Monte Carlo Event Fitting (Continued)

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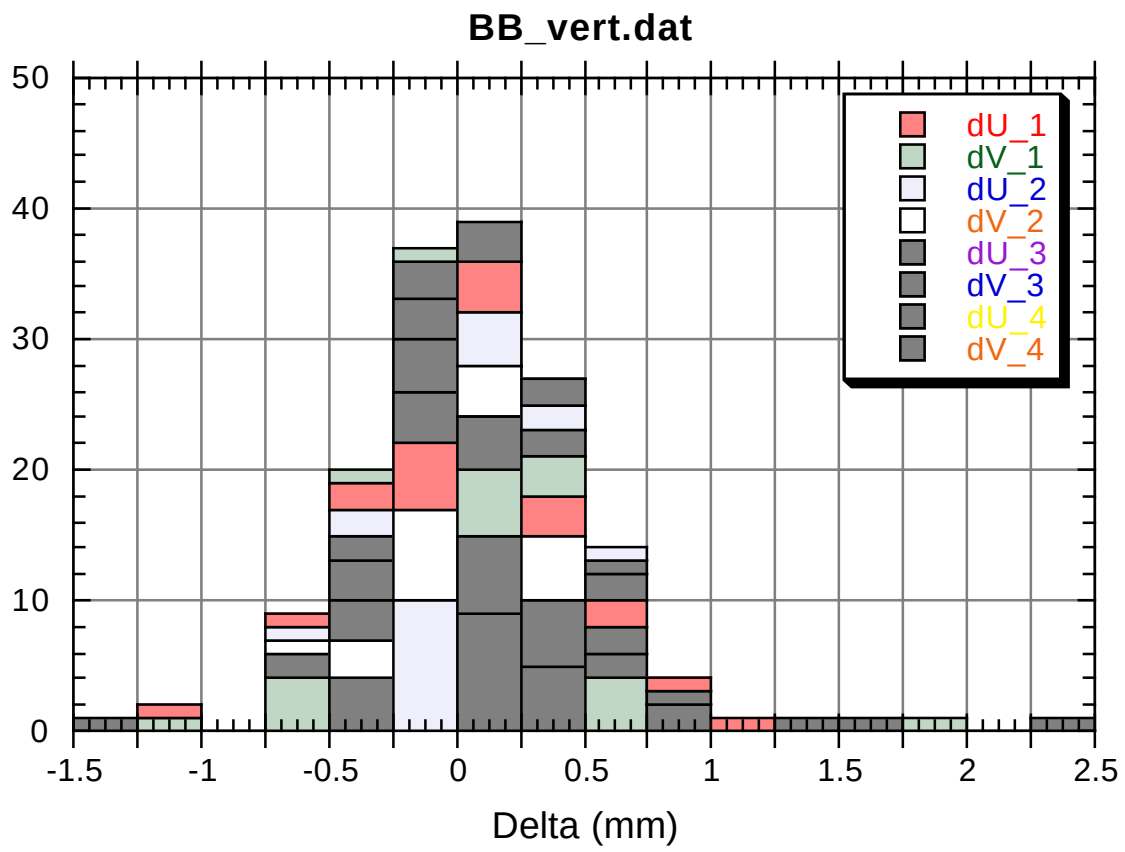
Goal of this Study

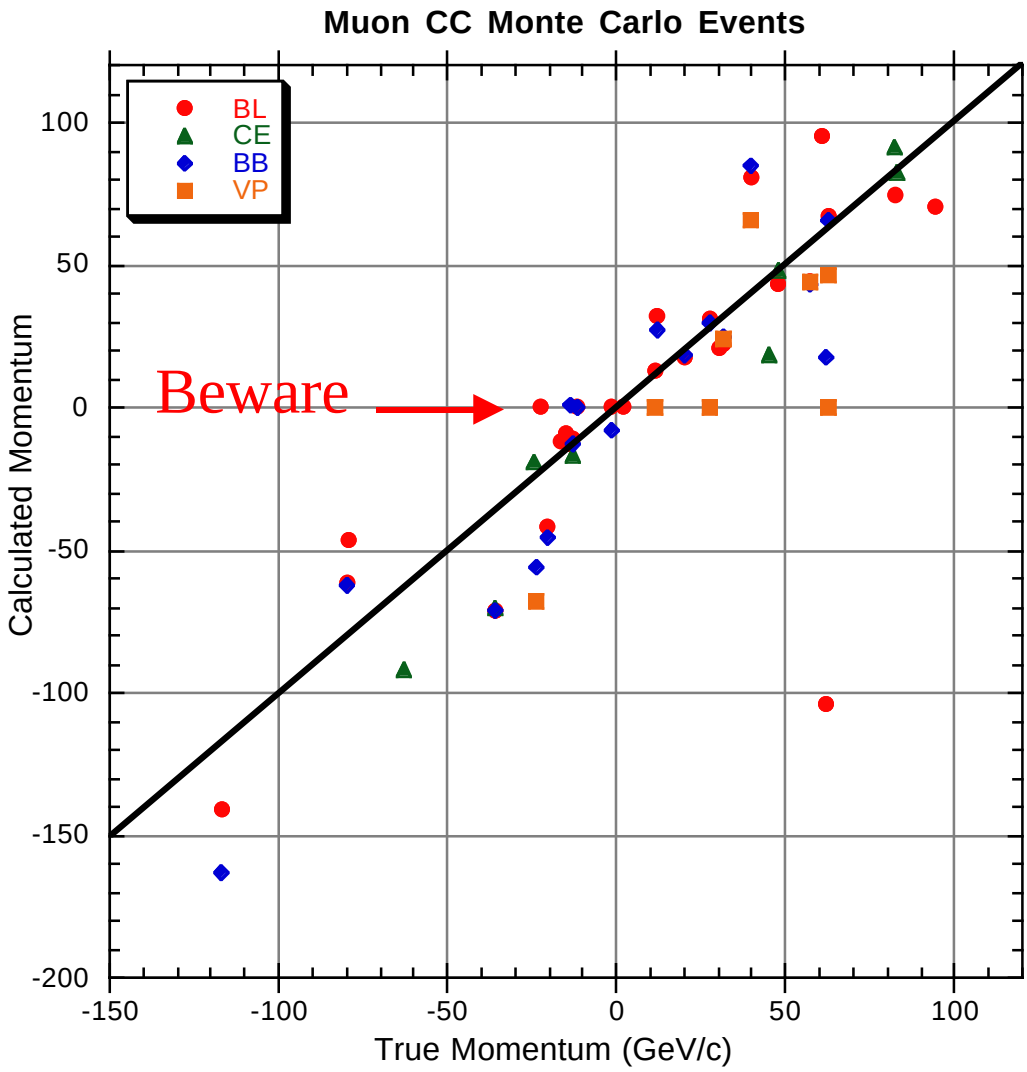
- Continue the analysis of refit Monte Carlo events.
- Sample statistics has increased significantly :
  - BL - 29
  - CE - 30
  - BB - 20
  - VP - 10
- I have begun redoing all of the comparisons; those that are finished now follow;
- I will complete this by early next week and post an update.

Vertex Predictions

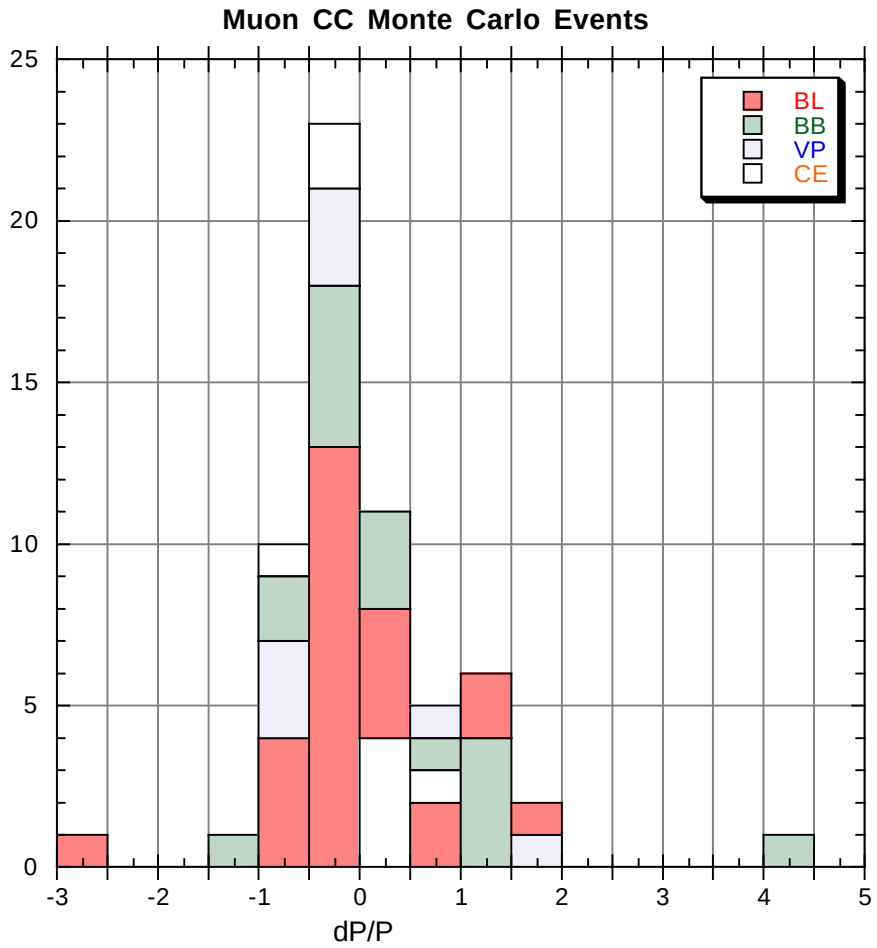


	dZ_1	dU_1	dV_1	dZ_2	dU_2	dV_2	dZ_3	dU_3	dV_3	dZ_4	dU_4	dV_4
Minimum	-7.971	-1.21	-1.162	-17.199	-0.511	-0.633	-19.352	-0.729	-1.445	-6.385	-0.446	-0.426
Maximum	14.005	1.095	1.845	12.566	0.739	0.408	3.267	0.742	1.426	30.409	1.535	2.445
Points	20	20	20	20	20	20	19	19	19	20	20	20
Mean	-1.747	0.092	0.087	-0.825	-0.025	-0.042	-4.309	-0.020	0.110	-1.011	0.196	0.353
Median	-3.060	0.057	0.152	-1.642	-0.061	-0.029	-2.651	0.086	0.207	-2.902	0.161	0.269
RMS	4.787	0.531	0.652	7.940	0.277	0.284	7.377	0.392	0.561	7.936	0.482	0.688

Calculated vs. True Momentum

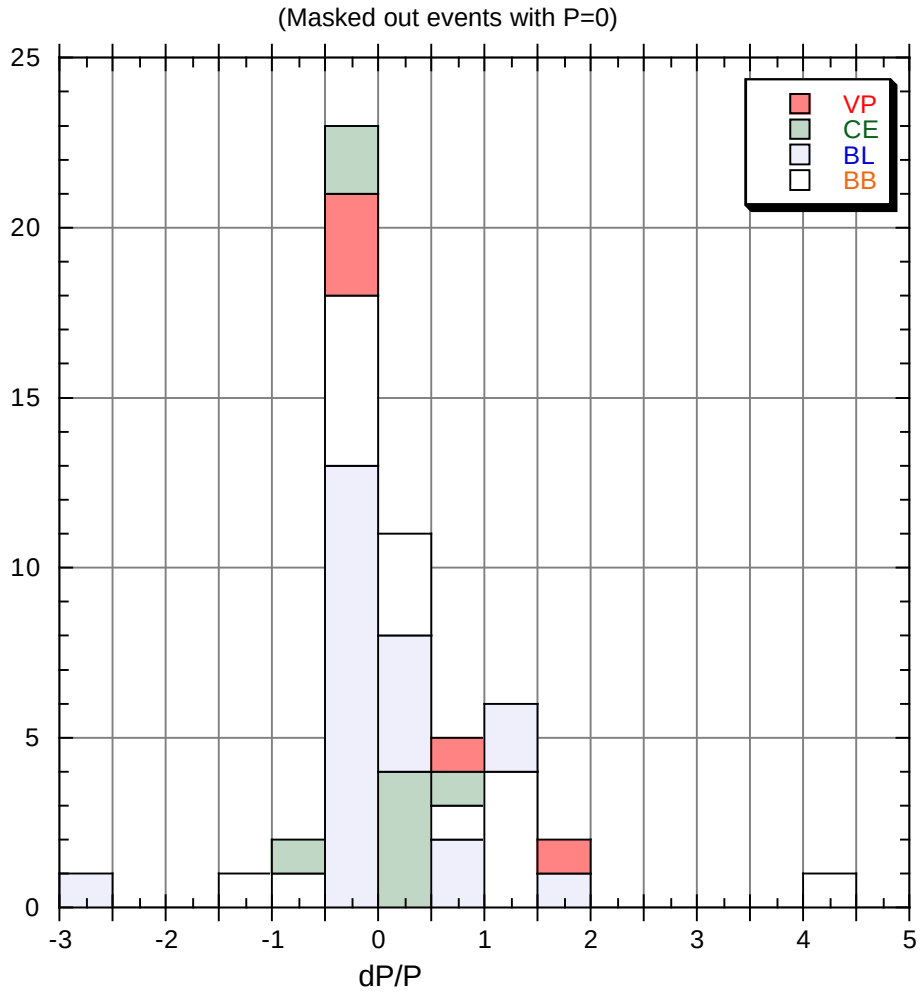


Momentum Resolution



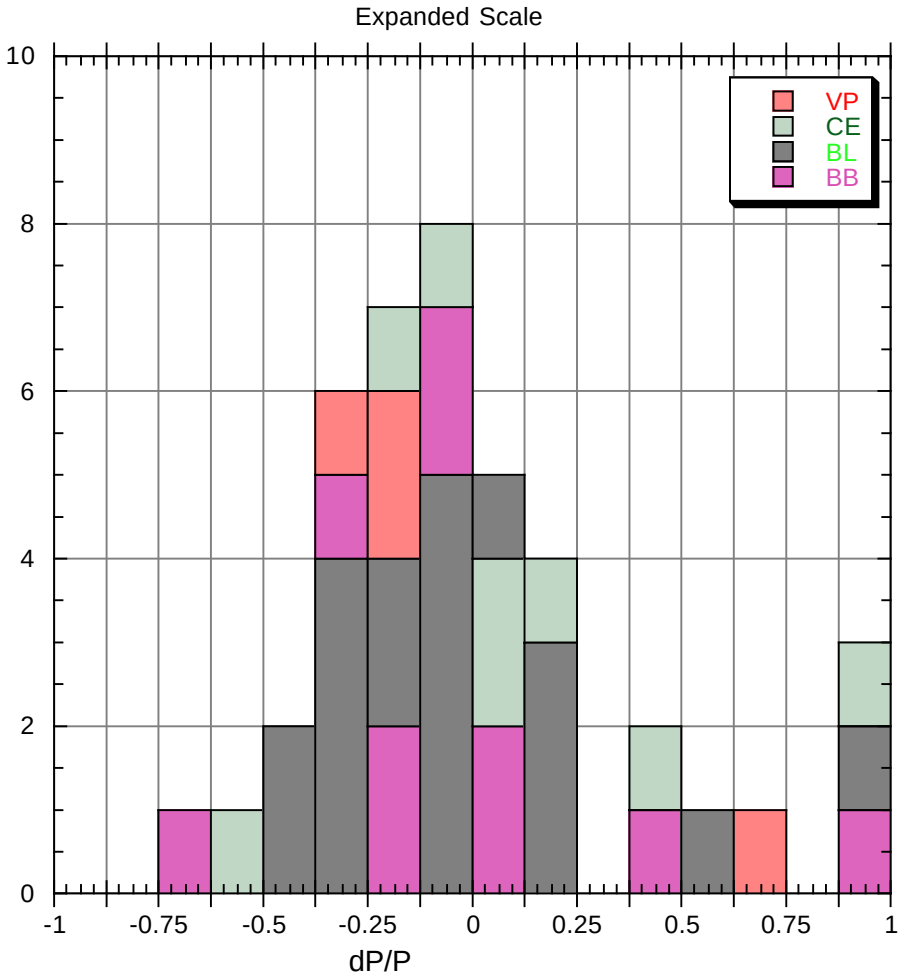
	VP	Œ	BL	BB
Minimum	-1	-0.595	-2.670	-1.070
Maximum	1.844	0.947	1.634	4.242
Points	8	8	27	17
Mean	-0.155	0.120	-0.138	0.418
Median	-0.254	0.061	-0.120	0.041
RMS	0.936	0.444	0.821	1.284

Refined Calculation



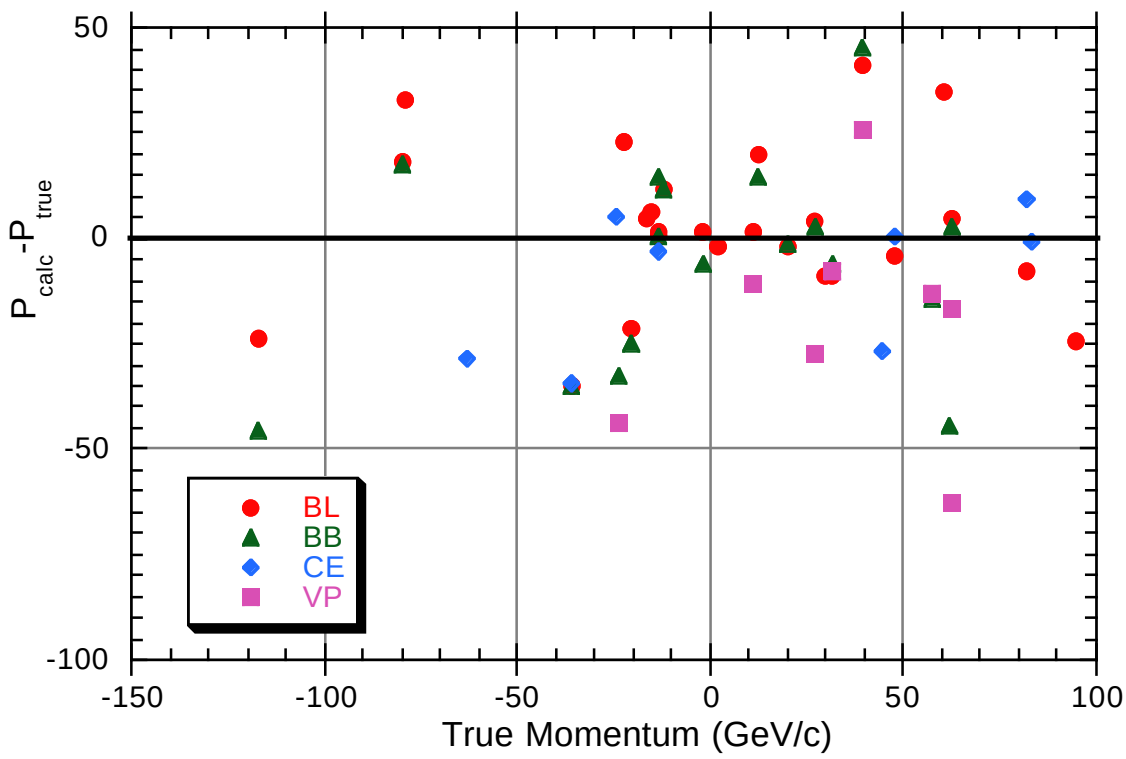
	VP	CE	BL	BB
Minimum	-0.264	-0.595	-2.670	-1.0703864
Maximum	1.845	0.947	1.634	4.2422609
Points	5	8	23	16
Mean	0.351	0.120	0.0123	0.50700914
Median	-0.232	0.061	-0.0923	0.068825025
RMS	0.896	0.444	0.785	1.300113

Summary



- “Resolution” depends on whether we keep the tails of the distribution.
- Will not resolve this until more progress on the single muon error is resolved.
- However….

Momentum Calibration



- In this data (muon CC events) we don't see the same trend as in the single muon events.
- DP seems to be evenly distributed ±