



# Jefferson Lab Alignment Group

## Data Transmittal

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**DATE:** 13 Mar/13 Oct 2009

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**Checked:** (cjc)

**# :** A1223(r)

**DETAILS:**

data: step2b\halla\elec\srv6\ step2b\halla\hadron\srv2  
calcs\halla\hallaout calcs\halla\elec\_had\_q1\_loc

A request was made to determine the variation in distance between the Hall A Quad 1 on both spectrometers, to the ideal target. To determine this value, data from a 1999 survey (ref transmittal #A508) was used. The 1999 data determined the position of Quad 1 relative to each of the spectrometer dipoles. The dipoles are surveyed when the AAlign pointing surveys are undertaken. Using the information from the pointing surveys, a relative center point for Quad 1 could be determined. A script was written to go through the data and determine this relative distance. The results are summarized below. Note that not all of the pointings were used, as some of the surveys did not have enough common points for the transformation or other parameters were absent.

The ideal distance based upon drawing: 65311-E-16220-00 Rev A is 2.07064 meters.  
Distance units are meters.

Spectrometer	Number of Pointings used	Average Distance	Standard Deviation	Maximum Dist	Minimum Distance	Mode
Electron	118	2.0598	0.00039	2.0608	2.0592	2.0604
Hadron	115	2.0677	0.00026	2.0686	2.0672	2.0679