



# Jefferson Lab Alignment Group

## Data Transmittal

**TO:** R. Ent, T. Liguang

**DATE:** Jun 10 2005

**FROM:** J. Dahlberg

**Checked:**

**# :** C996

**DETAILS:**

Below are the results of the HKS survey performed for the June, 2005 run. The magnet values are relative to ideal beam (in mm), with a +X being to the beam left, a +Y above, and a +Z downstream. A +yaw value is counter clockwise (ccw) looking from above, a +pitch value is ccw looking from the beam right side, and a +roll value is cw looking downstream. The ideal position of all components can be found on drawing # 67500-00055.

COMPONENT	Z	X	Y	YAW	PITCH	ROLL
DW	0.79	0.15	-0.93	-0.026	-0.028	0.058
SPLITTER	7.47	-2.43	-1.76	-0.044	0.001	-0.008
ENGE SPLIT POLE	0.29	-0.36	-0.35	-0.006	0.003	0.010
Q1	0.43	0.68	-0.94	-0.005	-0.001	-0.006
Q2	0.46	0.87	-1.01	0.000	-0.010	-0.014
HKS DIPOLE	0.15	0.78	-1.71	-0.006	0.004	-0.015
DZ	-0.60	-0.72	-1.72	0.006	0.032	0.033
EZ	-1.59	0.33	-0.50	-0.007	0.017	-0.003

Because of the limited access to outside hall control from inside the detector huts, both sets of detectors were aligned using fiducial data based on the ideal exit beam line from each spectrometer magnet. As the huts were constructed, and the magnets settled, the relative alignment was fixed because the detectors are attached to the magnets. Therefore, the positions of the detectors listed below are relative to the corresponding ideal beam exit lines from the magnets, and are not related to the offsets shown for the Enge split pole and the HKS dipole which is based on outside hall control.

COMPONENT	Z	X	Y	YAW	PITCH	ROLL
ENGE DET.	0.11	0.03	0.40	0.040	-0.071	-0.017
HKS DET 1	0.08	0.06	-0.03	0.006	-0.003	0.004
HKS DET 2	0.00	0.11	-0.11	0.002	-0.007	-0.001
KAON DET STACK	34.8	-1.4	0.0	0.1	0.0	0.0