# - 马axas <br> Jefferson Lab Alignment Group Data Transmittal 

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## DETAILS:

Below are the results for the Hall B Polarized Target Chamber flange inspections. Two vessels were measured, Large and Small. One coordinate system was established by constructing a line between the upstream and downstream flanges to define the Z-axis. A line between the 11 and 7 o'clock pinholes was used to control roll and the origin was set at the center of the upstream flange. A positive $Z$ is downstream a positive $Y$ is up and a positive $X$ is beam left. The second coordinate system was created by defining the Z-axis as a line perpendicular to the face of the upstream flange. Roll and origin are defined as stated above. This was done in order to show the offsets of the flanges as you moved downstream. Values are in mm and degrees.

|  | $Z$ axis defined by upstream and downstream flanges |  |  |  |  | Flatness | $Z$ axis defined by the Upstream Flange Face |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Large Chamber | X | Y | Z | rX ${ }^{\circ}$ from $Y$ | rY ${ }^{\circ}$ from $Z$ |  | X | Y | Z | rX ${ }^{\circ}$ from $Y$ | rY ${ }^{\circ}$ from Z |
| US Flange | 0.00 | 0.00 | 0.00 | -90.004 | -179.914 | 0.21 | 0.00 | 0.00 | 0.00 | -90.000 | 180.000 |
| DS Flange | 0.00 | 0.00 | 827.91 | 90.043 | 0.055 | 0.18 | -1.25 | -0.05 | 827.91 | 90.046 | -0.032 |
| DS 11 o'clock | -71.37 | 123.78 | 828.07 |  |  |  | -72.62 | 123.73 | 827.97 |  |  |
| DS 7 o'clock | -71.37 | -123.58 | 827.89 |  |  |  | -72.62 | -123.63 | 827.77 |  |  |


|  | $\mathbf{Z}$ axis defined by upstream and downstream flanges |  |  |  |  | $\mathbf{Z}$ axis defined by Upstream Flange Face |  |  |  |  |  |  |
| :--- | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: |
| Small Chamber | $\mathbf{X}$ | $\mathbf{Y}$ | $\mathbf{Z}$ | $\mathbf{r X}^{\circ}$ from $\mathbf{Y}$ | $\mathbf{r Y}^{\circ}$ from $\mathbf{Z}$ | Flatness |  | $\mathbf{X}$ | $\mathbf{Y}$ | $\mathbf{Z}$ | $\mathbf{r X}^{\circ}$ from $\mathbf{Y}$ | $\mathbf{r Y}^{\circ}$ from $\mathbf{Z}$ |
| US Flange | 0.00 | 0.00 | 0.00 | -90.042 | -179.963 | 0.18 |  | 0.00 | 0.00 | 0.00 | -90.000 | 180.000 |
| US 11 o'clock | -71.34 | 123.68 | -0.05 |  |  |  |  | -71.34 | 123.68 | 0.00 |  |  |
| US 7 o'clock | -71.34 | -123.60 | 0.14 |  |  |  |  | -71.34 | -123.60 | 0.00 |  |  |
| DS Flange | 0.00 | 0.00 | 402.76 | 89.950 | -0.006 | 0.16 |  | -0.26 | -0.30 | 402.76 | 89.993 | -0.044 |

Large vessel point distribution


Small vessel point distribution


