## Jefferson Lab Alignment Group Data Transmittal

## TO: David Green

FROM: Kelly Tremblay
DETAILS:
The grid below shows the locations of the repositioned beam harps, surveyed on July 15, 2009. The found coordinates (fnd) are shown relative to the Cebaf coordinate system. Additionally the found yaw and pitch values (decimal degrees) are shown. The delta X/Y values (millimeters) show the difference of the found coordinates to the ideal beamline location. A +dX is to the beam left, and a $+d Y$ is higher than ideal. dYaw shows the difference of the yaw angle from the ideal. A +yaw angle is counter clockwise looking from above, and +pitch angle is ccw looking from the beam right side.

| Harp | fnd $Z(m)$ | fnd $X(m)$ | fnd $Y(m)$ | fnd Yaw | fnd Pitch | $d X(m m)$ | $d Y(m m)$ | dYaw(deg) |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| IHA2S10 | -134.4455 | -80.6011 | 101.9998 | 179.928 | -0.152 | 1.1 | -0.2 | -0.072 |
| IHA1C05 | -296.1257 | -79.4307 | 100.0198 | 176.458 | -0.597 | -0.6 | -2.2 | -0.342 |
| IHA2CO4 | -294.8259 | -80.5986 | 100.0005 | -179.796 | -0.223 | -1.4 | 0.5 | 0.204 |
| IHA3C05 | -296.1299 | -81.7686 | 99.9775 | -176.972 | 0.017 | -0.4 | -0.5 | -0.172 |

