



# Jefferson Lab Alignment Group

## Data Transmittal

**TO:** B. Sawatzky, D. Gaskell

**DATE:** 13 Feb 2017

**FROM:** J. Dahlberg

**Checked:**

**# :** C1768

**DETAILS:**

Data: Insp\HallC\Hms12gev\Hut\150605a, 2B\HallC\HMS\_HUT\170202a,170210a

Below are the results from the recent survey carried out on the HMS detectors DC1, and DC2. Three sets of data are reported. The first is prior to the SANE experiment from Oct, 2007(DT#C1130). The second set is the current location using the identical survey control coordinates in the hut from Oct 2007. The third is the current location based on the most recent control established in the hut from June 2015. Note that as the spectrometer is rotated, the walls in the hut where the control points are located change with respect to the spectrometer center line. This can be seen when comparing the recent survey using old and newer control coordinates. The coordinate system is based in the ideal outgoing beam line from the exit point of the HMS dipole. A +X is to the beam left, a +Z is downstream, and a +Y is up. A – roll angle is clockwise as you look downstream, a – pitch angle is ccw looking from the beam left side, and a + yaw angle is cw looking from above. Values are in millimeters and degrees.

**OCT 2007 LOCATION PRIOR TO SANE EXP.**

DETECTOR	Z	X	Y
DC1 (UPST)	5730.3	-2.5	16.2
DC2 (DNST)	6542.8	-15.8	26.3

**FEB 2017 LOCATION USING 2007 CONTROL COORDINATES**

DETECTOR	Z	X	Y	ROLL	PITCH	YAW
DC1 (UPST)	5725.9	-3.6	19.9	-0.155	-0.080	0.324
DC2 (DNST)	6525.2	-16.4	30.3	-0.186	-0.077	0.118

**FEB 2017 LOCATION USING 2016 MOST RECENT CONTROL**

DETECTOR	Z	X	Y	ROLL	PITCH	YAW
DC1 (UPST)	5726.5	-5.4	19.8	-0.137	-0.087	0.364
DC2 (DNST)	6525.8	-18.8	30.2	-0.167	-0.085	0.159

