Jefferson Lab Alignment Group

Data Transmittal

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DETAILS

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Superharps IHA1C18A and IHA1C18B, in line A were surveyed on 7/24/2007 and 10/18/2007. The purpose of these surveys was to determine if any movements occurred as 2 new viewers named the Ultra and ODR were installed near these existing superharps. The viewers are reported separately below. IHA1C18A is the upstream harp, and IHA1C18B is the downstream.

Points were established on each of the superharps and measured. There is no relation to these new points and the fiducialized center of the superharps, hence the position of the harps relative to beamline cannot be established from these surveys. The results are shown below. The locations are shown relative to the beam following (BFS) system and refer only to the movements between the 2 survey epochs and not the differences from the ideal location. The BFS movement coordinates are in millimeters. A +z would indicate movement downstream, +x to the beam left looking downstream and a +y is above the previous location. Units are millimeters.

	bfs dz	**bfs dx**	**dy**
Upstream A	-0.1	0.2	-0.4
Upstream B	-0.1	0.2	-0.3
Upstream C	-0.2	0.2	-0.3
Upstream D	-0.2	0.3	-0.3
Downstream A	0.3	0.1	0.0
Downstream B	0.3	0.2	-0.1
Downstream C	0.4	0.1	0.0
Downstream D	0.4	0.3	0.0

The Ultra and ODR viewers were located relative to the beamline during the 10/18/2007 survey. Their locations relative to the beamline are reported below. The coordinates are in millimeters and orientation is with the straight ahead beamline. A +z would be too far downstream, +x to the beam left looking downstream and a +y is above the design location. The Angular Deltas are in degrees and are based on a right handed coordinate system and are again the difference from design. The ideal yaw is 142.5°, with the ideal pitch and roll being 0.0°.

	bfs Z	bfs X	dy	delta Yaw	delta Pitch	delta Roll
Ultra Viewer	-0.8	-0.1	-0.3	-0.190°	0.224°	0.074°
ODR Viewer	-0.2	-0.2	-0.3	0.010°	-0.001°	0.053°