# Jefferson Lab Alignment Group Data Transmittal 

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DETAILS:
M: \align\DATA\Step2B\HallD\DIRC\180820A, \High Gran Det\180730A, \Target\180815A, \180815A

Below are the Hall D beam line survey results for the Fall 2018 run. Machine coordinates are given along with offsets from ideal in millimeters. $A+X$ is to the beam left, $a+Y$ is above, and $a+Z$ is downstream from ideal. A -Yaw angle (in degrees), is clockwise looking from above, $a+$ pitch is ccw looking from the beam right side, and a roll is ccw looking from upstream.

The DIRC flanges were inspected to determine orientations relative to the Bar Box. These angles are NOT relative to the machine coordinates.

|  | Z | X | Y | rY (Yaw) | rX (Pitch) | rZ (Roll) |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Pair Spec. | 386.76733 | 80.59990 | 104.69956 | 0.0067 | -0.0108 | -0.0020 |
| Left High Gran. | 389.69421 | 80.83852 | 104.69998 | 4.6729 | 0.0220 | 0.0096 |
| Right High Gran. | 389.69475 | 80.36141 | 104.70001 | -4.6895 | 0.0047 | 0.0141 |
| Left Low Gran. | 390.18349 | 80.87509 | 104.70087 | 4.7813 | -0.0037 | -0.0906 |
| Right Low Gran. | 390.18350 | 80.32517 | 104.70267 | -4.6929 | -0.0958 | 0.0982 |
| Target | 398.79009 | 80.59997 | 104.69996 | 0.0043 | -0.0020 | -0.0129 |
| LDIRC1 | 403.98130 | 80.59973 | 102.31995 | -0.0731 | -0.0639 | 0.0266 |
| LDIRC2 | 403.98183 | 80.59646 | 102.83475 | -0.0868 | -0.1452 | 0.0246 |
| HDFCAL | 404.38753 | 80.60601 | 104.70031 | -0.0484 | 0.0264 | -0.0186 |
| TAC US Face | 414.40680 | 80.59981 | 104.70033 | 0.1168 | 0.1065 |  |
|  |  |  |  |  |  |  |
| DIRC Flange 1 | 403.94455 | 77.58095 | 102.31858 | -0.0221 | 0.0498 | -0.0030 |
| DIRC Flange 2 | 403.94436 | 77.57768 | 102.83349 | 0.0503 | 0.0202 | 0.0340 |

