

A decorative vertical bar on the left side of the slide, consisting of a thin black line and a thick black bar.

BPM Calibration Update

Ed Brash

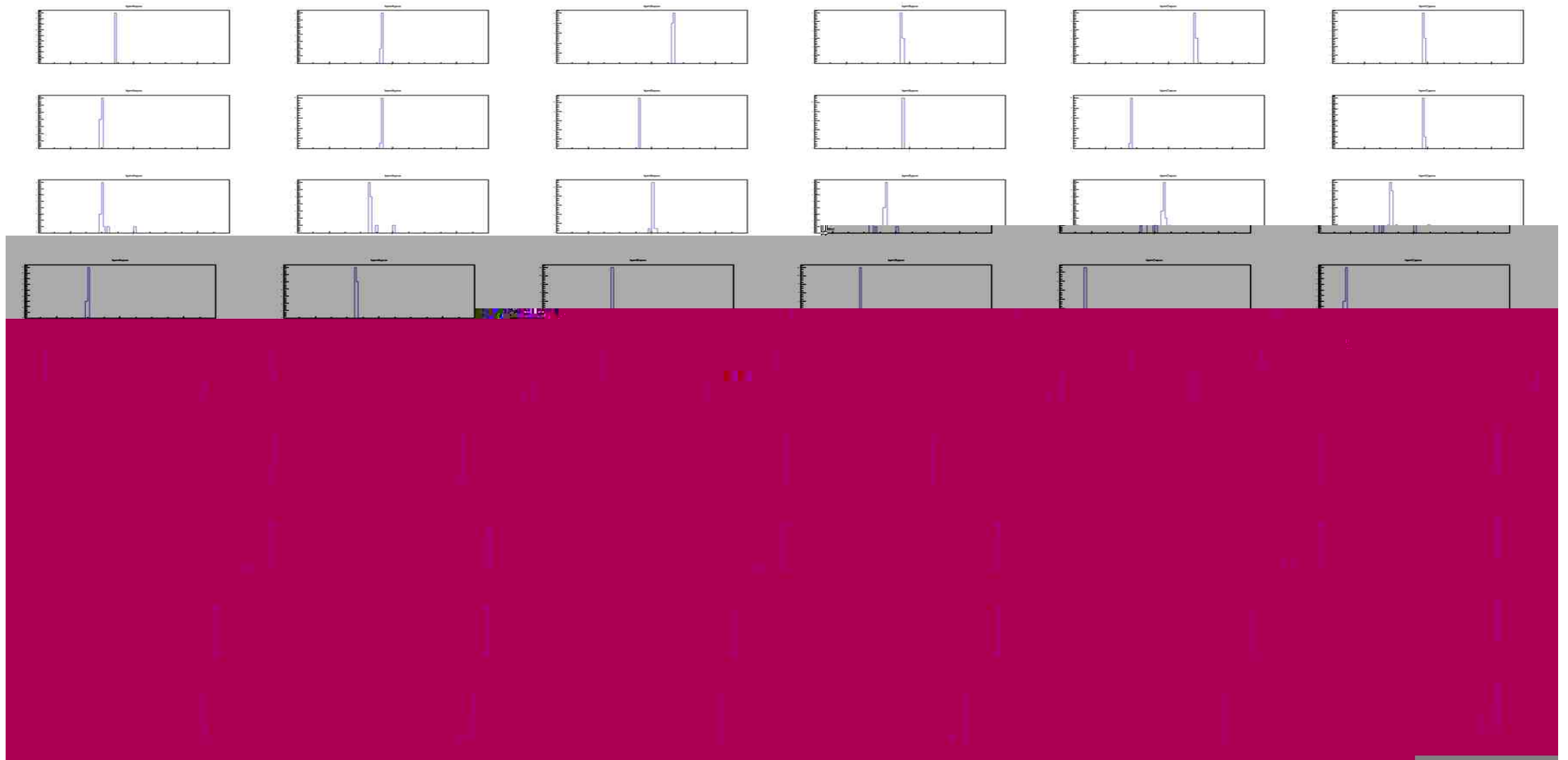
July 12, 2018

HARP Scans

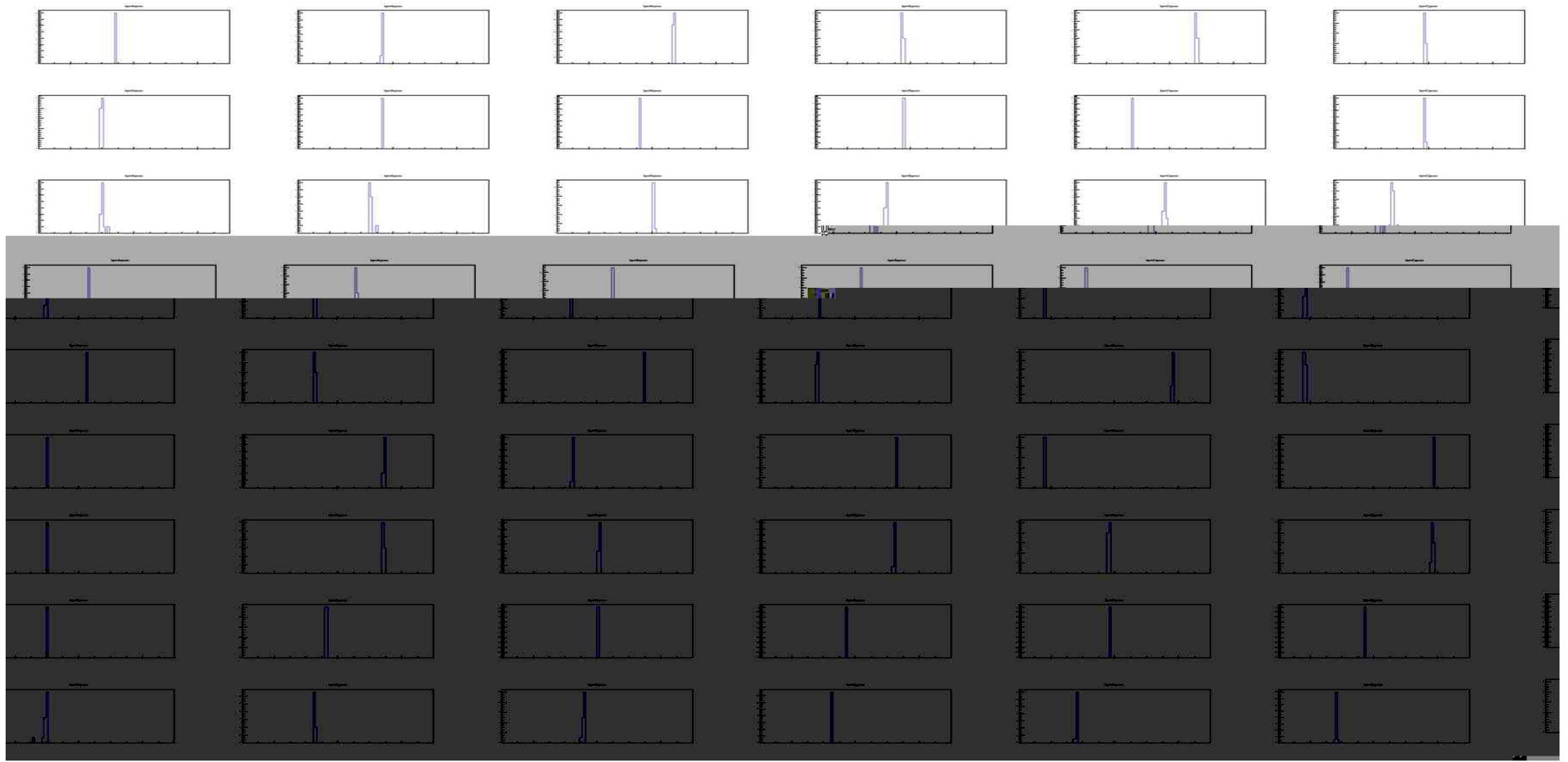
1771	0.194	-0.605	-1.548	0.328	345.528	154.612	-1.00	-0.98	-0.99	-1.32	-2.0	2.0	0.1
1770	0.838	-0.620	0.155	0.297	345.528	154.612	-0.98	-0.61	-0.35	-0.43	-1.0	0.0	0.1
1769	0.583	-1.070	-0.577	-0.512	345.528	154.612	-0.99	-0.99	-0.99	-1.32	-2.0	2.0	0.1
1768	0.956	-1.194	1.033	-1.220	345.528	154.612	-1.00	-0.98	-0.99	-1.32	-2.0	2.0	0.1
1767	-0.620	-1.153	-2.499	-1.261	345.528	154.612	-0.99	-1.00	-1.00	-1.32	-2.0	2.0	0.1
1765	0.927	1.035	0.992	1.998	345.528	154.612	-1.01	1.17	-0.76	1.05	-2.0	2.0	0.1
1764	0.659	1.080	-0.660	2.034	345.528	154.612	-0.99	1.17	-0.76	1.05	0.0	2.0	0.1
1763	0.691	-0.645	-0.630	0.201	345.528	154.612	-1.00	-0.61	0.02	-0.47	0.0	0.0	0.1
1762	0.825	-1.063	0.221	-0.517	345.528	154.612	-1.00	-0.99	-0.40	-0.96	-1.0	-1.0	0.1

A B C D

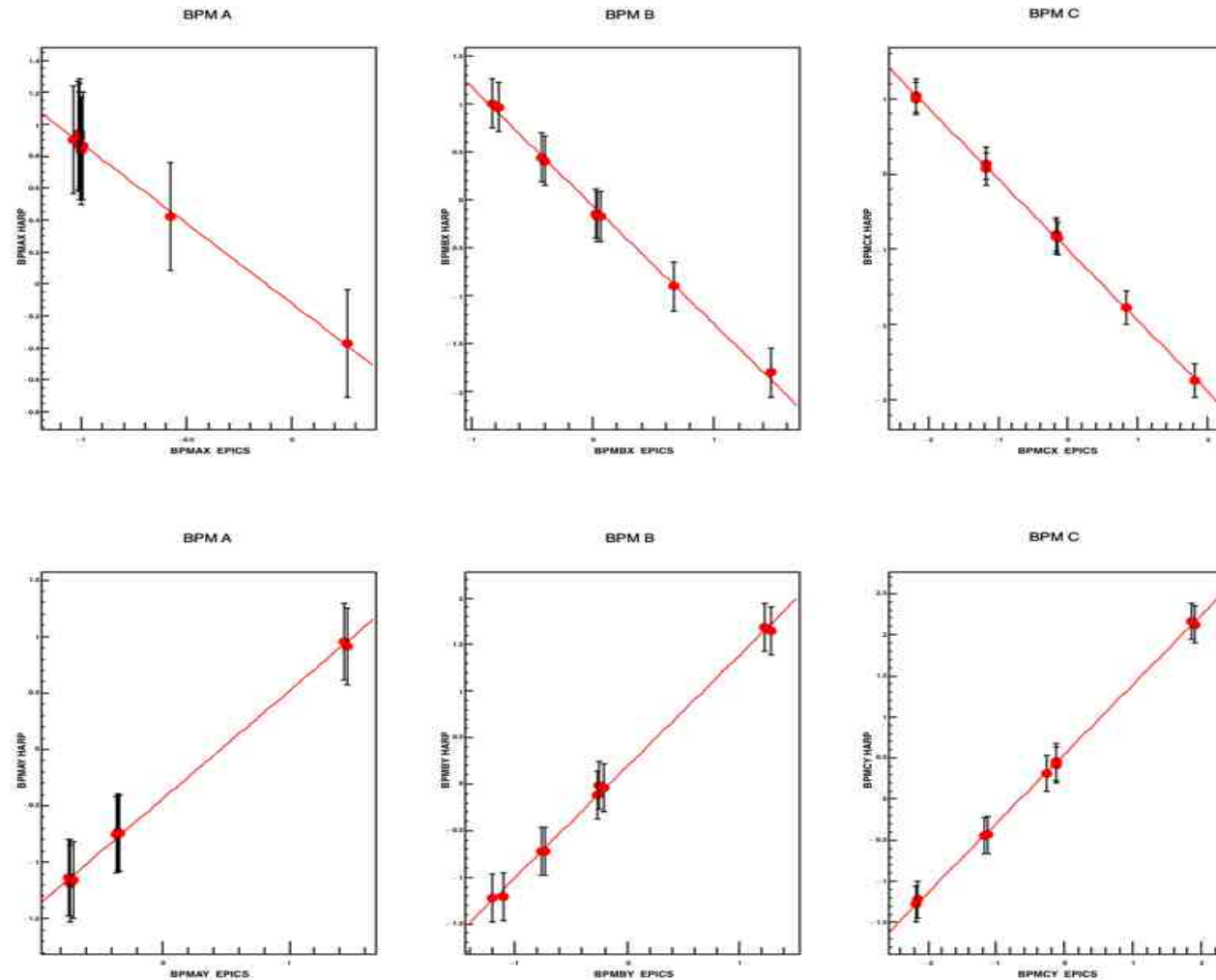
RAW BPM positions from EPICS data

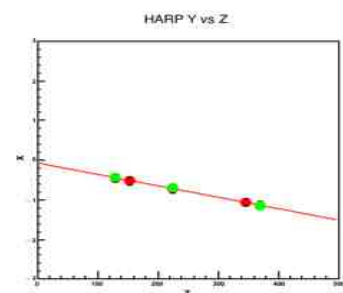
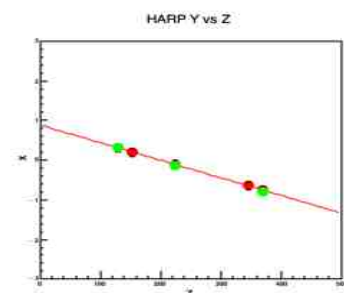
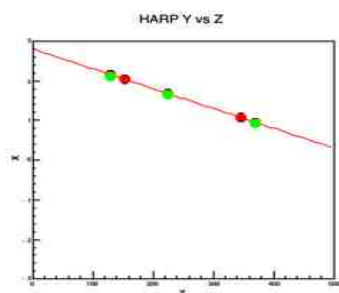
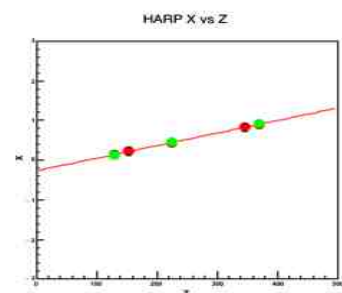
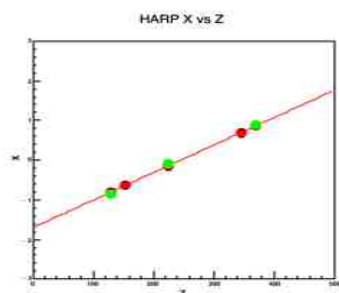
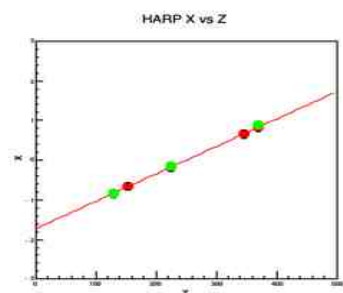
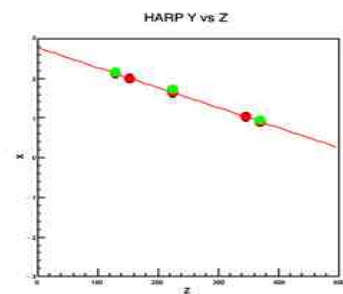
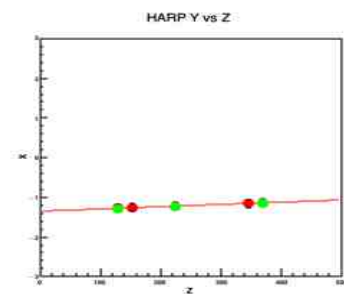
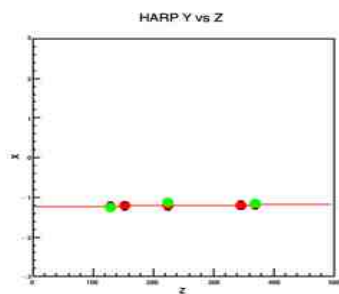
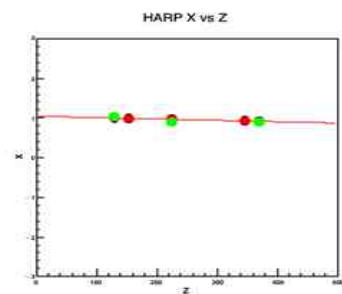
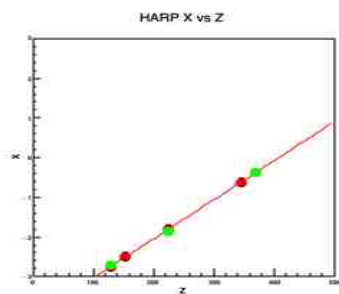
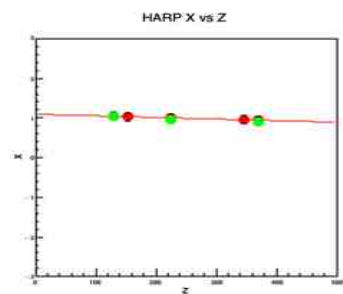
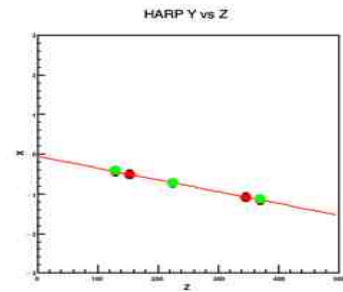
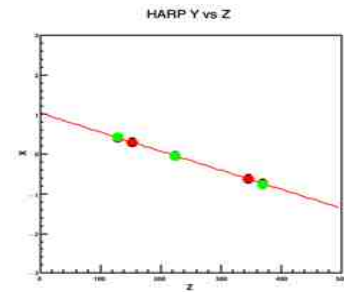
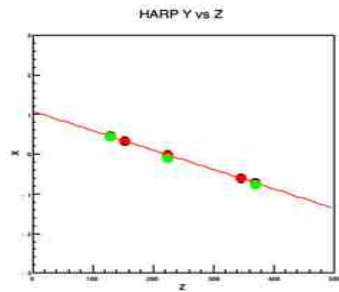
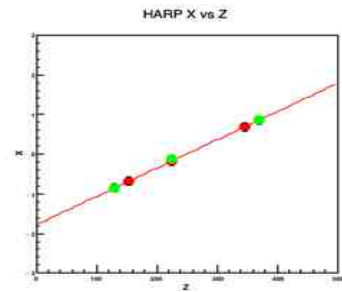
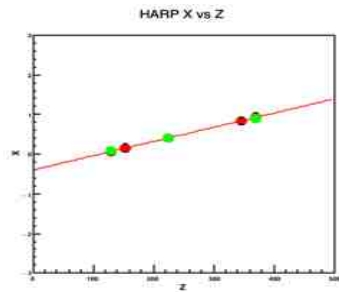
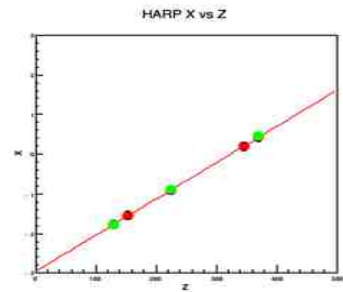


RAW BPM positions after cuts to clean up



HARP vs. BP Calibrations





Gains and Offsets

- Projected HARP X/Y Position (Truth) = **slope** * Raw EPICS BPM X/Y Position + **offset**

BPM Ax: Slope = -1.00111 +/- 0.278043
BPM Ax: Constant = -0.123099 +/- 0.255359

BPM Bx: Slope = -1.24023 +/- 0.126607
BPM Bx: Constant = -0.061674 +/- 0.066336

BPM Cx: Slope = -0.940987 +/- 0.058928
BPM Cx: Constant = -1.00727 +/- 0.0792616

BPM Ay: Slope = 0.957734 +/- 0.133041
BPM Ay: Constant = -0.44177 +/- 0.114017

BPM By: Slope = 1.19394 +/- 0.100589
BPM By: Constant = 0.190897 +/- 0.0863716

BPM Cy: Slope = 0.842772 +/- 0.0321277
BPM Cy: Constant = 0.549773 +/- 0.076011