



Jefferson Lab Alignment Group

Data Transmittal

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DATE: 24 Apr 2017

FROM: Chris Gould

Checked:

: L1786

DETAILS:

M:\align\DATA\Step2B\INJ\130808A,130717A, 120524

Below are the survey results of the 4D line for the Pre-Production Isotope Run. Shown are the locations in both the CEBAF Mechanical coordinate system and a Beam Following system. In the BFS, a +X is beam left and a +Y is up. The locations of the 4D00 BPM and Harp are from a survey in August, 2016. Our current plan is to re-measure the 4D00 elements before the pre-production run.

| | MECH (METERS) | | | BFS (mm) | | ROLL ANGLE° |
|-------------|---------------|----------|-----------|----------|-------|-------------|
| | Z | X | Y | X | Y | |
| IPM4D00E_US | -210.73520 | 78.86820 | 99.99954 | 0.62 | -0.37 | |
| IPM4D00E_DS | -210.61907 | 78.81430 | 100.00020 | 0.84 | 0.20 | |
| ITV4D00E | -210.56184 | 78.78728 | 100.00022 | 0.55 | 0.22 | -1.3 |
| IHA4D00E | -210.33494 | 78.68065 | 100.00059 | -0.20 | 0.59 | 36.5 |
| ITV4D00 | NOT MEASURED | | | | | |
| IPM4D00_US | -209.46662 | 78.27528 | 100.00027 | -0.61 | 0.27 | |
| IPM4D00_DS | -209.29677 | 78.19626 | 100.00028 | -0.25 | 0.28 | |
| IHA4D00 | -209.18539 | 78.14410 | 99.99971 | -0.65 | -0.29 | 45.0 |
| ITR4D00 | NOT MEASURED | | | | | |

Below are the locations of the OL quads requested by Yves. These magnets were last measured in the summer of 2013.

| | MECH (METERS) | | | ANGLE (DEGREES) | | |
|--------|---------------|----------|-----------|-----------------|---------|----------|
| | Z | X | Y | Roll | Pitch | Yaw |
| QJ0L01 | -248.06054 | 80.60028 | 100.00045 | -0.0233 | 0.0656 | -0.0203 |
| QJ0L02 | -245.02049 | 80.60001 | 100.00033 | -0.1197 | 0.2468 | -0.0446 |
| QJ0L2A | -244.40992 | 80.60035 | 100.00020 | 0.0014 | -0.0057 | 0.0175 |
| QJ0L03 | -239.22123 | 80.60024 | 100.00039 | 0.0032 | 0.0892 | -0.0812 |
| QJ0L3A | -238.59049 | 80.60008 | 100.00032 | 0.0062 | -0.0203 | 0.0271 |
| QJ0L04 | -235.44005 | 80.60003 | 99.99996 | 0.0193 | -0.0082 | -0.0061 |
| QJ0L05 | -225.63916 | 80.59998 | 100.00003 | -0.0003 | 0.0696 | 0.0135 |
| QD0L06 | -216.03648 | 80.60006 | 100.00008 | 0.0076 | 0.0062 | -0.0295 |
| BF4D01 | -214.45288 | 80.58903 | 100.00001 | 0.0053 | -0.0437 | -12.4934 |