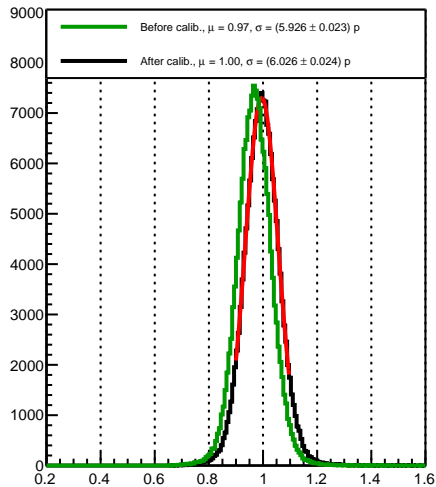
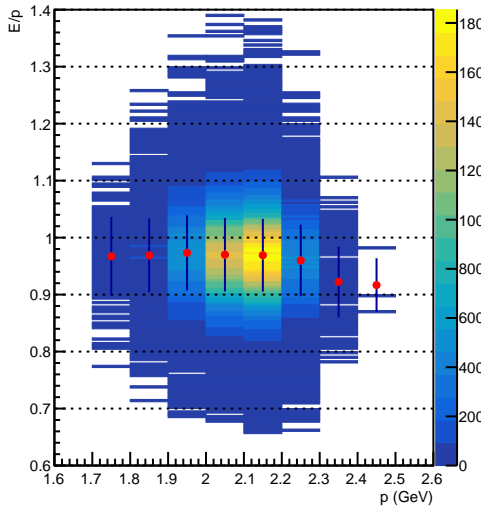


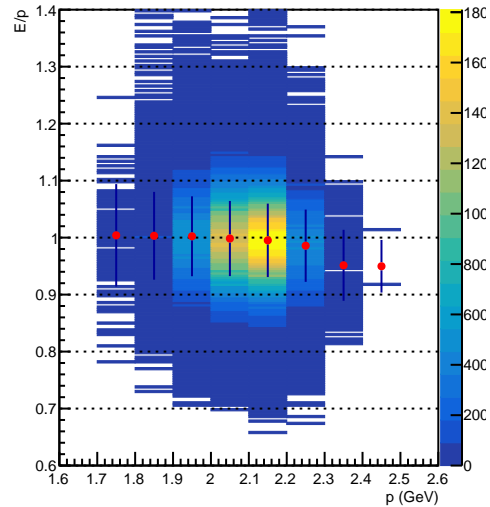
E/p (el. cut)



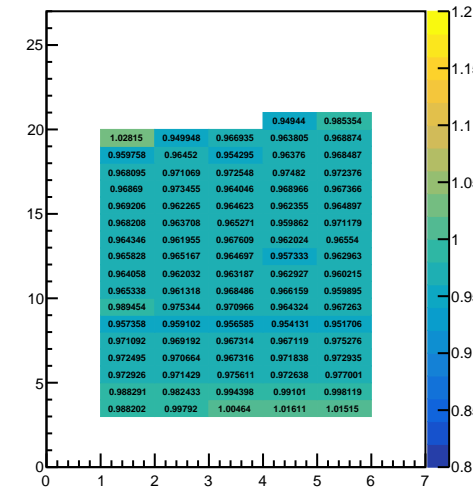
E/p vs p (el. cut)



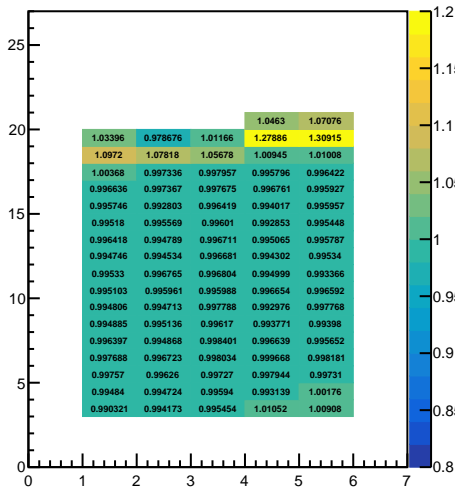
E/p vs p | After Calib. (el. cut)



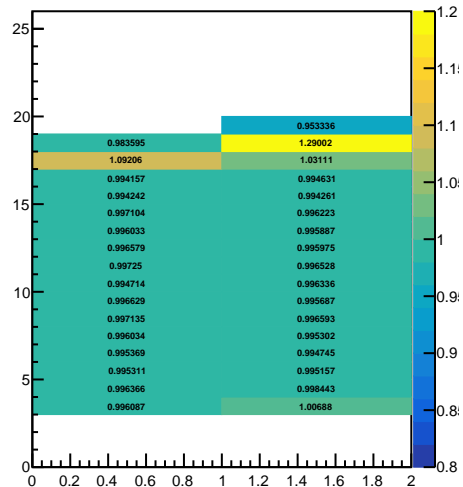
E/p per SH block (el. cut)



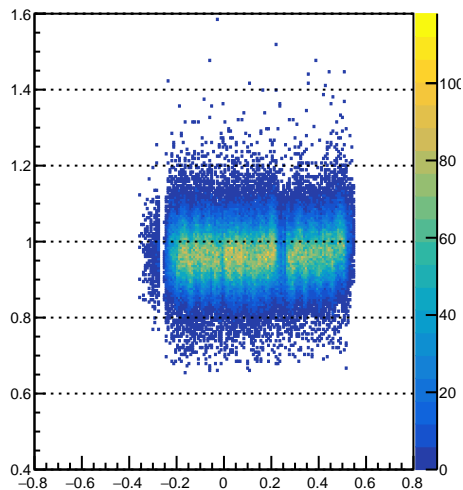
E/p per SH block | After Calib. (el. cut)



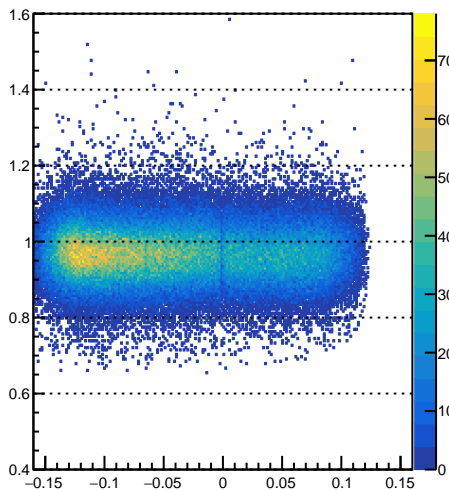
E/p per PS block | After Calib. (el. cut)



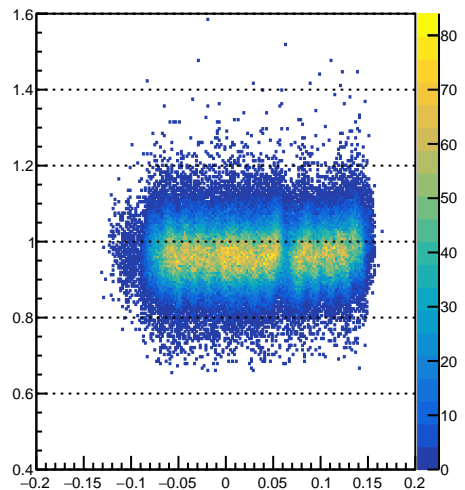
E/p vs Track x (el. cut)



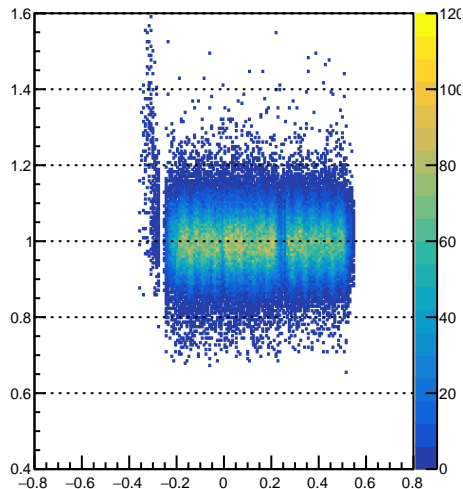
E/p vs Track y (el. cut)



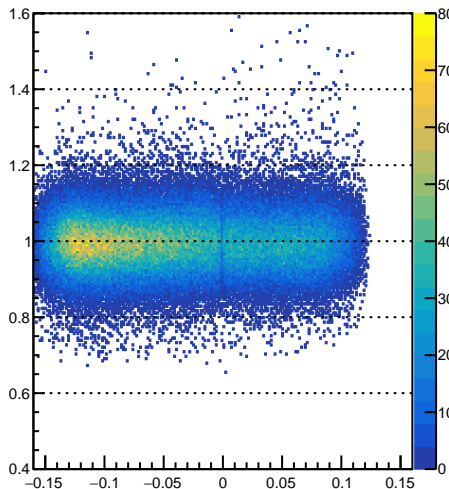
E/p vs Track theta (el. cut)



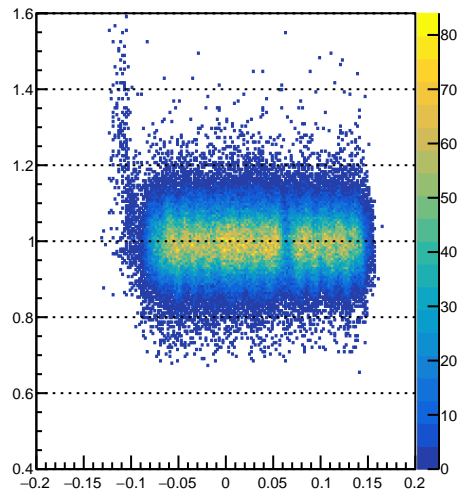
E/p vs Track x | After Calib. (el. cut)



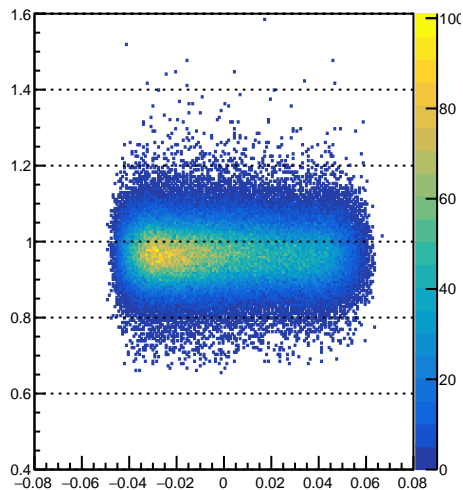
E/p vs Track y | After Calib. (el. cut)



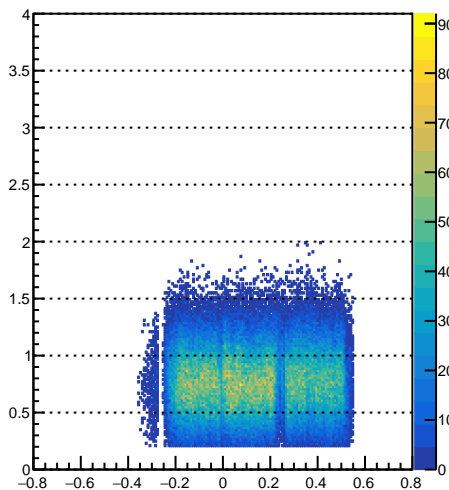
E/p vs Track theta | After Calib. (el. cut)



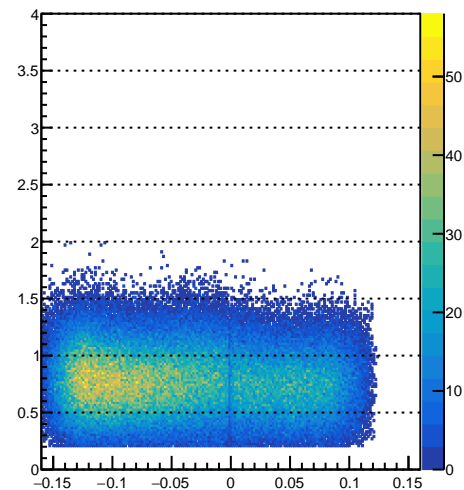
E/p vs Track phi (el. cut)



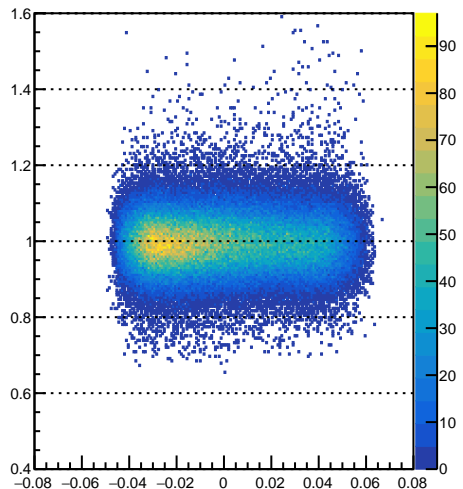
PS energy vs Track x (el. cut)



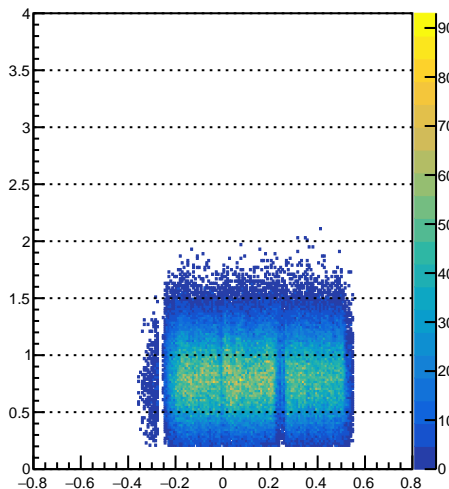
PS energy vs Track y (el. cut)



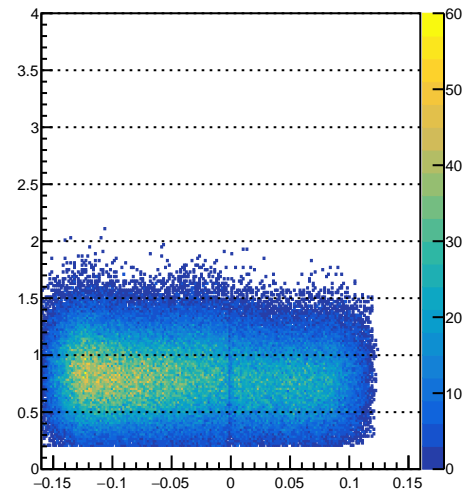
E/p vs Track phi | After Calib. (el. cut)



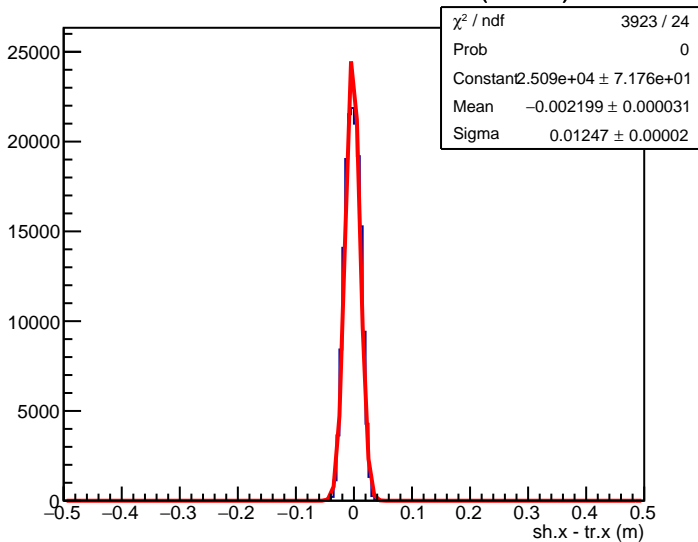
PS energy vs Track x | After Calib. (el. cut)



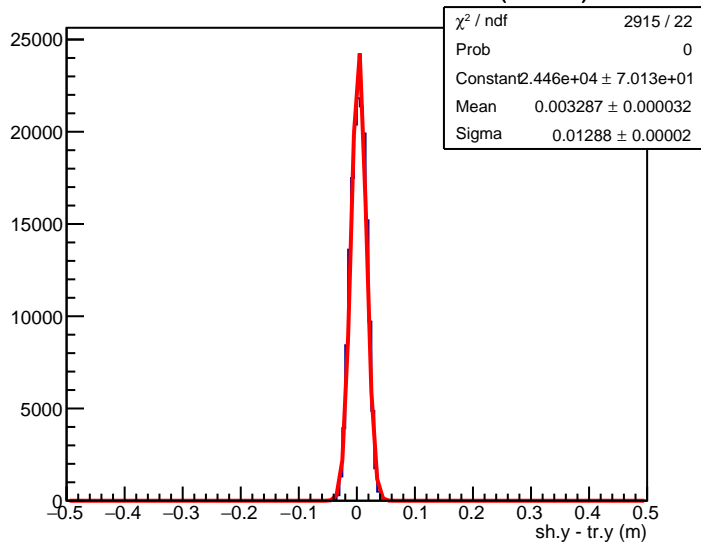
PS energy vs Track y | After Calib. (el. cut)



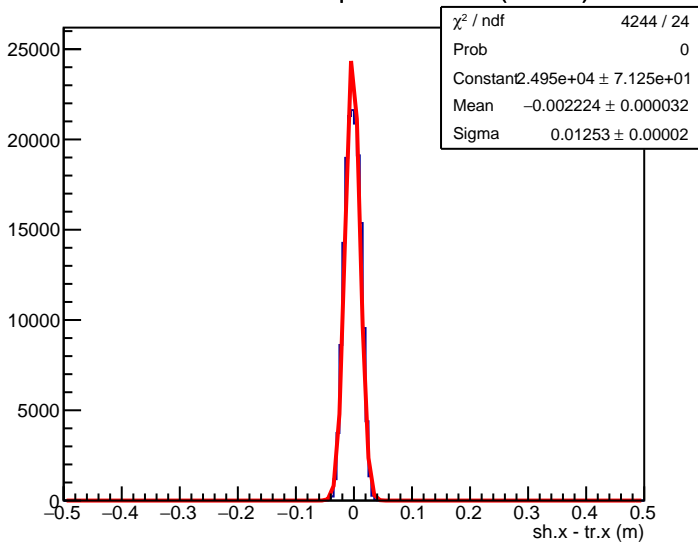
Vertical Position Difference (el. cut)



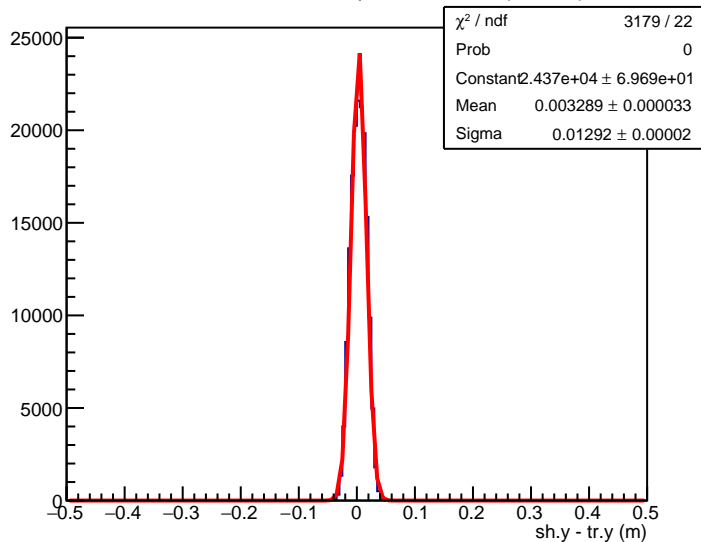
Horizontal Position Difference (el. cut)



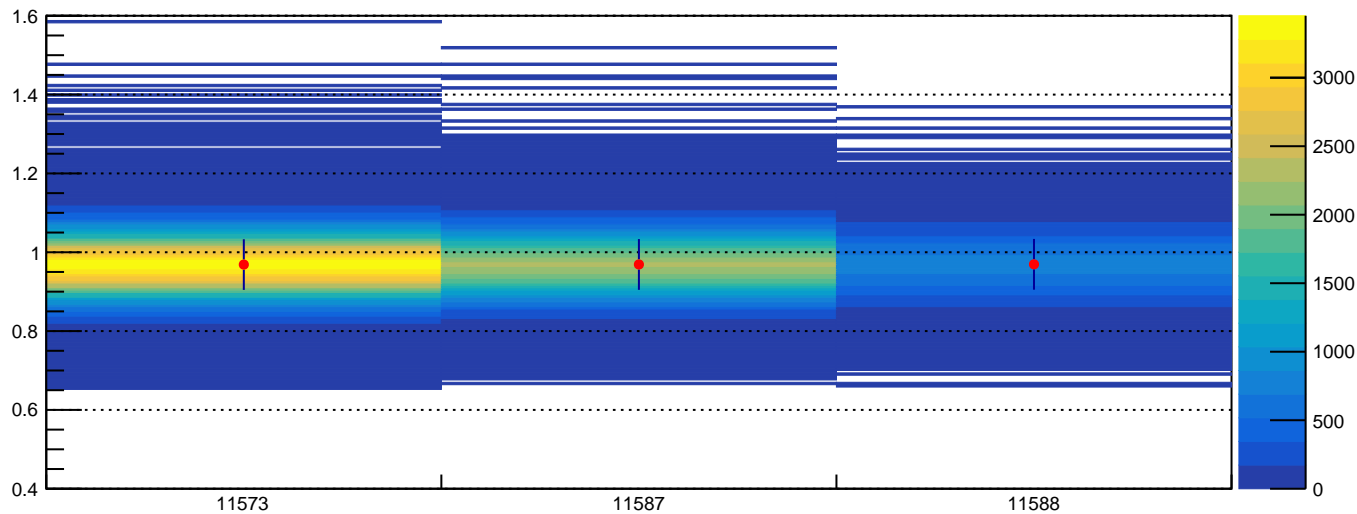
Vertical Pos. Diff. | After Calib. (el. cut)



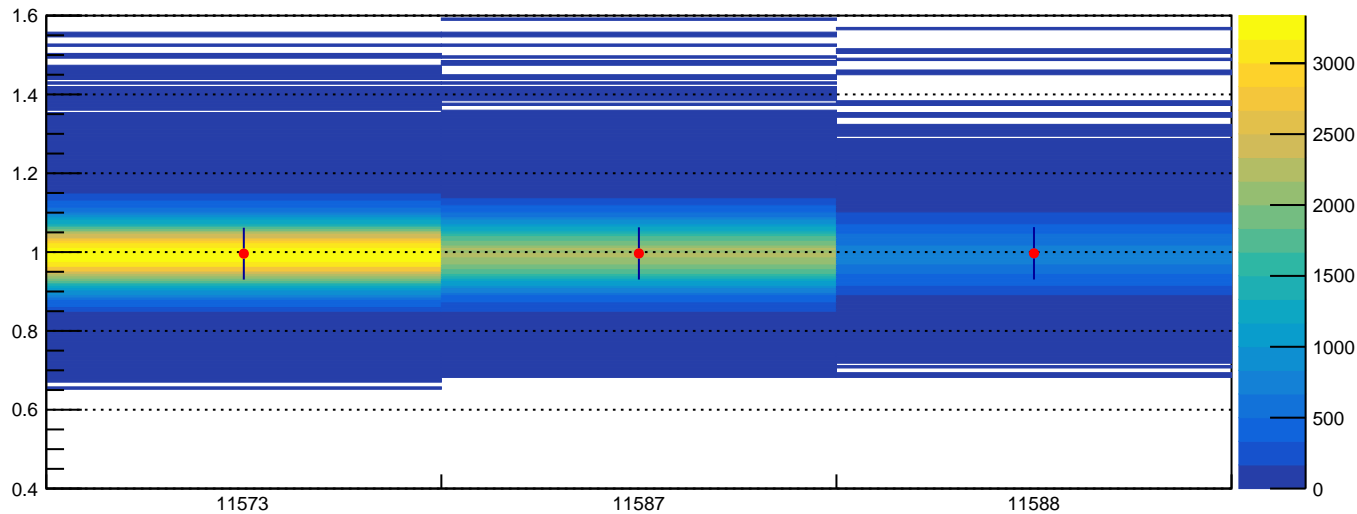
Horizontal Pos. Diff. | After Calib. (el. cut)



E/p vs Run no. (el. cut)



E/p vs Run no. | After Calib. (el. cut)



Old ADC Gain Coefficients | SH

25	0.00666537	0.0067302	0.00651425	0.00660983	0.0066625	0.00658253	0.00653854
	0.0066001	0.00682934	0.00665154	0.00678469	0.00658043	0.00667408	0.00663059
	0.00665938	0.00662119	0.00662439	0.00653498	0.00674846	0.00668276	0.00673107
	0.00717528	0.007324	0.00654511	0.00666007	0.00664268	0.00683634	0.00681275
20	0.00714391	0.00696495	0.00711102	0.0071605	0.00727231	0.00695798	0.00709843
	0.00699722	0.00672348	0.00599101	0.00657121	0.00685694	0.00665687	0.00522468
	0.00605442	0.00661627	0.00620452	0.00571588	0.00706075	0.00659131	0.00667015
	0.0055699	0.0072619	0.00549289	0.00667311	0.00586899	0.00665013	0.00606343
	0.00551923	0.00662348	0.00687016	0.006263	0.00682299	0.0063963	0.00550302
	0.00562196	0.00665431	0.00646989	0.00556764	0.00604802	0.00726156	0.00617769
	0.00519218	0.00674929	0.00624147	0.00671914	0.00657026	0.0062943	0.00593319
	0.00542574	0.00563622	0.00625348	0.00687264	0.00591306	0.00623175	0.00548076
	0.00555383	0.00608729	0.00661516	0.00577991	0.00610116	0.00576454	0.00503409
	0.00826153	0.00730443	0.00760147	0.00583612	0.00701287	0.00689607	0.00734173
	0.00663984	0.00711308	0.00634279	0.00732502	0.00693543	0.00620687	0.00575529
	0.00691415	0.00733216	0.0072886	0.00678525	0.00726786	0.00633658	0.00625632
10	0.00754517	0.00737067	0.00879974	0.00633639	0.00645217	0.00729558	0.00562197
	0.00589128	0.00475796	0.00543137	0.00625499	0.00669589	0.00812637	0.00658226
	0.00651896	0.00771218	0.00682838	0.006777	0.00710169	0.00665817	0.00583221
	0.00651801	0.00670515	0.00612225	0.00730066	0.00679249	0.0055355	0.00594833
5	0.0075652	0.00642913	0.00784875	0.00709094	0.00700262	0.0068555	0.00738201
	0.00598584	0.00664167	0.00703446	0.00742634	0.00889926	0.00653882	0.00677423
	0.00697665	0.0075069	0.00786307	0.00665949	0.00702416	0.00724233	0.00800923
	0.00666504	0.00753975	0.00681952	0.00764477	0.00816985	0.00739002	0.00693268
	0.00708558	0.0089558	0.00804749	0.0071919	0.00732461	0.00761251	0.00720729
	0.00719419	0.00720493	0.00696023	0.00695777	0.00696042	0.00711099	0.00714522
	0.00693495	0.00699947	0.00703269	0.00744574	0.00741094	0.0074944	0.00689057
	1	2	3	4	5	6	7

New ADC Gain Coefficients | SH

	0.00666537	0.0067302	0.00651425	0.00660983	0.0066625	0.00658253	0.00653854	
	0.0066001	0.00682934	0.00665154	0.00678469	0.00658043	0.00667408	0.00663059	
25	0.00665938	0.00662119	0.00662439	0.00653498	0.00674846	0.00668276	0.00673107	
	0.00717528	0.007324	0.00654511	0.00666007	0.00664268	0.00683634	0.00681275	
	0.00714391	0.00696495	0.00711102	0.0071605	0.00727231	0.00695798	0.00709843	
	0.00699722	0.00672348	0.00599101	0.00657121	0.00685694	0.00665687	0.00522468	
	0.00605442	0.00661627	0.00620452	0.00571588	0.00706075	0.00659131	0.00667015	
20	0.0055699	0.0072619	0.00549289	0.00667311	0.00983967	0.0118119	0.00606343	
	0.00551923	0.00785003	0.00798471	0.00745304	0.00690326	0.0063205	0.0060854	
	0.00548675	0.00683028	0.0064944	0.00554006	0.00601277	0.00730064	0.0061139	
	0.00510499	0.00684343	0.00623095	0.00690403	0.00666706	0.00641871	0.00579861	
	0.00523864	0.00573743	0.00639128	0.00700876	0.00602284	0.00637679	0.00545478	
	0.00557695	0.00615067	0.00676112	0.00587931	0.00625829	0.00583727	0.00454612	
15	0.00866001	0.0074416	0.00778057	0.0059109	0.00718408	0.0070429	0.0074834	
	0.0066239	0.00723392	0.00644117	0.00747752	0.0071835	0.00636234	0.00562317	
	0.00683852	0.00749136	0.00746637	0.00693995	0.00740565	0.00648495	0.00627547	
	0.00778775	0.00746939	0.00900943	0.00637477	0.00659115	0.00753892	0.00588726	
10	0.00590732	0.00452138	0.00535721	0.00630319	0.00683388	0.00835173	0.00637242	
	0.00663014	0.00800366	0.00702482	0.00703779	0.00740248	0.00699948	0.00604323	
	0.00657316	0.00685925	0.00625319	0.00751442	0.00693903	0.00550282	0.00625233	
	0.00742427	0.00665138	0.0080764	0.00743348	0.00731354	0.00719036	0.0072708	
	0.00595476	0.00667592	0.00705739	0.00744964	0.00917387	0.00663918	0.00668661	
	0.00670365	0.0073856	0.00784762	0.00647476	0.0068777	0.00710048	0.00833095	
5	0.00624482	0.00739643	0.00669032	0.00749075	0.00805217	0.00724178	0.00693268	
	0.00708558	0.009829	0.00704364	0.00532607	0.00732461	0.00761251	0.00720729	
	0.00719419	0.00720493	0.00696023	0.00695777	0.00696042	0.00711099	0.00714522	
	0.00693495	0.00699947	0.00703269	0.00744574	0.00741094	0.0074944	0.00689057	
	1	2	3	4	5	6	7	8

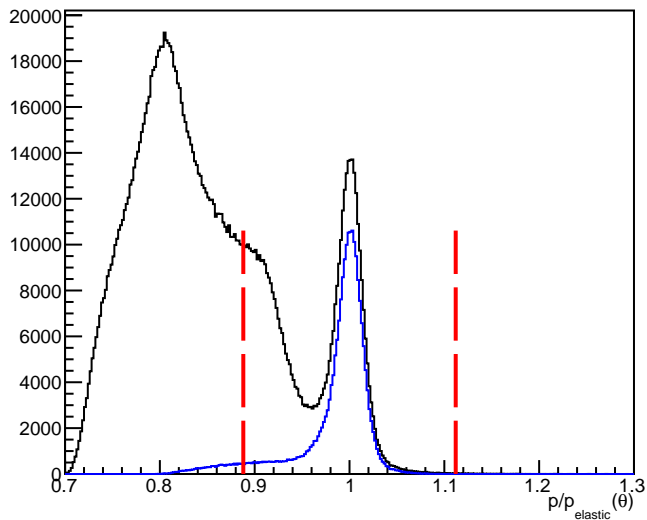
Old ADC Gain Coefficients | PS

	0.0108986			0.0102534
	0.0109469			0.0103703
25	0.0103054			0.0109091
	0.010877			0.0107131
	0.0112229			0.0106193
	0.0108162			0.0104423
20	0.0156608			0.0151218
	0.0165565			0.017836
	0.0179704			0.0148769
	0.0168474			0.0140547
	0.0181659			0.0173606
	0.0153925			0.0202463
15	0.014536			0.0143244
	0.0162407			0.01553
	0.0138197			0.0147586
	0.0128173			0.0150465
10	0.0143568			0.014457
	0.0146216			0.0137071
	0.015065			0.0142887
	0.0150423			0.018106
5	0.0197706			0.0142175
	0.0163485			0.0164294
	0.0146282			0.0183343
	0.0103929			0.0108708
	0.0106305			0.0113002
	0.0112511			0.0109765

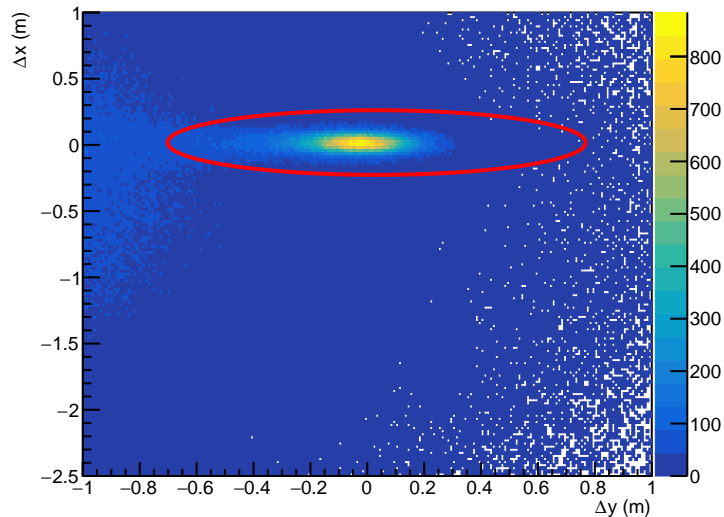
New ADC Gain Coefficients | PS

	0.0108986		0.0102534
	0.0109469		0.0103703
25	0.0103054		0.0109091
	0.010877		0.0107131
	0.0112229		0.0106193
	0.0108162		0.0104423
20	0.0156608		0.0151218
	0.0165565		0.017836
	0.0196136		0.0148468
	0.0177054		0.0148467
	0.0192315		0.0182472
	0.016161		0.0213892
15	0.0153362		0.0150448
	0.0171286		0.0163173
	0.0145182		0.0155546
	0.0136516		0.0158548
10	0.0153252		0.0150399
	0.0155473		0.0143688
	0.0155328		0.0148965
	0.0154235		0.0182333
	0.021019		0.0146811
5	0.0170432		0.0169667
	0.0148748		0.0187644
	0.0103929		0.0108708
	0.0106305		0.0113002
	0.0112511		0.0109765

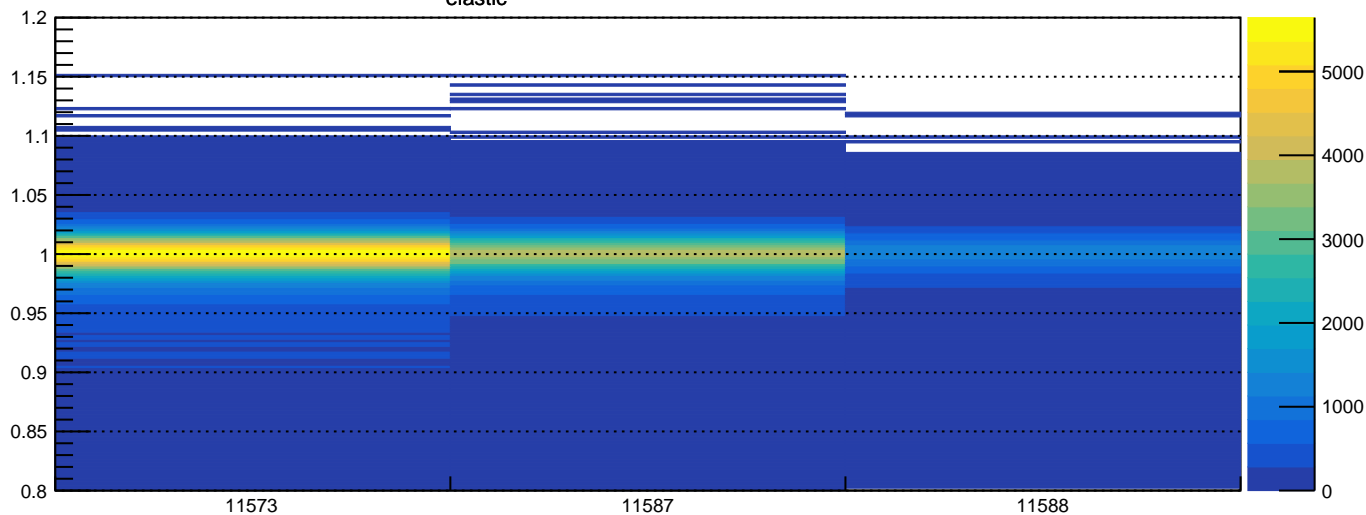
Blue: w/ p spot cut | Red: $p/p_{\text{elastic}}(\theta)$ cut region



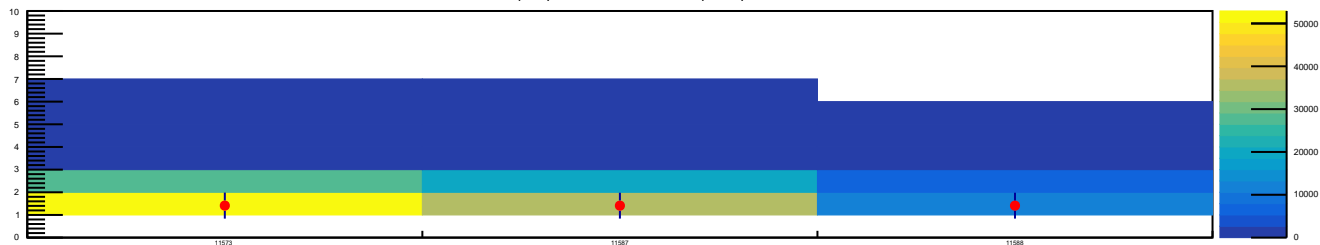
p Spot cut



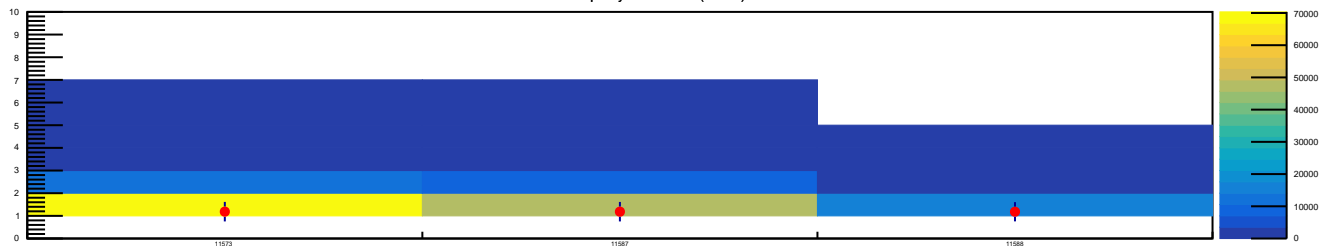
$p/p_{\text{elastic}}(\theta)$ vs Run no. w/ pspot cut



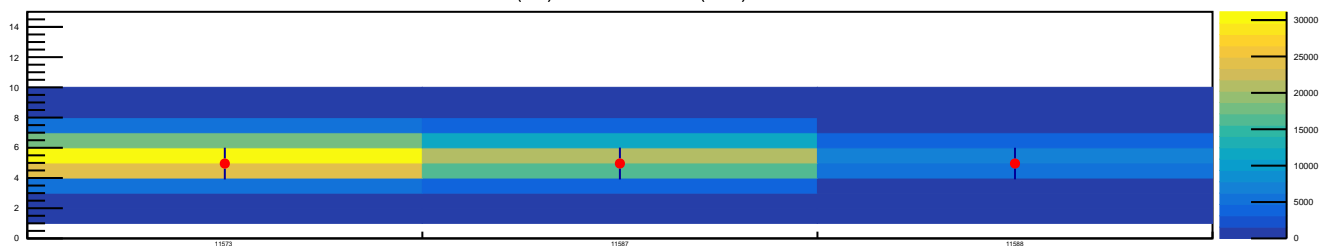
PS (best) cluster size vs Run no. (el. cut)



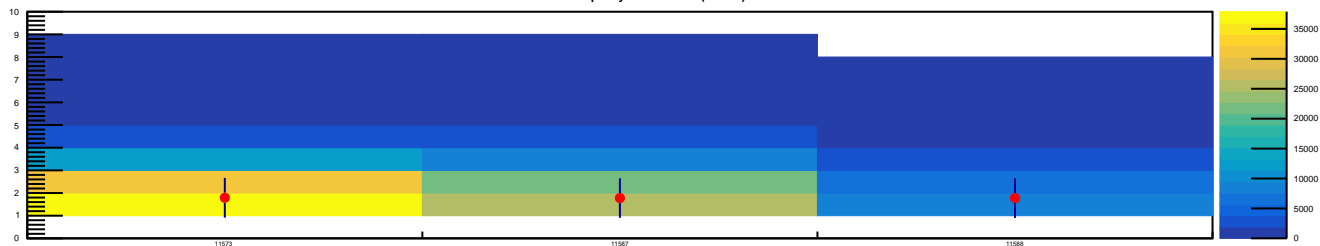
PS cluster multiplicity vs Run no. (el. cut)



SH (best) cluster size vs Run no. (el. cut)



SH cluster multiplicity vs Run no. (el. cut)



Date of creation: 8/18/2023

Configfile: BBCal_replay/macros/Combined_macros/cfg/sbs4-sbs0p.cfg

Total # events analyzed: 4693901, Preparing for replay pass: 2

E/p (before calib.) | $\mu = 0.97$, $\sigma = (5.926 \pm 0.023)$ p

E/p (after calib.) | $\mu = 1.00$, $\sigma = (6.026 \pm 0.024)$ p

Global cuts:

bb.tr.n==1, abs(bb.tr.vz[0])<0.08, bb.gem.track.nhits>3,
abs(bb.tr.r_x[0]-0.9*bb.tr.r_th[0]-0.02)<0.33,

PS cluster energy > 0.2 GeV

p_recon > 1.6 GeV/c

events passed global cuts: 1549909

Elastic cuts:

$|p/p_{el}(\theta) - 1.000| \leq 8.0 \cdot 0.014$

proton spot cut ranges:

Δx (m): Mean = 0.0180, $4.0\sigma = 0.0610$

Δy (m): Mean = 0.0330, $5.0\sigma = 0.1470$

events passed global & elastic cuts: 206196

Other cuts:

Minimum # events per block: 300, (Cluster) hit threshold: 0.02 GeV

Various offsets:

Momentum fudge factor: 1.00, BBICAL cluster energy scale factor: 1.00

Momentum calibration factors: A = 0.270388074, B = 1.030707300, C = 0.0, $\theta_{pitch}^{GEM} = 10.0^\circ$, $d_{BB} = 1.7988$ m

Macro processing time: CPU 340.5s | Real 412.9s