

	Mean(ppb)	Error(ppb)	RMS(ppm)	$\chi^2$	NDof
raw	20254	694	294.6	13.6	19
ideal	-41	204	86.6	14.0	19
dither	-215	252	106.9	18.6	19
reg5bpm	447	228	96.8	10.7	19
regall	67	209	88.6	12.9	19
lagr all	-26	209	88.7	13.1	19
truncated lagr all	-25	209	88.7	13.1	19
wrong lagr all	-2606	226	95.7	14.6	19
wrong dither	-2825	277	117.4	20.4	19

Table 1: Run Averages

EV#	$\Delta B(\text{nm})$	RMS(um)	slope(ppm/um)	$A_{beam}$ (ppb)	$\sigma$ (ppm)	slope(ppm/um)	$A_{beam}$ (ppb)	$\sigma$ (ppm)	slope(ppm/um)	$A_{beam}$ (ppb)	$\sigma$ (ppm)
0	$-30.0 \pm 30.2$	12.8	-0.37	11.0	4.7	-0.35	10.6	4.5	-0.41	12.2	5.2
1	$40.1 \pm 27.3$	11.6	6.83	273.5	79.0	6.83	273.4	79.0	7.01	280.6	81.0
2	$480.0 \pm 15.7$	6.7	39.40	18914.1	262.1	39.57	18994.9	263.2	44.64	21427.8	297.0
3	$-13.2 \pm 10.2$	4.3	2.56	-33.8	11.1	2.61	-34.4	11.3	2.27	-29.9	9.8
4	$-46.5 \pm 6.8$	2.9	-21.29	989.7	61.7	-21.52	1000.8	62.4	-24.29	1129.6	70.4
5	$-1.1 \pm 4.6$	2.0	1.27	-1.5	2.5	1.19	-1.4	2.3	1.65	-1.9	3.2
6	$0.8 \pm 1.0$	0.4	0.45	0.3	0.2	0.46	0.3	0.2	0.35	0.3	0.1
7	$-0.9 \pm 1.0$	0.4	-0.34	0.3	0.1	-0.35	0.3	0.1	-0.15	0.1	0.1
8	$1.1 \pm 1.0$	0.4	0.27	0.3	0.1	0.29	0.3	0.1	0.31	0.4	0.1
9	$-1.9 \pm 1.0$	0.4	-0.01	0.0	0.0	-0.01	0.0	0.0	-0.27	0.5	0.1
10	$-0.1 \pm 1.0$	0.4	-0.50	0.1	0.2	-0.48	0.1	0.2	-0.48	0.1	0.2
11	$0.2 \pm 1.0$	0.4	0.08	0.0	0.0	0.11	0.0	0.0	0.16	0.0	0.1

Table 2: All BPM Corrections on US AVG: 1)Eigenvectors; 2)Regression; 3)Lagrange; 4)False Lagrange

BPM	$\Delta B(\text{nm})$	RMS(um)	slope(ppm/um)	slope(ppm/um)	slope(ppm/um)
bpm4aX	-7.8	1.7	0.41	0.51	0.38
bpm4eX	-91.3	8.6	-3.10	-3.08	-3.35
bpm1X	62.2	8.3	16.37	16.53	18.95
bpm11X	-353.6	5.9	-37.38	-37.62	-42.17
bpm12X	-309.5	5.1	-18.19	-18.20	-20.83
bpm16X	-44.8	3.8	1.27	1.30	1.64
bpm4aY	21.4	7.7	3.44	3.43	3.40
bpm4eY	10.6	4.6	3.43	3.44	3.32
bpm1Y	18.6	6.7	0.21	0.18	0.24
bpm11Y	5.2	2.2	-1.20	-1.19	-1.60
bpm12Y	-1.1	4.4	4.05	4.08	4.01
bpm16Y	-1.2	2.1	-3.55	-3.54	-4.05

Table 3: All BPM Corrections on US AVG: 1) BPMs Diff; 2)Regression; 2)Lagrange; 3)Lagrange(false)