference in millimeters from the ideal position of each fiducial. A positive X value is to the beam left, a positive Y is too high.

========== RESULTS ========== E081709A
The central ray of the spectrometer is at -13.998 degrees.
It is missing the defined target center by 1.02 mm upstream, and -0.13 mm vertically (positive = up).

If the offset is corrected by secondary alignment, the spectrometer will be at -14.005 degrees.

*.9PR : 0.131 *.3DD : 1.43
========== RESULTS ========== H081809A
The central ray of the spectrometer is at 14.024 degrees.
It is missing the defined target center by 3.09 mm downstream, and 0.00 mm vertically (positive = up).

If the offset is corrected by secondary alignment, the spectrometer will be at 14.003 degrees.

*.9PR : 0.121 *.3DD: 1.85

Superharps:

| Fiducial | dX (mm) | dY (mm) |
|---|---|---|
| SH1H01A | 0.31 | 0.07 |
| SH1H01B | 0.39 | 0.04 |
| SH1H01C | 0.43 | 0.07 |
| SH1H02A | -0.33 | -0.10 |
| SH1H02B | -0.27 | -0.12 |
| SH1H02C | -0.28 | -0.04 |

Cavity BPM's:

| Fiducial | dX (mm) | dY (mm) |
|---|---|---|
| BCM1H2A | -0.35 | -0.24 |
| BCM1H1B | 0.36 | -0.20 |
| BCM1H1C | 0.38 | -0.08 |
| BCM1H2D | 0.09 | -0.25 |

Calorimeter:

| Component | dZ (mm) | dX (mm) | dY (mm) | Yaw (deg) | Pitch(deg) | Roll (deg) |
|---|---|---|---|---|---|---|
| IFY1H04 | -0.39 | -0.05 | -0.18 | 142.514 | -0.003 | -0.041 |