

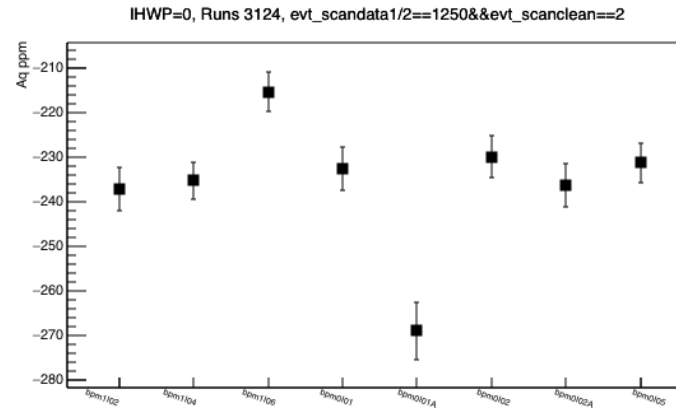
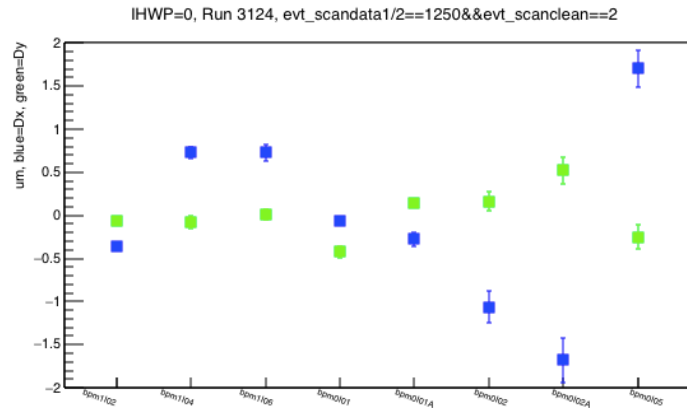
Noise: RTP vs KD*P

Caryn 9/8/2017

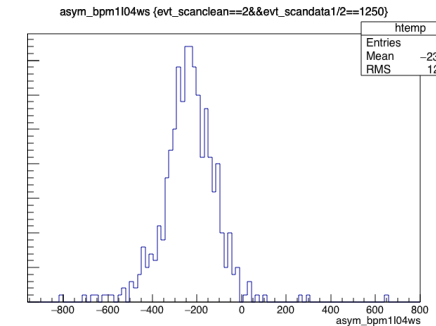
Noise Table

S1 RHWP 2.25deg	Aq RMS (ppm) Mtree	Dx ,yRMS (um) Mtree	# samples per block , pattern	N	Aq RMS sqrt(N) (ppm)	Dx,y RMS sqrt(N) (um)	Time to get 10nm precision (min)
KD*P 30Hz RHWP 56.2	100- (170)	1.5-(8)	4141, quad	8282	9100-(15471)	136-(728)	50-(1422)
KD*P 240Hz RHWP 59.4	185- (195)	2.2-(3.5)	495, octet	1980	8232-(8677)	98-(156)	27-(68)
RTP 240Hz RHWP 1	75-(95)	1.7-(2.9)	512, octet	2048	3394-(4299)	77-(131)	16-(47)
KD*P 960Hz RHWP 59.4	230- (285)	5-(17)	107, octet	428	4758-(5896)	103-(352)	34-(401)
RTP 960HZ RHWP 1	140- (200)	4-(19)	120, octet	480	3067-(4382)	88-(416)	22-(501)

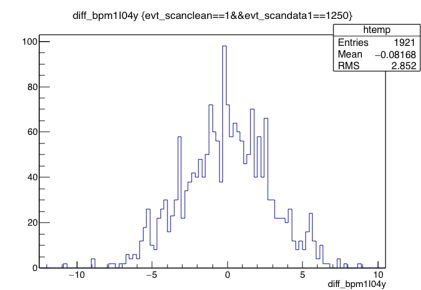
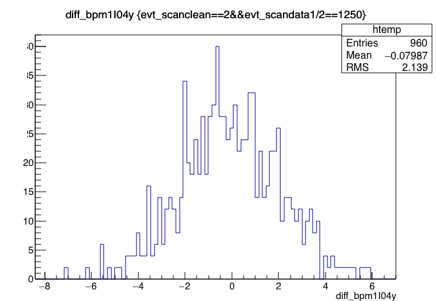
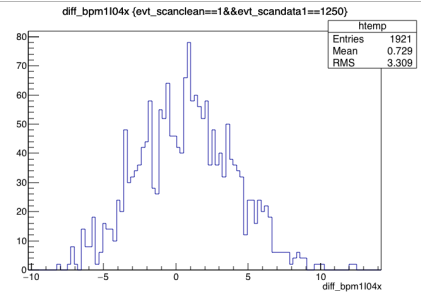
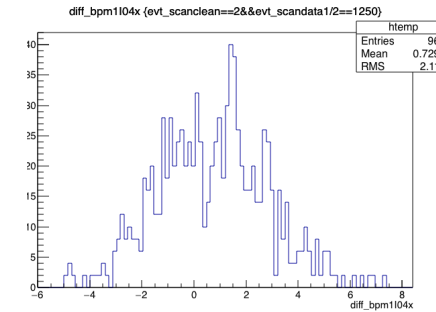
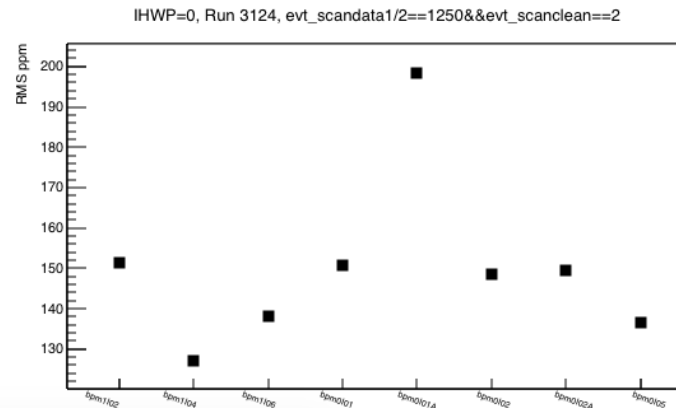
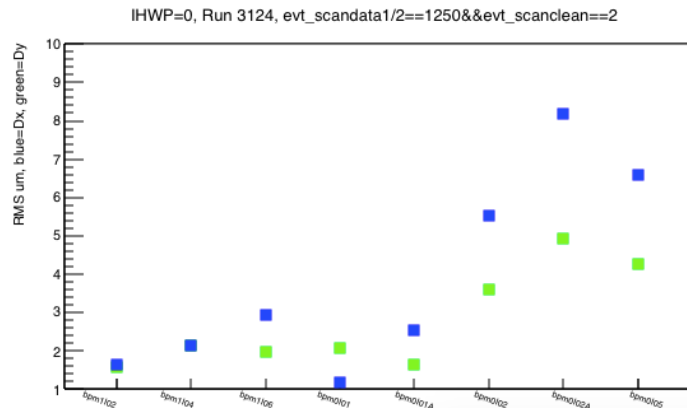
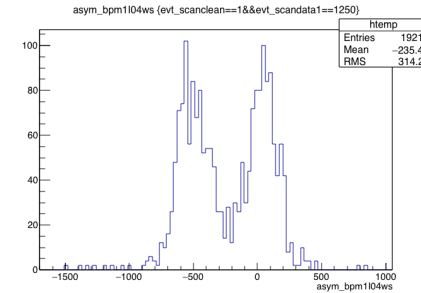
KD*P 30Hz: for bpms 1102, 1104, 1106, 0101, 0101A, 0102, 0102A, 0105



Mtree

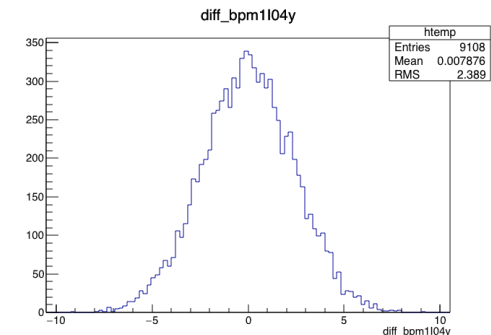
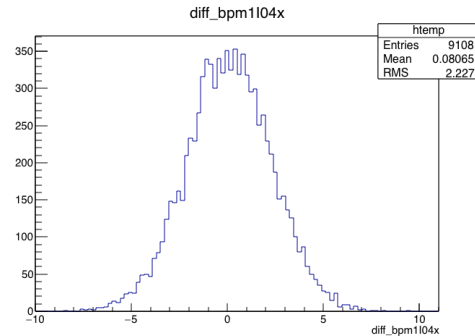
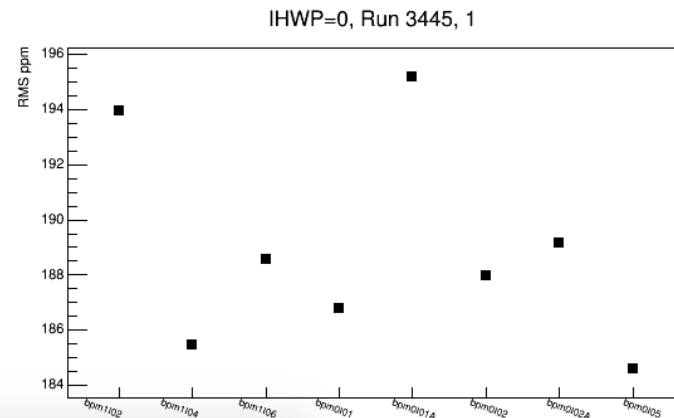
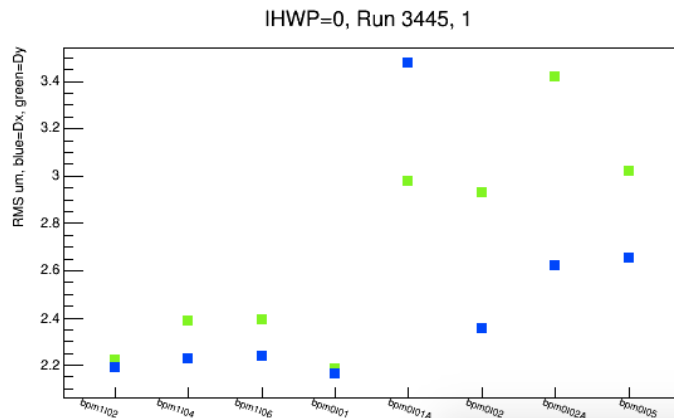
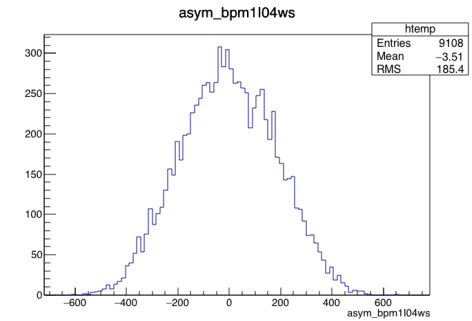
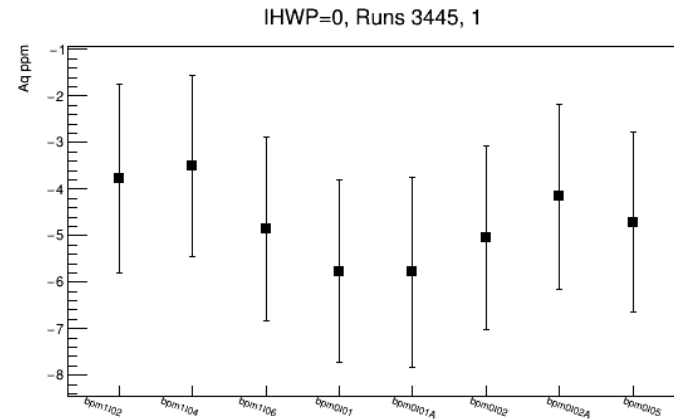
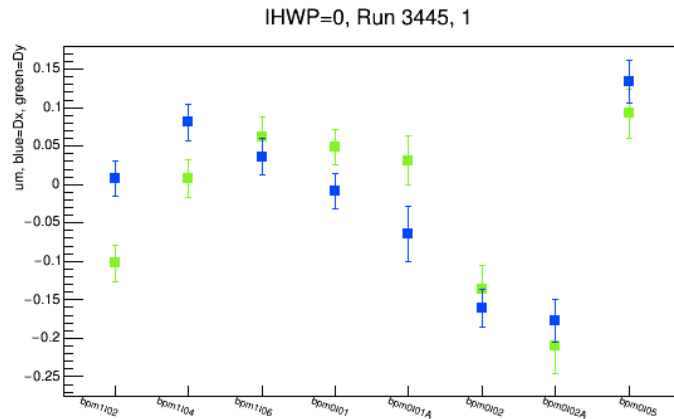


Ptree



- RHWP 1250 (56.25deg), S1~2.25deg
- BPM Aq RMS 100-170ppm
- BPM Dx,Dy RMS 1.5-8um
- Mtree, -Free clock, T-settle-160us, T-stable-33330usec, quad, no delay--> 29.5596Hz
- vqwk SamplesPerBlock=4141, GateDelay=10, NumberofBlocks=4 (2us/sample)

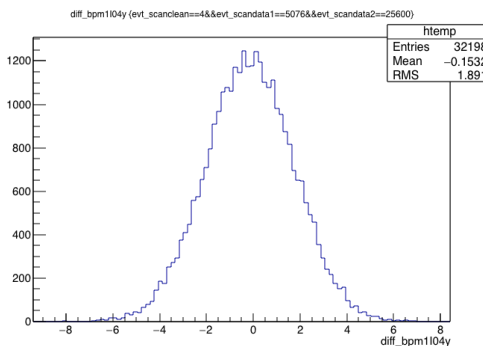
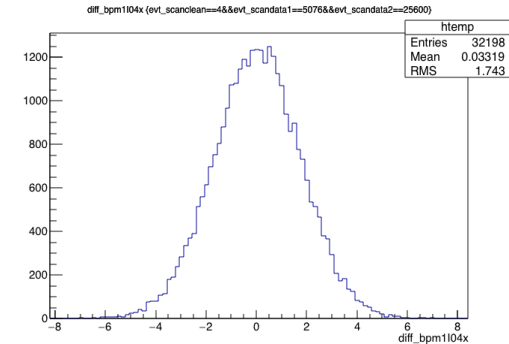
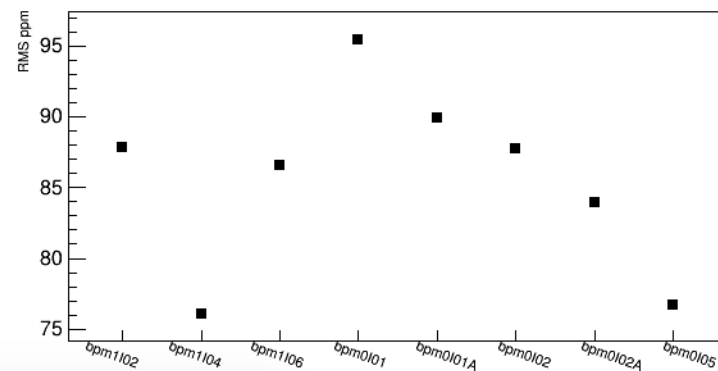
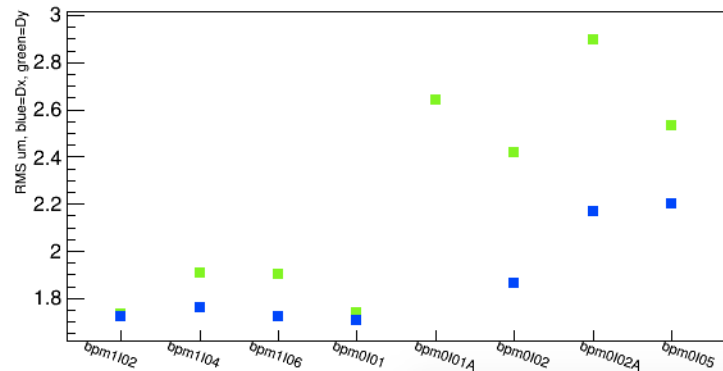
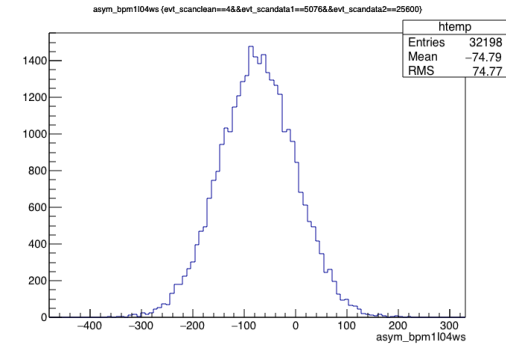
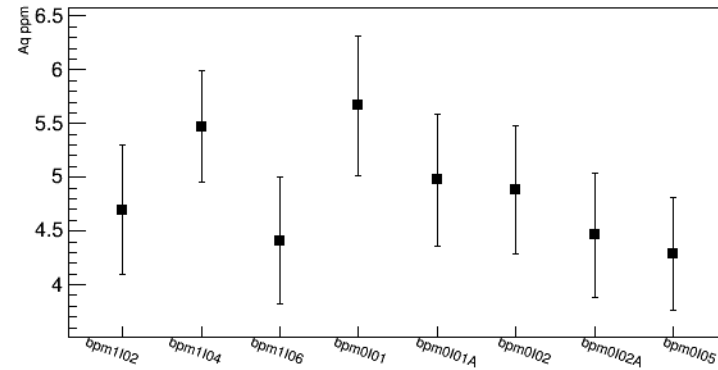
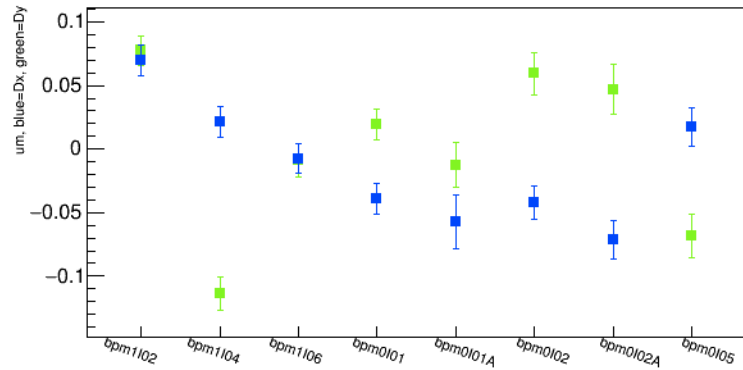
KD*P 240Hz: for bpms 1102, 1104, 1106, 0101, 0101A, 0102, 0102A, 0105



- RHPW 1320 (59.4deg), S1~2.25deg
- BPM Aq RMS 185-195ppm
- BPM Dx,Dy RMS 2.2-3.5um
- Mtree, linesync, 160us tsettle, 4006.67us tstable, octet, no delay, freq 240Hz
- vqwk SamplesPerBlock=495, GateDelay=10, NumberofBlocks=4 (2us/sample)

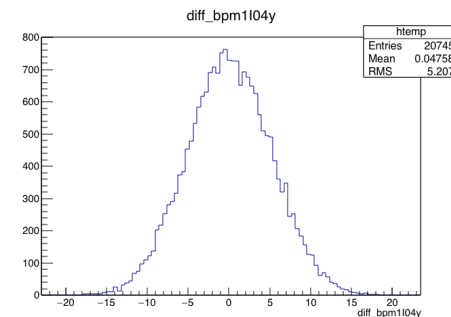
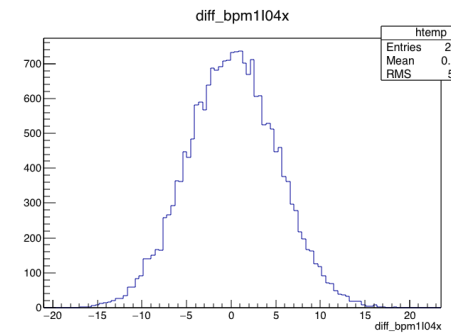
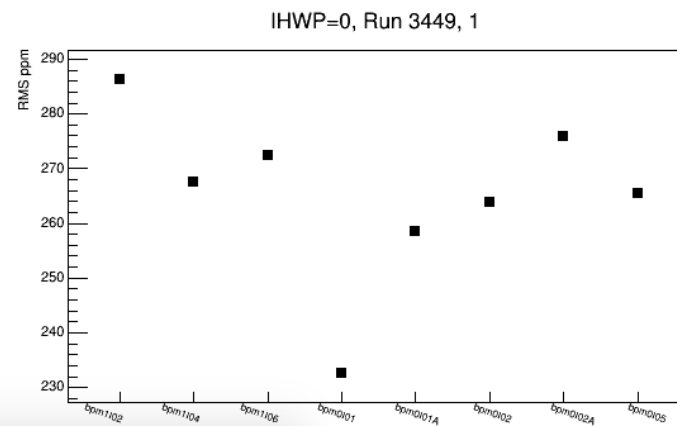
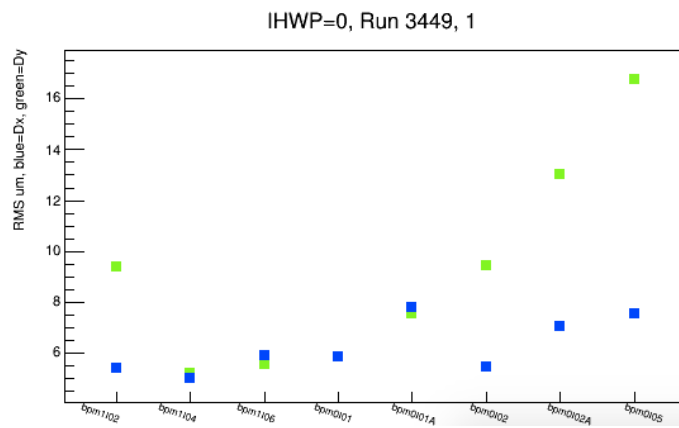
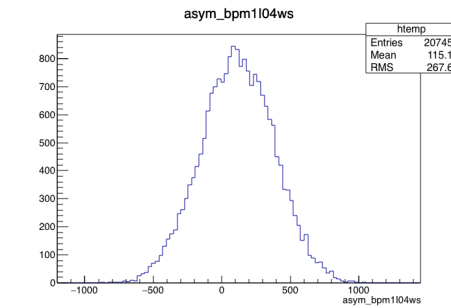
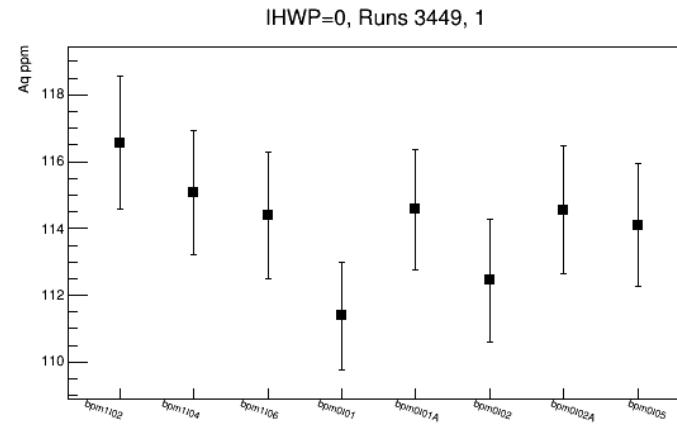
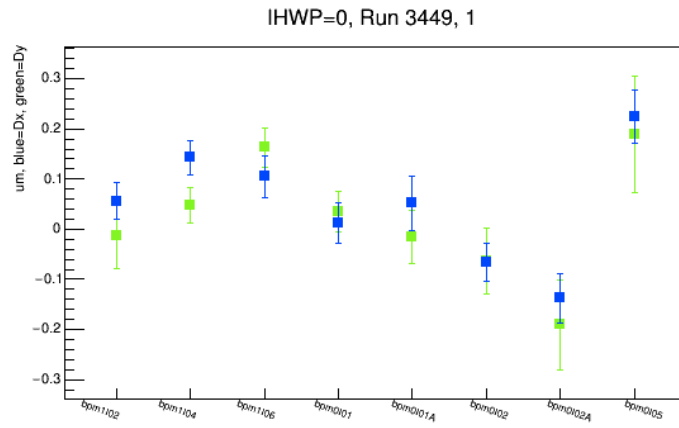
RTP 240Hz: for bperms 1102, 1104, 1106, 0101, 0101A, 0102, 0102A, 0105

RTPcell_Run3331_ebeamWalking_IHWPout_S1RHWP24_PITA54p5PITAp0sU12p69PITAp0sV70p98



- RHWP 24 (1deg), S1~2.25deg
- BPM Aq RMS 75-95ppm
- BPM Dx,Dy RMS 1.7-2.9um
- Mtree, linesync, 30us tsettle, octet, no delay, freq 240Hz
- vqwk SamplesPerBlock=512, GateDelay=10, NumberofBlocks=4 (2us/sample)

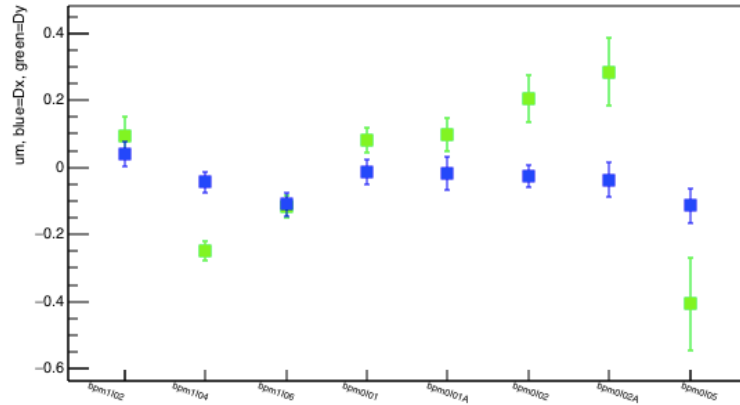
KD*P 960Hz: for bpms 1102, 1104, 1106, 0101, 0101A, 0102, 0102A, 0105



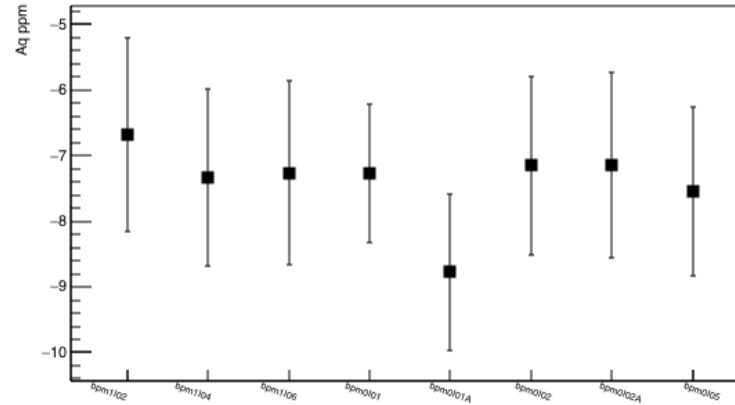
- RHWP 1320 (59.4deg), S1~2.25deg
- BPM Aq RMS 230-285ppm
- BPM Dx,Dy RMS 5-17um
- Mtree, -Free clock, T-settle-140us, T-stable-900usec, octet, no delay--> 961.54Hz
- vqwk SamplesPerBlock=107, GateDelay=10, NumberofBlocks=4 (2us/sample)

RTP 960Hz: for bpmns 1102, 1104, 1106, 0101, 0101A, 0102, 0102A, 0105

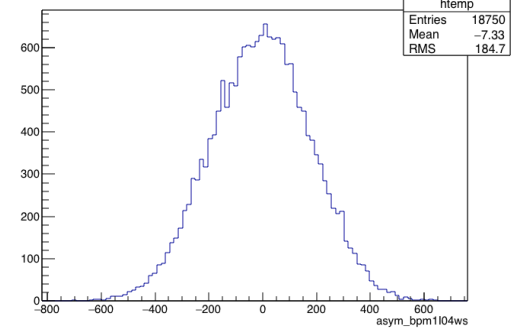
IHWP=0, Run 3330, m_ev_num>250e3&&m_ev_num<400e3



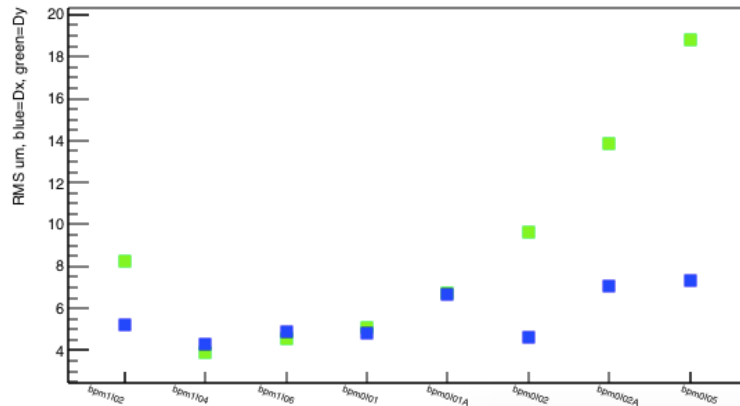
IHWP=0, Runs 3330, m_ev_num>250e3&&m_ev_num<400e3



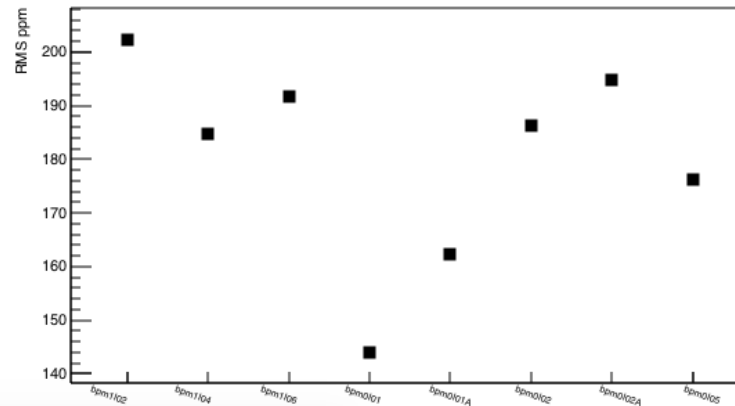
asym_bpm1104ws (m_ev_num>250e3&&m_ev_num<400e3)



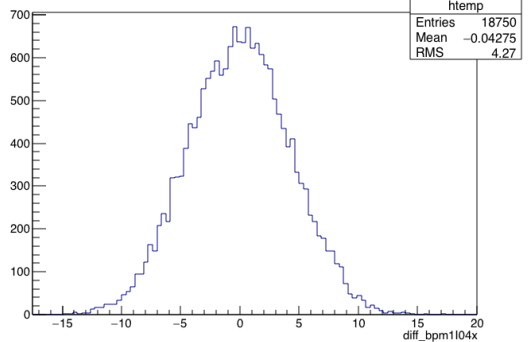
IHWP=0, Run 3330, m_ev_num>250e3&&m_ev_num<400e3



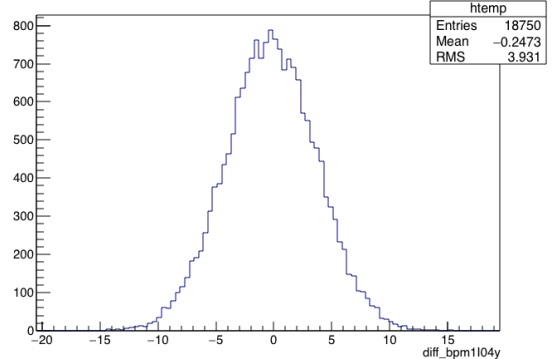
IHWP=0, Run 3330, m_ev_num>250e3&&m_ev_num<400e3



diff_bpm1104x (m_ev_num>250e3&&m_ev_num<400e3)



diff_bpm1104y (m_ev_num>250e3&&m_ev_num<400e3)

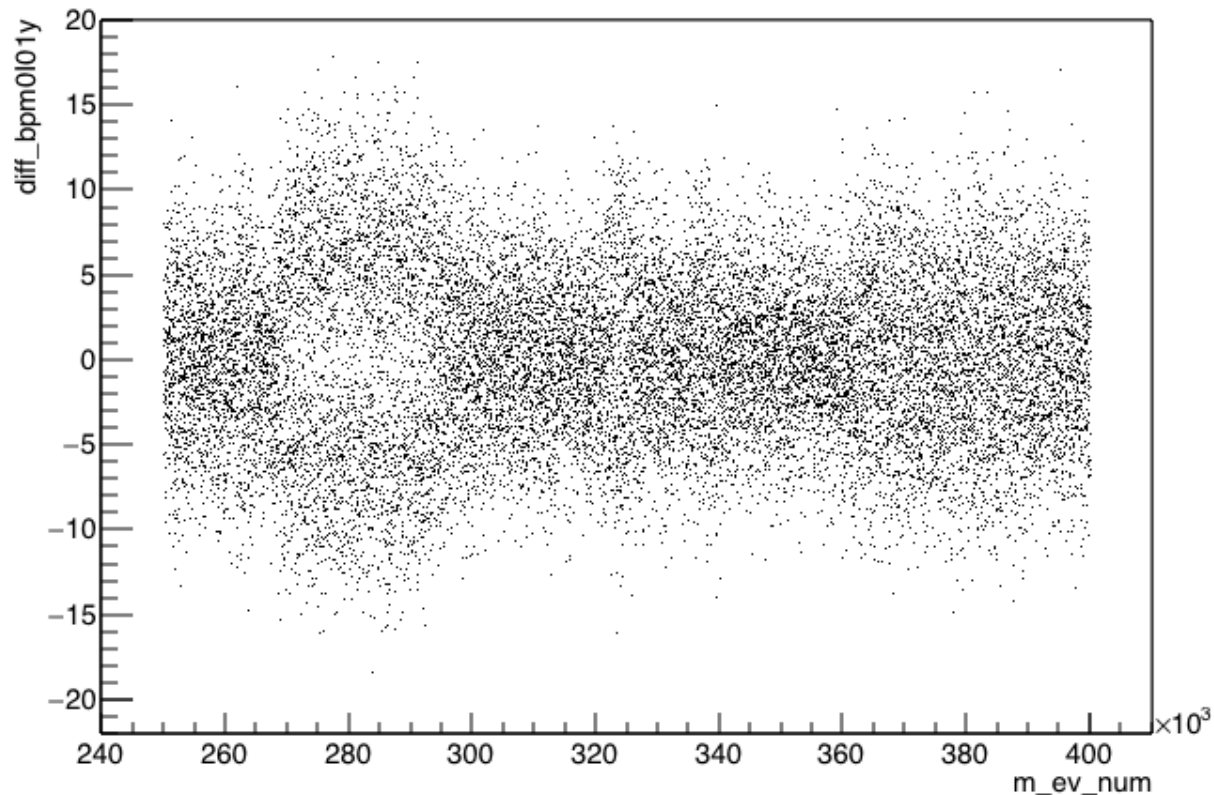


- RHWP 24 (1deg), S1~2.25deg
- BPM Aq RMS 140-200ppm
- BPM Dx,Dy RMS 4-19um
- Mtree, Free clock, 40us Tsettle, 1001.65usec Tstable, Octet, No Delay, 960.02Hz
- vqwk SamplesPerBlock=120, GateDelay=10, NumberofBlocks=4 (2us/sample)

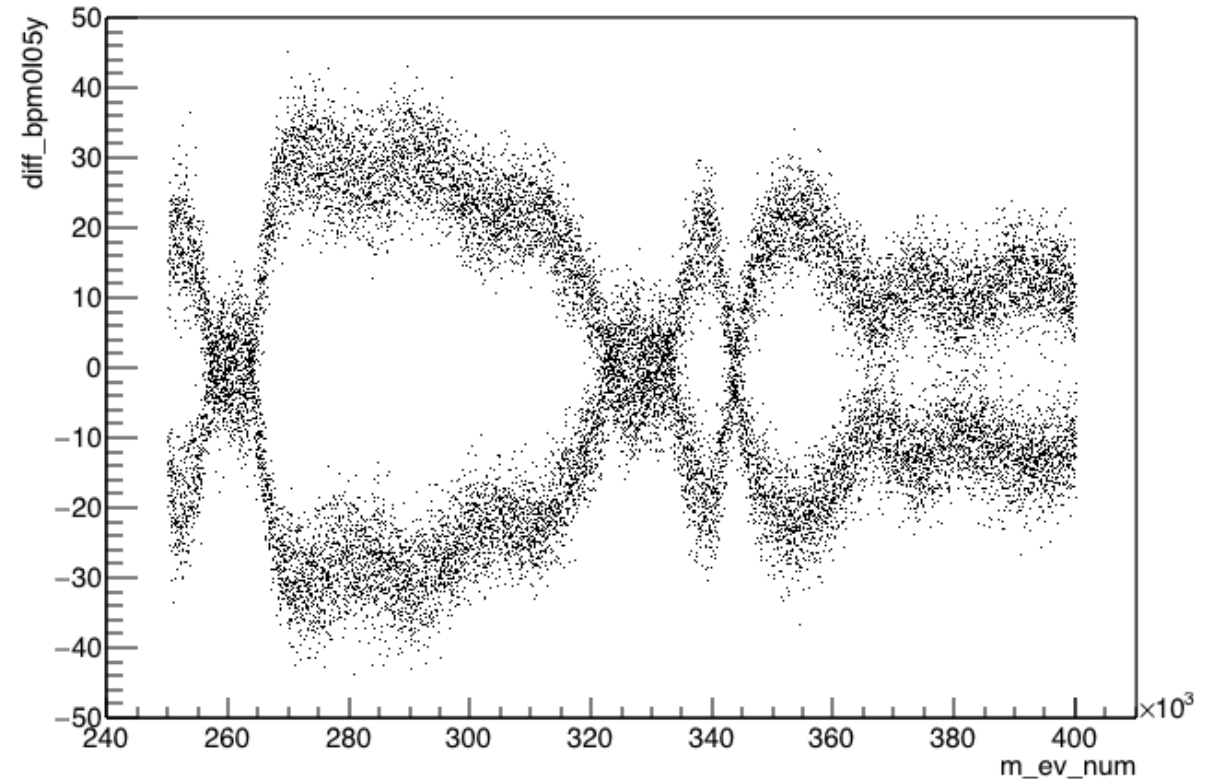
Some of the RMS may not be normal noise

- Run3330 , 960Hz Mtree, Free clock, 40us Tsettle, 1001.65usec Tstable, Octet, No Delay, 960.02Hz
- vqwk SamplesPerBlock=120, GateDelay=10, NumberofBlocks=4 (2us/sample)

diff_bpm0101y:m_ev_num {m_ev_num>250e3&&m_ev_num<400e3}

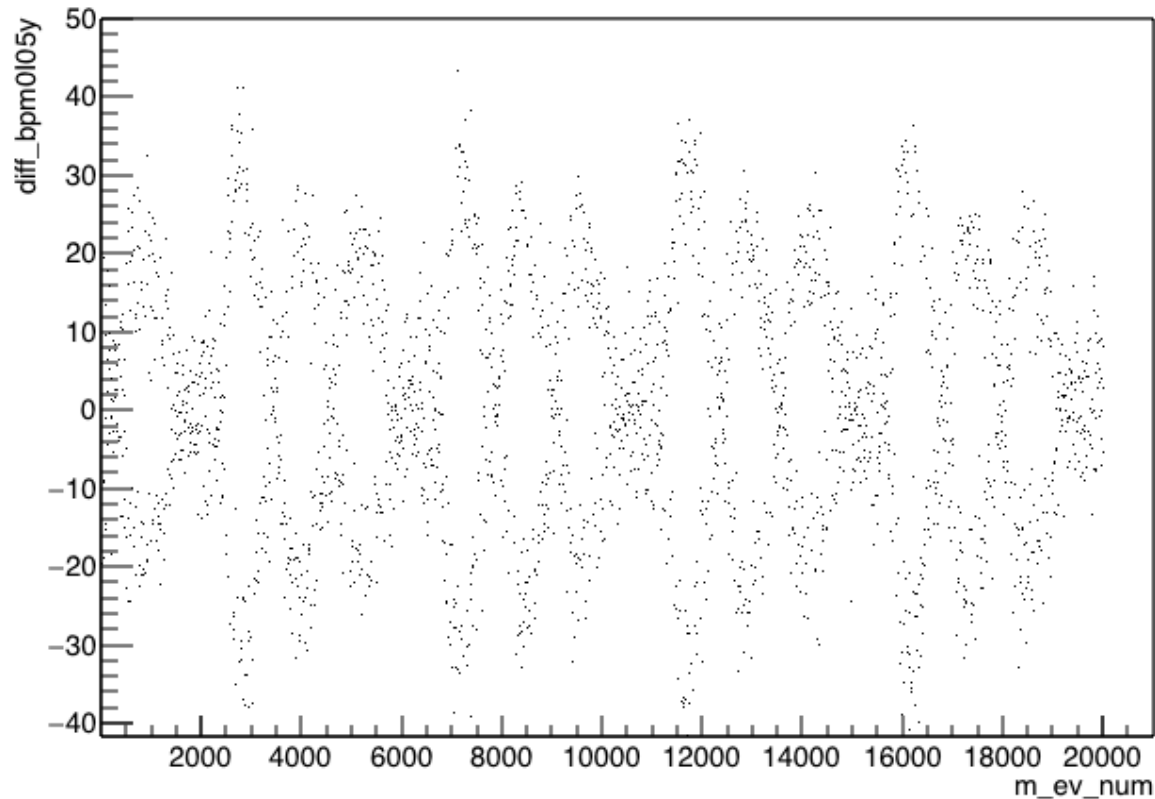


diff_bpm0105y:m_ev_num {m_ev_num>250e3&&m_ev_num<400e3}

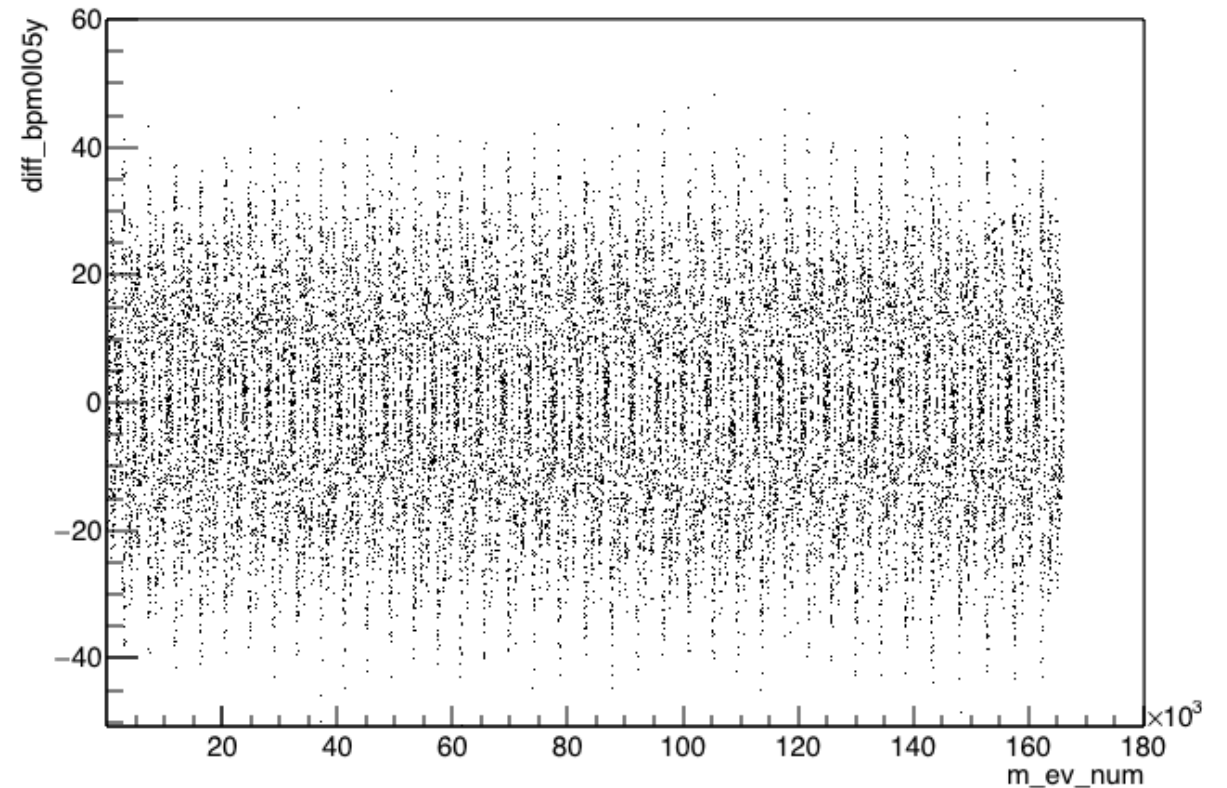


- 960Hz, KD*P, Run3449, Mtree, -Free clock, T-settle-140us, T-stable-900usec, octet, no delay--> 961.54Hz
- vqwk SamplesPerBlock=107, GateDelay=10, NumberofBlocks=4 (2us/sample)

diff_bpm0l05y:m_ev_num {m_ev_num<20e3}

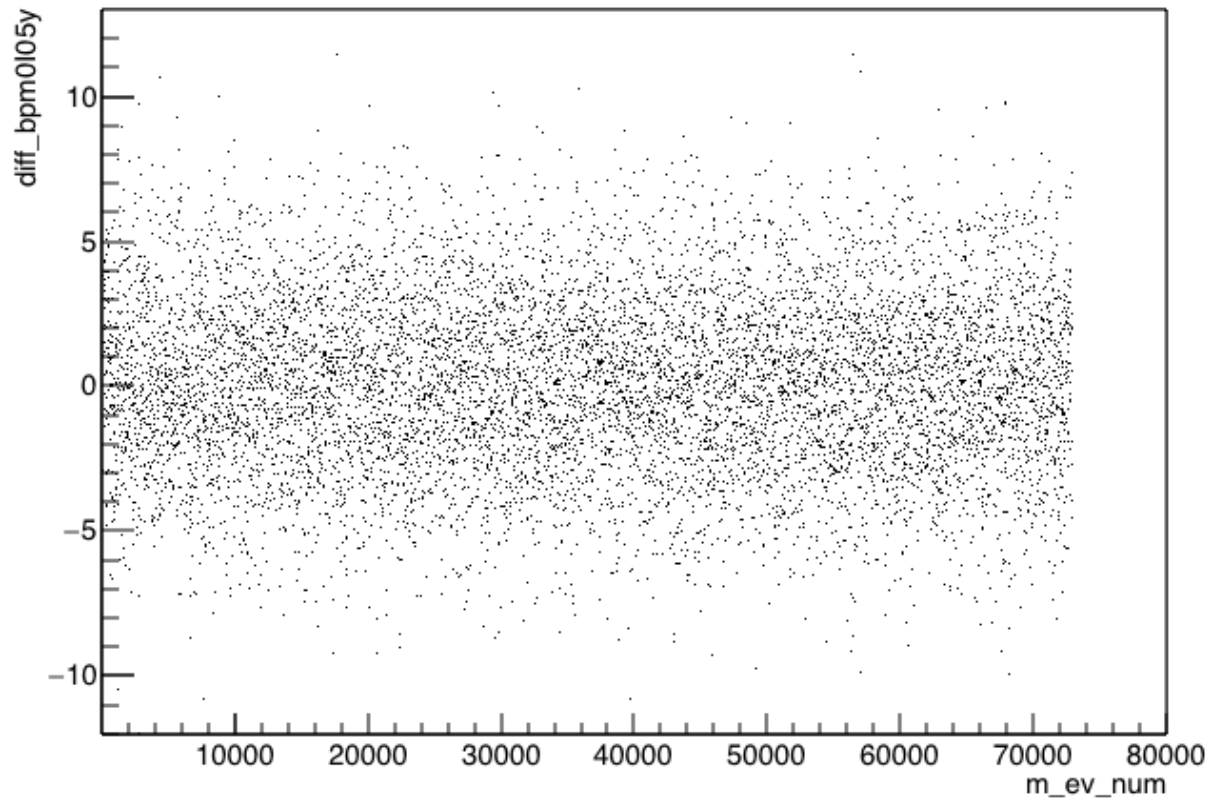


diff_bpm0l05y:m_ev_num



- KD*P 240Hz linesync, octet, Mtree
- Run3445

diff_bpm0105y:m_ev_num



- RTP 240Hz linesync, octet, Mtree
- Run3331

diff_bpm0105y:m_ev_num

