



Jefferson Lab Alignment Group

Data Transmittal

TO: Rolf Ent / Peter Bosted / Mike Fowler / Paulo Medeiros

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FROM: Kelly Tremblay

Checked:

: C965

DETAILS:

The SOS cerenkov detector was aligned in the Hall C SOS hut on November 19th, 2004. At the same time drift chambers one and two were surveyed in their as-found location. Results are given in a right hand coordinate system relative to the 18° pitched beamline that runs through the hut. With the z dimension in the direction of the beam, the following locations were determined (units millimeters, positive x is to the beam left, positive y is perpendicular to the beam and the x axis – rotations (decimal degrees, right hand rule except pitch) yaw rotation about y axis, pitch – rotation about x with positive angle up, roll rotation about z) :

Centerline Point	Delta X	Delta Y	Yaw	Pitch	Roll
Drift Chamber 1	-6.7	48.3	-0.195°	-0.980°	+0.151°
Drift Chamber 2	-3.6	7.3	-0.581°	-0.916°	+0.218°
Cerenkov	-2.2	-0.4	-0.273°	+0.013°	+0.102°

As a reference, the accepted definition of the beam line through the SOS shield house relative to the pivot (target) point starts at the exit of the SOS dipole. The coordinate, relative to the pivot, is :

Z = 6391.655 Y = 1381.387

The beam line then travels at an 18° angle through the shield house.

The location of the above points, relative to the dipole exit point are :

Centerline Point	Z	X	Y
Drift Chamber 1	655.9	-6.7	48.3
Drift Chamber 2	1152.8	-3.6	7.3
Cerenkov	2351.9	-2.2	-0.4