



Jefferson Lab Alignment Group

Data Transmittal

TO: J. Grames

DATE: 15 Dec 2017

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Checked: JD

: M1840

DETAILS:

Data: Step2B\UITF\171006A
Step2B\UITF\171201A

On the following page are the results from the recent surveys carried out on the UITF beam line. Three coordinate systems are referenced: "Main UITF Line", "15° Injector Gun Line", and "45° Dump Line". As per drawing # JL0029599-1000, the "Main UITF" Z (along beam) origin is located at the Y chamber downstream face of the downstream flange. From the Main beam line origin, the "15° Injector Gun Line" is shifted upstream -282.2 mm and rotated 15 degrees about Y. The "45° Dump Line" origin is at the intersection of the MDIK402 bisected upstream and downstream planes and a line between the upstream and downstream flanges of the MDIK402 chamber. A +X is left of beam, +Y is above beam, and +Z is downstream. A +rX is counter-clockwise looking from the left, +rY is counter-clockwise looking from above, and + rZ is counter-clockwise looking from downstream. All data given in millimeters and degrees.

15° Injector Gun Line	X(mm)	Y(mm)	Z(mm)	rX(°)	rY(°)	rZ(°)
Gun(Fiducial Data)	-0.21	0.04	-1405.8	0.058	0.058	0.214
MFHK101	2.49	-0.53	-838			
Main UITF Line	X(mm)	Y(mm)	Z(mm)	rX(°)	rY(°)	rZ(°)
Flange Face Y Chamber	-0.5	0.2	0			
IPMK201 (Fiducial data)	0.90	-0.67	122.1	0.374	-0.086	-0.249
MFBK202	-0.5	0.1	370			
ITVK202	-1.1	0.2	797			
MWFK203 (Fiducial data)	-1.19	0.22	1096.5	0.027	0.002	-0.205
ITVK203	-0.9	-1.7	1397			
MFQK203	-0.9	-2.2	1529			
ITVK203A	-0.3	0.1	2034			
IPMK203 (Fiducial Data)	-0.41	-0.87	2128.8	-0.256	-0.137	0.265
MFAK301	-0.3	0.3	2331			
RIHK301	-0.3	0.4	2402			
USFACE MFDK302A	0.0	0.3	2862			
ISLK302(MS) Aperture (Fiducial data)	-0.12	0.15	3307			
DSFACE MFDK302B	0.3	0.3	3182			
RIHK302	0.6	0.1	3627			
MFAK303	0.5	0.2	3700			
VMVK401	0.5	0.2	3868			
IPMK401 (Fiducial data)	2.02	-0.27	3984.7	0.270	-0.465	1.032
ITVK401	0.3	0.3	4198			
RIBK401	0.1	0.4	4528			
ISLK401(A3)	0.0	0.3	4763			
MDIK402	0.1	0.2	5125	0.065		-0.061
IPMK402(Fiducial data)	0.08	-0.89	5424.6	0.286	-0.108	-0.264
ITVK402	0.1	0.1	5643			
MFQK403	0.1	0.1	5824			
VDPK403	0.1	0.0	5955			
ISLK403(A4)	0.1	0.0	6165			
ICBK403(BROCK)	0.1	0.0	6265			
IFYK403	0.1	-0.1	6745			
45° Dump Line	X(mm)	Y(mm)	Z(mm)			
MFQK501	1.1	-0.3	680			
VDPK501	1.0	-0.5	905			
IHAK501	0.8	-1.2	1105			
UPSTREAM IDLK501	-0.2	-2.8	1383			
DOWNSTREAM IDLK501	1.8	-1.7	1688			