

Jefferson Lab Alignment Group

DATA TRANSMITTAL

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Checked: # : A641

DETAILS:

Below are the results from the Electron spectrometer pointing and superharp surveys carried out on Nov 27th. The values have been computed slightly differently than previous surveys, using a coordinate system that forces the vertical axis to be parallel with gravity. This should prevent any 'tilting' errors in the survey results. All of the spectrometer / superharp surveys carried out from Sept 20th onward, when the superharps were relocated, have been re-processed using a gravity based system. As a result, the majority of the data agrees with previously published surveys to within 0.10 mm and 0.001 deg. The exceptions are tabulated below.

===== RESULTS ===== E112700A

The central ray of the spectrometer is at -19.275 degrees.
It is missing the defined target center by 1.93 mm upstream,
and 0.32 mm vertically (positive = up).

If the offset is corrected by secondary alignment, the spectrometer will be at -19.288 degrees.

*.3dd = 1.33

*.9pr = 0.10

Superharps	DX	DY	locations in mm (+ is beam left)
SH1H01A	0.06	0.08	
SH1H01B	0.18	0.03	
SH1H01C	0.20	0.03	
SH1H02A	-0.32	0.26	
SH1H02B	-0.28	0.29	
SH1H02C	-0.26	0.34	

=== PREVIOUS RESULTS COMPARED TO GRAVITY REFERENCED ===

DT#	Survey	Target	Previous	Gravity	Δ
A640	E110100A	SH1H01	-0.09 DY	0.04 DY	+ 0.13
A640	H103000A	Central ray	3.28 dnst	3.50 dnst	0.22 dnst
A636	H101600A	Central ray	0.05 dnst	0.23 dnst	0.18 dnst