# - 3eata <br> <br> Jefferson Lab Alignment Group <br> <br> Jefferson Lab Alignment Group Data Transmittal 

 Data Transmittal}

TO: Dave Kashy, Stephano Cuneo
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FROM: Kelly Tremblay $\quad$ Checked: $\quad$ \# : B1038

|  | DETAILS |
| :---: | :---: |

The new "Italian" sector 6 Cerenkov chamber was aligned on the Hall B floor to a set of coordinates supplied by INFN (ref. B1034). The tubes along the top edges of the chamber were approximately located on the top also. These tube edges are the closest objects to the Region 3, sector 6 drift chamber. The Cerenkov was then installed in the forward carriage in late January, and surveyed in the run position on February $3^{\text {rd }}, 2006$. The transformed coordinate results of the February $3^{\text {rd }}$ survey are shown below. Also shown is a sketch showing the approximate separation between Region 3 and the Cerenkov. At the closest surface points, there will be approximately 7 centimeters clearance between the region 3 sector 6 drift chamber and the new Cerenkov. Also shown on the sketch is the ideal cylinder outline of the region 3 chamber, and a dimension of 9 centimeter clearance from the Cerenkov location. All the coordinates below are in the Clas coordinate system.

Locations for tube edge surface points on the Cerenkov are as follows :

| Beam Left Edge |  |  |  |  | Beam Right Edge |  |  |  |
| :---: | :---: | :---: | :---: | :--- | :--- | :---: | :---: | :---: |
|  | x | y | z |  |  | x | y | z |
| BLTOPA | 1001.2 | -628.8 | 4013.4 |  | BRTOPA | 41.0 | -1246.4 | 3985.2 |
| BLTOPB | 1243.2 | -764.6 | 3880.1 |  | BRTOPB | 35.6 | -1528.5 | 3859.1 |
| BLTOPC | 1480.1 | -898.1 | 3738.1 |  | BRTOPC | 34.2 | -1794.1 | 3715.3 |
| BLTOPD | 1706.6 | -1026.9 | 3579.9 |  | BRTOPD | 33.4 | -2048.7 | 3554.0 |
| BLTOPE | 1919.1 | -1149.3 | 3401.5 |  | BRTOPE | 33.4 | -2295.9 | 3368.4 |
| BLTOPF | 2122.3 | -1268.1 | 3198.6 |  | BRTOPF | 33.9 | -2529.6 | 3167.0 |
| BLTOPG | 2307.4 | -1377.8 | 2986.1 |  | BRTOPG | 35.2 | -2740.2 | 2951.4 |
| BLTOPH | 2478.8 | -1480.8 | 2763.0 |  | BRTOPH | 36.8 | -2929.6 | 2739.8 |

The surveyed locations of the Region 3, sector 6 edges are as follows :

| Point | $x(\mathrm{~mm})$ | $\mathrm{y}(\mathrm{mm})$ | $\mathrm{z}(\mathrm{mm})$ |
| :--- | :---: | :---: | :---: |
| Beam Right |  |  |  |
| R3_SEC6_BR_D | 77.1 | -501.8 | 4172.6 |
| R3_SEC6_BR_E | 74.1 | -1088.6 | 3964.5 |
| R3_SEC6_BR_F | 83.2 | -1759.4 | 3612.6 |
| Beam Left |  |  |  |
| R3_SEC6_BL_A | 423.1 | -324.7 | 4170.6 |
| R3_SEC6_BL_B | 891.3 | -593.2 | 3965.9 |
| R3_SEC6_BL_C | 1418.8 | -908.5 | 3648.2 |

The as-found "Italian" coordinates when transformed to the installed position have the following values. The deltas showing the coordinates supplied from INFN, minus the theoretical installed position are also given. TP5 was destroyed and is not displayed.

| Located Italian Points |  |  |  |  |  |  |  |  |
| :--- | :---: | :--- | ---: | ---: | ---: | ---: | :---: | :---: |
| Point | $\mathrm{x}(\mathrm{mm})$ | $\mathrm{y}(\mathrm{mm})$ | $\mathrm{z}(\mathrm{mm})$ | $\mathrm{dx}(\mathrm{mm})$ | $\mathrm{dy}(\mathrm{mm})$ | $\mathrm{dz}(\mathrm{mm})$ |  |  |
| TP1 | 1655.8 | -1015.6 | 4094.0 | 1.9 | 2.8 | -9.5 |  |  |
| TP2 | 2146.6 | -1339.6 | 3578.5 | 0.0 | 9.3 | -15.3 |  |  |
| TP3 | 1859.9 | -1506.2 | 4182.4 | 1.2 | 1.5 | -16.6 |  |  |
| TP4 | 42.0 | -1896.1 | 4139.0 | 1.3 | 2.8 | -18.5 |  |  |
| TP5 |  |  |  |  |  |  |  |  |
| TP6 | 365.9 | -2353.6 | 4191.5 | 2.1 | 2.5 | -23.4 |  |  |
|  |  |  |  |  |  |  |  |  |
| TB1 | 1209.3 | -768.3 | 4455.7 | 2.9 | -1.4 | -5.1 |  |  |
| TB2 | 58.9 | -1430.3 | 4463.2 | 2.2 | 0.2 | -14.8 |  |  |
| TB3 | 2673.1 | -2459.7 | 3232.4 | -1.4 | 13.2 | -30.7 |  |  |
| TB4 | 2643.2 | -2012.3 | 2853.4 | -3.5 | 17.4 | -25.6 |  |  |
| TB5 | 1544.8 | -2678.9 | 2883.4 | -2.3 | 15.2 | -29.4 |  |  |
| TB6 | 1734.9 | -2992.4 | 3225.6 | -0.7 | 11.8 | -33.2 |  |  |
| TB7 | 807.6 | -3544.3 | 3240.6 | -0.2 | 10.9 | -35.1 |  |  |
| TB8 | 423.4 | -3294.2 | 2860.1 | -1.7 | 14.0 | -31.6 |  |  |

Sketch profiling the surface of the Cerenkov and region 3 drift chamber, perpendicular to the Bogdan center for sector 6.


