



Jefferson Lab Alignment Group

Data Transmittal

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DATE: May 26, 2004

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Checked:

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DETAILS:

Note: Revised data transmittal with Z = 0 shifted to upstream face of Al plate.

Below are the results of the DVCS survey performed on Feb 25, 2004 in the EEL building. Although this was primarily a fiducialization survey on tooling balls, some additional features were measured and are listed below. A right-handed coordinate system based on the top of the center crystal was established with + X to the beam left, and + Y above. Pitch and roll was set using an average XZ plane on the top surface of the crystal array. +Z is downstream and based on the **upstream** face of the Aluminum plate upstream of the crystal array. Values are in millimeters.

The crystal array is in the upstream position for the following measurements.

Thomson rails are pitched 1.9 mrad relative to crystal array, downstream ends are high.

Downstream edge of crystal array is at Z = 241.60 from upstream face of upstream aluminum plate used to set Z = 0.

Random point at the top beam right inside aluminum wall downstream of crystal array.

Z : 281.63 X : -216.02 Y : 285.48

Random point at the bottom beam right inside aluminum wall downstream of crystal array.

Z : 289.32 X : -216.21 Y : -207.91

Top corner of beam left inside aluminum wall at the intersection of the 3 surface planes.

Z : 293.91 X : 194.28 Y : 192.98

Bottom corner of beam left inside aluminum wall at intersection of the 3 surface planes.

Z : 296.42 X : 194.34 Y : -194.69

Upstream beam right wall adjacent to top of crystal edge. X = -169.60

Downstream beam right wall adjacent to top of crystal edge. X = -168.89

The crystal array was moved to a position downstream for the following measurements.

Downstream edge of crystal array is now at Z = 725.5

Top plane of the crystal array used to set Y = 0 is now higher 0.81mm

Upstream end of center crystal is now at X = +1.95

Downstream end of center crystal is now at X = +2.00