# - Cyfferan Clab <br> Jefferson Lab Alignment Group Data Transmittal 

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Checked:
\# : B1597
DETAILS:
M:\align\DATA\Fiduc\HallB\FwdCarriage\FTOF

Below are the calculated centroids and rotation angles of the FTOF 1A and 1B detectors. The coordinate system is based relative to the EC detector centerline. The $Z$ axis is a line perpendicular to the constructed plane of the upstream corner points. Roll is defined by an average line through all detectors and the origin is the upstream face of the original hub. A positive Z is downstream, positive X is beam left and a positive Y is up. Values are in millimeters and degrees.

| 1A | X | Y | Z | Rx from $Y$ | Ry from Z | Rz from $X$ | i | j | k |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| DET 1 CENTER | 2277.7 | -5.9 | -1433.6 | 90.0 | 24.9 | 0.1 | 0.4205 | 0.0008 | 0.9073 |
| DET 2 CENTER | 1142.7 | 1965.9 | -1433.3 | 68.1 | 12.9 | 60.4 | 0.2072 | 0.3648 | 0.9077 |
| DET 3 CENTER | -1137.1 | 1964.4 | -1433.0 | 68.0 | -12.9 | 119.4 | -0.2070 | 0.3671 | 0.9069 |
| DET 4 CENTER | -2274.6 | -2.9 | -1430.3 | 90.2 | -24.8 | -179.7 | -0.4198 | -0.0025 | 0.9076 |
| DET 5 CENTER | -1134.3 | -1975.3 | -1435.7 | 112.0 | -12.9 | -119.6 | -0.2081 | -0.3663 | 0.9069 |
| DET 6 CENTER | 1140.5 | -1970.0 | -1437.0 | 111.9 | 13.2 | -59.8 | 0.2122 | -0.3652 | 0.9064 |
| 1B | X | Y | Z | Rx from Y | Ry from Z | Rz from X | i | j | k |
| DET 1 CENTER | 2186.3 | -1.4 | -1572.9 | 90.0 | 24.8 | 0 | -0.4197 | -0.0002 | -0.9077 |
| DET 2 CENTER | 1090.8 | 1888.3 | -1572.3 | 67.9 | 12.9 | 60.4 | -0.2074 | -0.3657 | -0.9073 |
| DET 3 CENTER | -1095.7 | 1882.9 | -1574.6 | 67.9 | -12.9 | 119.4 | 0.2071 | -0.3674 | -0.9067 |
| DET 4 CENTER | -2182.2 | -4.3 | -1570.2 | 90.1 | -24.8 | -179.7 | 0.4193 | 0.0024 | -0.9078 |
| DET 5 CENTER | -1084.9 | -1893.5 | -1573.5 | 111.9 | -12.9 | -119.6 | 0.2077 | 0.3651 | -0.9075 |
| DET 6 CENTER | 1092.5 | -1891.5 | -1576.2 | 111.9 | 13.1 | -59.9 | -0.2115 | 0.3646 | -0.9068 |

