merged		Muon					Proton					Proton Extinction		Decay Leng	Net	Net	nu-beam	transverse
Tuple	Entry	KE (MeV)	v/c	px	py	pz	KE (MeV)	v/c	px	py	pz	Vertex modi	End module	Net mods	px	py	pz	pt
1	0																	
1	1																	
1	2	5,228.75	0.99981	679.39	-109.55	5,288.13	215.94	0.58	-391.96	307.50	451.17	56.00	66.00	10.00	287.42	197.95	5,739.30	348.99
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Tuple	Entry	KE (MeV)	v/c	px	py	pz	KE (MeV)	v/c	px	py	pz	Vertex modi	End module	Net mods	px	py	pz	pt
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Tuple	Entry	KE (MeV)	v/c	px	py	pz	KE (MeV)	v/c	px	py	pz	Vertex modi	End module	Net mods	px	py	pz	pt
2	71																	
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3	0																	
3	1	1,877.58	0.99860	135.02	440.31	1,925.48	163.99	0.52	309.07	-15.20	488.66	59.00	66.00	7.00	444.09	425.11	2,414.15	614.76
3	2																	
3	3	6,966.25	0.99989	412.81	313.47	7,051.45	150.58	0.51	-255.26	-203.64	445.58	27.00	33.00	6.00	157.54	109.83	7,497.03	192.05
3	4																	
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3	10	2,214.72	0.99898	370.32	-335.79	2,262.78	308.90	0.66	-274.24	547.84	547.33	55.00	67.00	12.00	96.08	212.05	2,810.11	232.81
3	11	2,858.61	0.99937	-538.03	-411.67	2,883.23	255.25	0.62	101.42	217.68	697.38	31.00	44.00	13.00	-436.61	-193.99	3,580.60	477.76
3	12																	
3	13																	
3	14	3,872.12	0.99965	-99.21	446.93	3,949.29	404.39	0.72	-354.82	-384.48	805.25	73.00	91.00	18.00	-454.03	62.45	4,754.54	458.31
3	15																	
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3	20																	
3	21	5,353.36	0.99981	-20.82	-771.50	5,402.50	341.38	0.68	198.47	692.64	487.68	51.00	64.00	13.00	177.65	-78.85	5,890.18	194.36
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3	33	3,631.43	0.99961	-222.44	514.62	3,692.63	160.45	0.52	3.23	-269.95	503.85	50.00	56.00	6.00	-219.21	244.67	4,196.48	328.51
3	34																	
3	35																	
3	36	5,645.71	0.99983	464.25	-391.56	5,717.59	190.36	0.56	-248.93	302.04	490.07	61.00	66.00	5.00	215.31	-89.52	6,207.65	233.18
3	37	4,139.15	0.99969	321.09	-536.52	4,196.53	685.35	0.82	-137.52	123.77	1,311.94	39.00	94.00	55.00	183.57	-412.75	5,508.47	451.73
3	38																	
3	39																	
3	40																	
3	41	3,566.70	0.99959	-367.13	452.62	3,623.63	329.69	0.67	248.96	-403.78	708.64	47.00	62.00	15.00	-118.17	48.84	4,332.28	127.86
3	42																	
3	43																	
3	44	5,955.53	0.99985	138.41	686.75	6,018.99	221.23	0.59	-319.45	-321.42	508.54	54.00	62.00	8.00	-181.04	365.33	6,527.53	407.72
3	45																	
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3	48																	
3	49	2,617.72	0.99926	-105.99	347.05	2,696.39	263.52	0.62	-135.98	-528.51	515.76	71.00	80.00	9.00	-241.97	-181.46	3,212.15	302.45
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merged		Muon					Proton					Proton Extinction		Decay Leng	Net	Net	nu-beam	transverse
Tuple	Entry	KE (MeV)	v/c	px	py	pz	KE (MeV)	v/c	px	py	pz	Vertex modi	End module	Net mods	px	py	pz	pt
3	56																	
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3	60	2,542.52	0.99921	672.45	47.04	2,558.11	182.26	0.55	-427.64	-75.89	431.86	73.00	77.00	4.00	244.81	-28.85	2,989.98	246.51
3	61																	
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4	0	4,329.75	0.99972	401.69	530.32	4,383.31	247.682511434580420.6116796786073059-529.5041052917711-225.0420641006331441.5								401.69	530.32	4,383.31	665.28
4	1																	
4	2	121.44	0.88599	51.69	31.21	191.32	254.42	0.62	189.69	114.55	702.08				241.38	145.76	893.40	281.98
4	3	4,046.92	0.99968	531.18	469.22	4,089.64	1,305.78	0.91	260.86	230.43	2,008.38				792.04	699.64	6,098.01	1,056.80
4	4	150.15	0.91140	157.16	-83.53	149.65	305.33	0.66	551.58	-293.16	525.22				708.74	-376.70	674.87	802.63
4	5	251.47	0.95564	174.59	-223.53	188.68	1,316.04	0.91	-216.14	180.75	2,030.14				-41.54	-42.77	2,218.82	59.63
4	6	116.51	0.88051	79.22	71.10	163.43	243.04	0.61	291.48	261.59	601.34				370.70	332.68	764.78	498.09
4	7																	
4	8																	
4	9																	
4	10	5747.81214766708850.9998390635636538175.45079180265283					1,322.71	0.91	61.67	117.58	2,052.64				61.67	117.58	2,052.64	132.77
4	11	5,774.07	0.99984	-114.69	-708.40	5,834.17	1,436.51	0.92	-42.56	-262.89	2,165.07				-157.26	-971.29	7,999.24	983.94
4	12	103.72	0.86425	94.38	-36.98	149.21	223.89	0.59	358.74	-140.58	567.18				453.11	-177.57	716.39	486.66
4	13	159.20	0.91763	187.48	-21.45	152.20	320.76	0.67	649.15	-74.27	527.00				836.63	-95.72	679.21	842.09
4	14	288.59	0.96376	45.03	61.98	371.50	513.26	0.76	131.47	180.96	1,084.57				176.50	242.94	1,456.07	300.29
4	15	4,704.06	0.99976	-191.46	296.61	4,794.94	1,438.83	0.92	-86.97	134.73	2,178.02	74.00	85.00	11.00	-278.43	431.34	6,972.95	513.39
4	16	2,914.82	0.99940	205.88	540.35	2,962.08	1,216.30	0.90	132.30	347.23	1,903.44	50.00	61.00	11.00	338.19	887.59	4,865.52	949.83
4	17																	
4	18	5,120.95	0.99980	-21.29	-427.03	5,207.37	1,263.71	0.90	-8.12	-162.80	1,985.22				-29.41	-589.83	7,192.59	590.56
4	19																	
4	20	4,429.34	0.99973	-527.91	-295.86	4,492.55	228.21	0.59	483.51	365.32	336.10				-44.40	69.46	4,828.65	82.44
4	21	5,313.73	0.99981	204.07	-691.90	5,369.48	637.11	0.80	-477.54	604.68	1,003.72				-273.47	-87.22	6,373.20	287.04
4	22	5,475.96	0.99982	-71.17	475.21	5,559.24	411.13	0.72	-146.68	-169.76	943.39				-217.85	305.45	6,502.63	375.18
4	23	3,498.88	0.99958	-461.63	137.08	3,570.02	200.8840554409920.5671518420400203353.5588091862537795.4046989332276532.0780								-461.63	137.08	3,570.02	481.56
4	24																	
4	25	4050.7522192430320.9996807590170336432.91378750462733					148.90	0.51	-182.89	-33.01	516.68				-182.89	-33.01	516.68	185.85
4	26	5,527.84	0.99983	512.74	-270.64	5,601.94	177.32	0.54	201.07	383.84	419.92				713.82	113.20	6,021.85	722.74
4	27	4,256.06	0.99971	477.08	213.53	4,328.35	264.30	0.63	-541.65	-164.08	495.35				-64.57	49.46	4,823.70	81.33
4	28	2,141.36	0.99891	161.00	422.53	2,197.87	749.92	0.83	490.40	-54.24	1,313.70				651.39	368.29	3,511.57	748.30
4	29	3,779.97	0.99963	135.69	-615.01	3,832.14	250.27	0.61	-45.41	264.77	678.21				90.28	-350.24	4,510.35	361.69
4	30	5,895.87	0.99985	346.38	-545.37	5,965.07	189.67	0.56	-155.01	221.29	564.63				191.37	-324.08	6,529.70	376.36
4	31	6,545.69	0.99988	-382.32	-605.05	6,611.23	167.16	0.53	242.67	258.08	464.80				-139.66	-346.97	7,076.04	374.02
4	32	933.31	0.86530	-15.62	318.17	1,587.60	933.31	0.87	-15.62	318.17	1,587.60	75.00	106.00	31.00	-31.25	636.34	3,175.20	637.10
4	33	4,913.21	0.99978	135.48	501.71	4,990.12	229.97	0.60	229.85	-333.66	565.82	63.00	74.00	11.00	365.33	168.04	5,555.94	402.13
4	34	1,859.62	0.99857	12.83	-507.78	1,894.92	262.52	0.62	-258.96	304.80	633.60	74.00	85.00	11.00	-246.12	-202.97	2,528.52	319.02
4	35	3,863.86	0.99965	-249.32	-479.09	3,930.54	364.92	0.69	331.69	696.70	471.52	50.00	61.00	11.00	82.37	217.61	4,402.07	232.68
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merged		Muon					Proton					Proton Extinction		Decay Leng	Net	Net	nu-beam	transverse
Tuple	Entry	KE (MeV)	v/c	px	py	pz	KE (MeV)	v/c	px	py	pz	Vertex modi	End module	Net mods	px	py	pz	pt
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5	0	5,682.92	0.99984	-189.47	468.53	5,764.86	287.26	0.64	260.47	-608.39	428.30	67.00	75.00	8.00	71.00	-139.86	6,193.15	156.85
5	1	5,826.33	0.99984	616.64	-116.77	5,897.10	307.76	0.66	-642.90	327.10	389.57	72.00	78.00	6.00	-26.27	210.33	6,286.67	211.97
5	2	4,130.11	0.99969	-291.55	-410.78	4,203.73	144.51	0.50	167.41	280.56	430.41	64.00	69.00	5.00	-124.14	-130.22	4,634.14	179.91
5	3	5,845.57	0.99984	481.51	111.99	5,929.06	172.75	0.54	-285.19	-229.17	469.12	46.00	51.00	5.00	196.32	-117.18	6,398.19	228.64
5	4	3,835.75	0.99964	310.46	527.98	3,891.44	325.37	0.67	-181.35	-655.78	503.31	75.00	85.00	10.00	129.11	-127.80	4,394.75	181.67
5	5	5,769.52	0.99984	-246.16	-381.01	5,856.04	188.36	0.55	290.39	452.10	316.42	61.00	65.00	4.00	44.23	71.09	6,172.47	83.72
5	6	5,383.88	0.99982	-261.31	-631.88	5,445.11	325.40	0.67	-112.90	728.56	415.67	55.00	62.00	7.00	-374.21	96.67	5,860.78	386.50
5	7	4,803.94	0.99977	444.32	-300.64	4,878.41	237.07	0.60	421.73	-416.08	-387.27	52.00	57.00	5.00	866.04	-716.72	4,491.14	1,124.15
5	8	5,070.73	0.99979	381.42	-490.43	5,137.23	163.34	0.52	-311.03	12.19	486.02	55.00	62.00	7.00	70.39	-478.24	5,623.25	483.39
5	9	5,065.15	0.99979	90.06	485.76	5,145.42	213.49	0.58	155.48	-49.43	647.67	58.00	64.00	6.00	245.54	436.33	5,793.09	500.67
5	10	3,110.20	0.99947	-306.62	-264.22	3,187.89	294.70	0.65	-78.77	635.16	479.66	68.00	78.00	10.00	-385.38	370.94	3,667.55	534.90
5	11	5,771.56	0.99984	84.20	621.72	5,842.03	226.81	0.59	-81.62	-371.42	576.49	40.50	50.00	9.50	2.58	250.31	6,418.52	250.32
5	12	3,658.60	0.99961	-102.01	419.01	3,737.34	410.90	0.72	509.52	-670.94	479.48	37.00	50.00	13.00	407.52	-251.93	4,216.82	479.10
5	13																	
5	14																	
5	15	4,180.98	0.99970	-290.25	322.75	4,262.65	368.50	0.70	721.22	-107.31	543.54	37.50	51.00	13.50	430.97	215.44	4,806.18	481.82
5	16	4,180.98	0.99970	-290.25	322.75	4,262.65	368.50	0.70	721.22	-107.31	543.54	37.00	51.00	14.00	430.97	215.44	4,806.18	481.82
5	17	2,783.10	0.99934	-181.33	-468.20	2,842.18	299.54	0.65	40.96	609.33	527.92	56.00	67.00	11.00	-140.37	141.13	3,370.10	199.05
5	18	6,581.67	0.99988	117.78	-673.46	6,650.80	261.93	0.62	-5.48	620.67	418.00	70.00	80.50	10.50	112.30	-52.79	7,068.79	124.09
5	19	3,467.68	0.99957	311.90	-624.25	3,502.30	261.93	0.62	-5.48	620.67	418.00	80.00	88.00	8.00	306.42	-3.58	3,920.29	306.44
5	20	6,862.50	0.99989	579.99	-95.45	6,941.86	330.54	0.67	-61.04	308.27	794.10	56.00	72.00	16.00	518.95	212.82	7,735.96	560.90
5	21																	
5	22																	
5	23																	
5	24																	
5	25	5,784.31	0.99984	370.25	-586.18	5,847.42	169.58	0.53	-246.29	271.65	460.90	44.00	49.00	5.00	123.96	-314.53	6,308.32	338.08

merged		Muon					Proton					Proton Extinction		Decay Leng	Net	Net	nu-beam	transverse
Tuple	Entry	KE (MeV)	v/c	px	py	pz	KE (MeV)	v/c	px	py	pz	Vertex modi	End module	Net mods	px	py	pz	pt
5	26	3,074.27	0.99945	-228.59	-303.83	3,154.71	571.40	0.78	459.04	26.53	1,089.51	47.00	88.00	41.00	230.45	-277.30	4,244.21	360.56
5	27																	
5	28	5,675.92	0.99984	-496.72	-60.44	5,758.27	293.51	0.65	235.71	37.22	761.47	47.00	67.00	20.00	-261.00	-23.22	6,519.74	262.03
5	29	5,145.42	0.99980	523.64	282.47	5,215.54	222.34	0.59	-434.96	-286.38	441.97	51.00	58.00	7.00	88.68	-3.91	5,657.51	88.76
5	30	4,267.74	0.99971	340.93	329.22	4,345.71	233.33	0.60	324.33	-182.93	594.57	60.00	67.00	7.00	665.25	146.30	4,940.28	681.15
5	31	4,950.51	0.99978	-15.99	494.51	5,030.15	364.91	0.69	-635.27	462.85	447.14	53.00	65.00	12.00	-651.26	957.36	5,477.29	1,157.88
5	32																	
5	33																	
5	34																	
5	35	2,745.79	0.99932	-396.07	-157.98	2,816.76	285.09	0.64	339.75	-477.00	522.63	39.00	50.00	11.00	-56.32	-634.99	3,339.39	637.48
5	36																	
5	37	3,799.07	0.99964	582.74	200.86	3,853.68	227.66	0.59	-558.39	46.91	406.12	36.00	41.00	5.00	24.35	247.77	4,259.80	248.97
5	38	4,625.80	0.99975	659.95	278.63	4,675.07	206.11	0.57	-540.40	-186.11	320.11	59.00	64.00	5.00	119.55	92.52	4,995.18	151.17
5	39	5,208.61	0.99980	-283.79	452.52	5,285.65	229.09	0.60	450.25	-373.81	373.88	57.00	64.00	7.00	166.46	78.71	5,659.54	184.13
5	40	6,196.11	0.99986	343.00	-445.74	6,275.08	170.34	0.53	-55.90	375.05	452.54	61.00	65.00	4.00	287.11	-70.69	6,727.62	295.68
5	41	5,666.47	0.99983	607.03	152.33	5,736.48	370.57	0.70	-665.68	-353.27	514.37	72.00	85.00	13.00	-58.66	-200.95	6,250.85	209.33
5	42	3,839.47	0.99965	-196.63	-410.65	3,916.70	178.71	0.54	7.31	154.46	585.91	27.00	35.00	8.00	-189.32	-256.19	4,502.61	318.55
5	43	3,853.24	0.99965	195.25	-734.96	3,883.09	256.41	0.62	-119.03	613.57	395.15	63.00	70.00	7.00	76.22	-121.39	4,278.24	143.34
5	44	2,177.24	0.99894	237.84	-502.78	2,210.94	140.82	0.49	-130.90	271.86	439.28	55.00	60.00	5.00	106.94	-230.92	2,650.22	254.48
5	45	2,447.67	0.99915	333.06	378.65	2,500.16	263.67	0.63	-183.96	-316.48	655.87	38.00	50.00	12.00	149.10	62.17	3,156.03	161.54
5	46	3,801.38	0.99964	327.22	352.61	3,875.23	226.88	0.59	-352.50	-146.57	575.63	78.00	86.00	8.00	-25.28	206.04	4,450.86	207.58
5	47	**3,924.15**	0.99966	571.35	42.31	3,986.83	341.08	0.68	-683.68	93.69	529.17	27.00	40.00	13.00	-112.33	136.01	4,515.99	176.40
5	48	5,453.65	0.99982	-555.93	-44.38	5,529.60	207.28	0.57	291.72	37.12	587.66	58.00	67.00	9.00	-264.22	-7.26	6,117.26	264.32
5	49	5,089.07	0.99980	-190.72	546.84	5,160.61	262.16	0.62	108.52	-532.87	514.60	30.00	38.00	8.00	-82.20	13.96	5,675.21	83.38
5	50	3,290.98	0.99952	248.81	-609.68	3,329.87	228.40	0.59	-468.05	391.79	328.75	42.00	46.00	4.00	-219.24	-217.89	3,658.63	309.10
5	51	2,004.74	0.99876	653.28	228.13	1,990.27	359.02	0.69	-519.78	15.55	729.38	73.00	88.00	15.00	133.50	243.69	2,719.65	277.86
5	52	6,040.36	0.99985	183.14	-545.34	6,117.47	254.14	0.62	-261.74	566.54	389.73	67.00	78.00	11.00	-78.60	21.19	6,507.20	81.41
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6	0	1,731.24	0.99836	508.82	-169.86	1,753.00	209.98	0.58	-450.03	323.89	361.37	71.00	76.00	5.00	58.79	154.03	2,114.37	164.87
6	1	2,606.12	0.99925	99.59	-669.16	2,623.25	294.34	0.65	-81.61	487.83	627.84	80.00	91.00	11.00	17.97	-181.33	3,251.09	182.22
6	2																	
6	3																	
6	4																	
6	5																	
6	6																	
6	7																	
6	8																	
6	9	6,263.21	0.99986	185.96	413.16	6,351.20	171.48	0.53	-288.87	-192.76	480.11	79.00	81.00	2.00	-102.90	220.40	6,831.31	243.24
6	10																	

merged		Muon					Proton					Proton Extinction		Decay Leng	Net	Net	nu-beam	transverse
Tuple	Entry	KE (MeV)	v/c	px	py	pz	KE (MeV)	v/c	px	py	pz	Vertex modi	End module	Net mods	px	py	pz	pt
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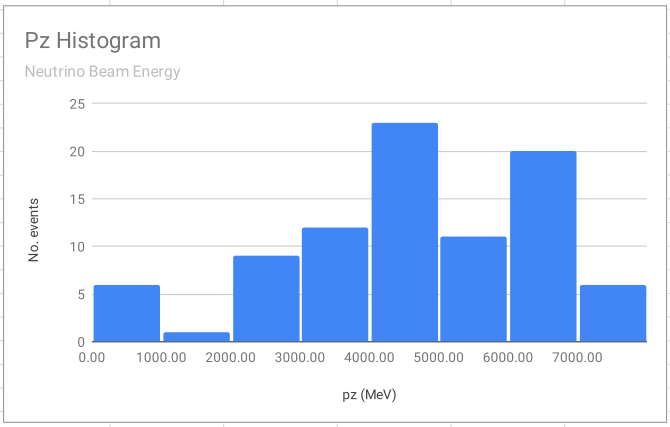
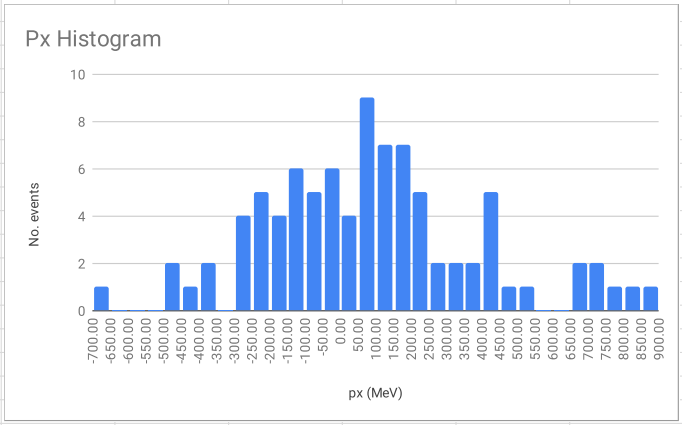
merged		Muon					Proton					Proton Extinction		Decay Leng	Net	Net	nu-beam	transverse
Tuple	Entry	KE (MeV)	v/c	px	py	pz	KE (MeV)	v/c	px	py	pz	Vertex modi	End module	Net mods	px	py	pz	pt
6	97																	
6	98																	
6	99																	
6	100																	

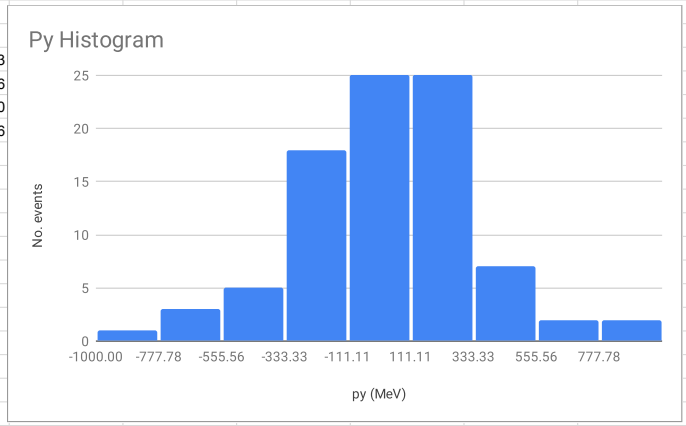
Pz	
Median	4,780.36
Average	4,650.24
StdDev	1815.105981
Visual	6000
deBroglie WL(M)	4.12E-17
deBroglie WL(A)	4.24E-17
deBroglie WL(V)	3.28E-17



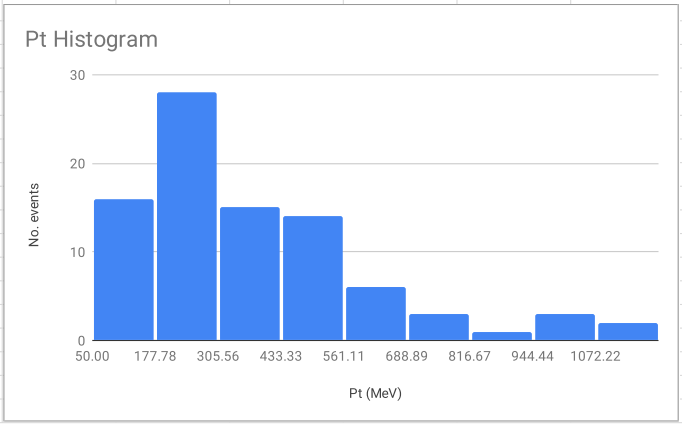
Px	
StdDev (calc)	305.9809863
delta-x (m)	3.23E-16
StdDev (visual)	275
delta-x (m)	3.59E-16

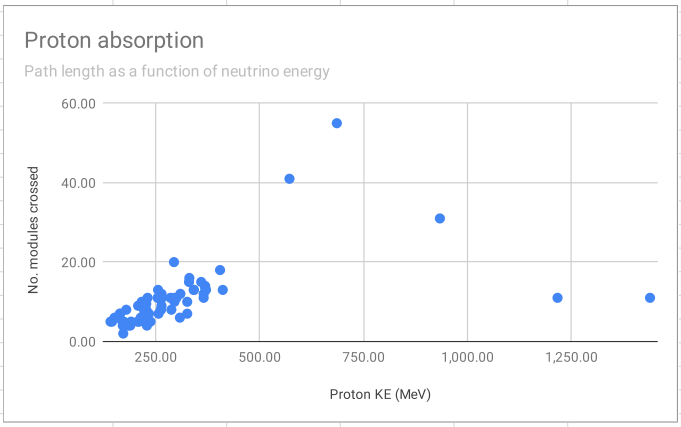


Py	
StdDev (calc)	317.1198933
delta-y (m)	3.11E-16
StdDev (visual)	330
delta-y (m)	2.99E-16



Pt	
StdDev (calc)	247.0962924
delta-x (m)	3.99E-16
StdDev (visual)	
delta-x (m)	#DIV/0!





energy loss per unit length

merged		Muon					Proton					Proton Extinction		Decay Leng	Net		Net	nu-beam	transverse
Tuple	Entry	KE (MeV)	v/c	px	py	pz	KE (MeV/c)	v/c	px	py	pz	Vertex modi	End module	Net mods	px	py	pz	pt
5	44	2,177.24	0.99894	237.84	-502.78	2,210.94	140.82	0.49	-130.90	271.86	439.28	55.00	60.00	5.00	106.94	-230.92	2,650.22	254.48
5	2	4,130.11	0.99969	-291.55	-410.78	4,203.73	144.51	0.50	167.41	280.56	430.41	64.00	69.00	5.00	-124.14	-130.22	4,634.14	179.91
4	25	4050.7522192430320.99968075901703364 32.91378750462733					148.90	0.51	-182.89	-33.01	516.68				-182.89	-33.01	516.68	185.85
3	3	6,966.25	0.99989	412.81	313.47	7,051.45	150.58	0.51	-255.26	-203.64	445.58	27.00	33.00	6.00	157.54	109.83	7,497.03	192.05
3	33	3,631.43	0.99961	-222.44	514.62	3,692.63	160.45	0.52	3.23	-269.95	503.85	50.00	56.00	6.00	-219.21	244.67	4,196.48	328.51
5	8	5,070.73	0.99979	381.42	-490.43	5,137.23	163.34	0.52	-311.03	12.19	486.02	55.00	62.00	7.00	70.39	-478.24	5,623.25	483.39
3	1	1,877.58	0.99860	135.02	440.31	1,925.48	163.99	0.52	309.07	-15.20	488.66	59.00	66.00	7.00	444.09	425.11	2,414.15	614.76
4	31	6,545.69	0.99988	-382.32	-605.05	6,611.23	167.16	0.53	242.67	258.08	464.80				-139.66	-346.97	7,076.04	374.02
5	25	5,784.31	0.99984	370.25	-586.18	5,847.42	169.58	0.53	-246.29	271.65	460.90	44.00	49.00	5.00	123.96	-314.53	6,308.32	338.08
5	40	6,196.11	0.99986	343.00	-445.74	6,275.08	170.34	0.53	-55.90	375.05	452.54	61.00	65.00	4.00	287.11	-70.69	6,727.62	295.68
6	9	6,263.21	0.99986	185.96	413.16	6,351.20	171.48	0.53	-288.87	-192.76	480.11	79.00	81.00	2.00	-102.90	220.40	6,831.31	243.24
5	3	5,845.57	0.99984	481.51	111.99	5,929.06	172.75	0.54	-285.19	-229.17	469.12	46.00	51.00	5.00	196.32	-117.18	6,398.19	228.64
4	26	5,527.84	0.99983	512.74	-270.64	5,601.94	177.32	0.54	201.07	383.84	419.92				713.82	113.20	6,021.85	722.74
5	42	3,839.47	0.99965	-196.63	-410.65	3,916.70	178.71	0.54	7.31	154.46	585.91	27.00	35.00	8.00	-189.32	-256.19	4,502.61	318.55
3	60	2,542.52	0.99921	672.45	47.04	2,558.11	182.26	0.55	-427.64	-75.89	431.86	73.00	77.00	4.00	244.81	-28.85	2,989.98	246.51
5	5	5,769.52	0.99984	-246.16	-381.01	5,856.04	188.36	0.55	290.39	452.10	316.42	61.00	65.00	4.00	44.23	71.09	6,172.47	83.72
4	30	5,895.87	0.99985	346.38	-545.37	5,965.07	189.67	0.56	-155.01	221.29	564.63				191.37	-324.08	6,529.70	376.36
3	36	5,645.71	0.99983	464.25	-391.56	5,717.59	190.36	0.56	-248.93	302.04	490.07	61.00	66.00	5.00	215.31	-89.52	6,207.65	233.18
5	38	4,625.80	0.99975	659.95	278.63	4,675.07	206.11	0.57	-540.40	-186.11	320.11	59.00	64.00	5.00	119.55	92.52	4,995.18	151.17
5	48	5,453.65	0.99982	-555.93	-44.38	5,529.60	207.28	0.57	291.72	37.12	587.66	58.00	67.00	9.00	-264.22	-7.26	6,117.26	264.32
6	0	1,731.24	0.99836	508.82	-169.86	1,753.00	209.98	0.58	-450.03	323.89	361.37	71.00	76.00	5.00	58.79	154.03	2,114.37	164.87
5	9	5,065.15	0.99979	90.06	485.76	5,145.42	213.49	0.58	155.48	-49.43	647.67	58.00	64.00	6.00	245.54	436.33	5,793.09	500.67
1	2	5,228.75	0.99981	679.39	-109.55	5,288.13	215.94	0.58	-391.96	307.50	451.17	56.00	66.00	10.00	287.42	197.95	5,739.30	348.99
3	44	5,955.53	0.99985	138.41	686.75	6,018.99	221.23	0.59	-319.45	-321.42	508.54	54.00	62.00	8.00	-181.04	365.33	6,527.53	407.72
5	29	5,145.42	0.99980	523.64	282.47	5,215.54	222.34	0.59	-434.96	-286.38	441.97	51.00	58.00	7.00	88.68	-3.91	5,657.51	88.76
4	12	103.72	0.86425	94.38	-36.98	149.21	223.89	0.59	358.74	-140.58	567.18				453.11	-177.57	716.39	486.66
5	11	5,771.56	0.99984	84.20	621.72	5,842.03	226.81	0.59	-81.62	-371.42	576.49	40.50	50.00	9.50	2.58	250.31	6,418.52	250.32
5	46	3,801.38	0.99964	327.22	352.61	3,875.23	226.88	0.59	-352.50	-146.57	575.63	78.00	86.00	8.00	-25.28	206.04	4,450.86	207.58
5	37	3,799.07	0.99964	582.74	200.86	3,853.68	227.66	0.59	-558.39	46.91	406.12	36.00	41.00	5.00	24.35	247.77	4,259.80	248.97
4	20	4,429.34	0.99973	-527.91	-295.86	4,492.55	228.21	0.59	483.51	365.32	336.10				-44.40	69.46	4,828.65	82.44
5	50	3,290.98	0.99952	248.81	-609.68	3,329.87	228.40	0.59	-468.05	391.79	328.75	42.00	46.00	4.00	-219.24	-217.89	3,658.63	309.10
5	39	5,208.61	0.99980	-283.79	452.52	5,285.65	229.09	0.60	450.25	-373.81	373.88	57.00	64.00	7.00	166.46	78.71	5,659.54	184.13
4	33	4,913.21	0.99978	135.48	501.71	4,990.12	229.97	0.60	229.85	-333.66	565.82	63.00	74.00	11.00	365.33	168.04	5,555.94	402.13
5	30	4,267.74	0.99971	340.93	329.22	4,345.71	233.33	0.60	324.33	-182.93	594.57	60.00	67.00	7.00	665.25	146.30	4,940.28	681.15
5	7	4,803.94	0.99977	444.32	-300.64	4,878.41	237.07	0.60	421.73	-416.08	-387.27	52.00	57.00	5.00	866.04	-716.72	4,491.14	1,124.15
4	6	116.51	0.88051	79.22	71.10	163.43	243.04	0.61	291.48	261.59	601.34				370.70	332.68	764.78	498.09
4	29	3,779.97	0.99963	135.69	-615.01	3,832.14	250.27	0.61	-45.41	264.77	678.21				90.28	-350.24	4,510.35	361.69
5	52	6,040.36	0.99985	183.14	-545.34	6,117.47	254.14	0.62	-261.74	566.54	389.73	67.00	78.00	11.00	-78.60	21.19	6,507.20	81.41
4	2	121.44	0.88599	51.69	31.21	191.32	254.42	0.62	189.69	114.55	702.08				241.38	145.76	893.40	281.98
3	11	2,858.61	0.99937	-538.03	-411.67	2,883.23	255.25	0.62	101.42	217.68	697.38	31.00	44.00	13.00	-436.61	-193.99	3,580.60	477.76
5	43	3,853.24	0.99965	195.25	-734.96	3,883.09	256.41	0.62	-119.03	613.57	395.15	63.00	70.00	7.00	76.22	-121.39	4,278.24	143.34
5	18	6,581.67	0.99988	117.78	-673.46	6,650.80	261.93	0.62	-5.48	620.67	418.00	70.00	80.50	10.50	112.30	-52.79	7,068.79	124.09
5	19	3,467.68	0.99957	311.90	-624.25	3,502.30	261.93	0.62	-5.48	620.67	418.00	80.00	88.00	8.00	306.42	-3.58	3,920.29	306.44
5	49	5,089.07	0.99980	-190.72	546.84	5,160.61	262.16	0.62	108.52	-532.87	514.60	30.00	38.00	8.00	-82.20	13.96	5,675.21	83.38
4	34	1,859.62	0.99857	12.83	-507.78	1,894.92	262.52	0.62	-258.96	304.80	633.60	74.00	85.00	11.00	-246.12	-202.97	2,528.52	319.02
3	49	2,617.72	0.99926	-105.99	347.05	2,696.39	263.52	0.62	-135.98	-528.51	515.76	71.00	80.00	9.00	-241.97	-181.46	3,212.15	302.45
5	45	2,447.67	0.99915	333.06	378.65	2,500.16	263.67	0.63	-183.96	-316.48	655.87	38.00	50.00	12.00	149.10	62.17	3,156.03	161.54
4	27	4,256.06	0.99971	477.08	213.53	4,328.35	264.30	0.63	-541.65	-164.08	495.35				-64.57	49.46	4,823.70	81.33
5	35	2,745.79	0.99932	-396.07	-157.98	2,816.76	285.09	0.64	339.75	-477.00	522.63	39.00	50.00	11.00	-56.32	-634.99	3,339.39	637.48
5	0	5,682.92	0.99984	-189.47	468.53	5,764.86	287.26	0.64	260.47	-608.39	428.30	67.00	75.00	8.00	71.00	-139.86	6,193.15	156.85
5	28	5,675.92	0.99984	-496.72	-60.44	5,758.27	293.51	0.65	235.71	37.22	761.47	47.00	67.00	20.00	-261.00	-23.22	6,519.74	262.03
6	1	2,606.12	0.99925	99.59	-669.16	2,623.25	294.34	0.65	-81.61	487.83	627.84	80.00	91.00	11.00	17.97	-181.33	3,251.09	182.22
5	10	3,110.20	0.99947	-306.62	-264.22	3,187.89	294.70	0.65	-78.77	635.16	479.66	68.00	78.00	10.00	-385.38	370.94	3,667.55	534.90
5	17	2,783.10	0.99934	-181.33	-468.20	2,842.18	299.54	0.65	40.96	609.33	527.92	56.00	67.00	11.00	-140.37	141.13	3,370.10	199.05
4	4	150.15	0.91140	157.16	-83.53	149.65	305.33	0.66	551.58	-293.16	525.22				708.74	-376.70	674.87	802.63
5	1	5,826.33	0.99984	616.64	-116.77	5,897.10	307.76	0.66	-642.90	327.10	389.57	72.00	78.00	6.00	-26.27	210.33	6,286.67	211.97
3	10	2,214.72	0.99898	370.32	-335.79	2,262.78	308.90	0.66	-274.24	547.84	547.33	55.00	67.00	12.00	96.08	212.05	2,810.11	232.81
4	13	159.20	0.91763	187.48	-21.45	152.20	320.76	0.67	649.15	-74.27	527.00				836.63	-95.72	679.21	842.09
5	4	3,835.75	0.99964	310.46	527.98	3,891.44	325.37	0.67	-181.35	-655.78	503.31	75.00	85.00	10.00	129.11	-127.80	4,394.75	181.67
5	6	5,383.88	0.99982	-261.31	-631.88	5,445.11	325.40	0.67	-112.90	728.56	415.67	55.00	62.00	7.00	-374.21	96.67	5,860.78	386.50
3	41	3,566.70	0.99959	-367.13	452.62	3,623.63	329.69	0.67	248.96	-403.78	708.64	47.00	62.00	15.00	-118.17	48.84	4,332.28	127.86
5	20	6,862.50	0.99989	579.99	-95.45	6,941.86	330.54	0.67	-61.04	308.27	794.10	56.00	72.00	16.00	518.95	212.82	7,735.96	560.90
5	47	**3,924.15**	0.99966	571.35	42.31	3,986.83	341.08	0.68	-683.68	93.69	529.17	27.00	40.00	13.00	-112.33	136.01	4,515.99	176.40
3	21	5,353.36	0.99981	-20.82	-771.50	5,402.50	341.38	0.68	198.47	692.64	487.68	51.00	64.00	13.00	177.65	-78.85	5,890.18	194.36
5	51	2,004.74	0.99876	653.28	228.13	1,990.27	359.02	0.69	-519.78	15.55	729.38	73.00	88.00	15.00	133.50	243.69	2,719.65	277.86
5	31	4,950.51	0.99978	-15.99	494.51	5,030.15	364.91	0.69	-635.27	462.85	447.14	53.00	65.00	12.00	-651.26	957.36	5,477.29	1,157.88
4	35	3,863.86	0.99965	-249.32	-479.09	3,930.54	364.92	0.69	331.69	696.70	471.52	50.00	61.00	11.00	82.37	217.61	4,402.07	232.68
5	15	4,180.98	0.99970	-290.25	322.75	4,262.65	368.50	0.70	721.22	-107.31	543.54	37.50	51.00	13.50	430.97	215.44	4,806.18	481.82
5	16	4,180.98	0.99970	-290.25	322.75	4,262.65	368.50	0.70	721.22	-107.31	543.54	37.00	51.00	14.00	430.97	215.44	4,806.18	481.82
5	41	5,666.47	0.99983	607.03	152.33	5,736.48	370.57	0.70	-665.68	-353.27	514.37	72.00	85.00	13.00	-58.66	-200.95	6,250.85	209.33
3	14	3,872.12	0.99965	-99.21	446.93	3,949.29	404.39	0.72	-354.82	-384.48	805.25	73.00	91.00	18.00	-454.03	62.45	4,754.54	458.31
5	12	3,658.60	0.99961	-102.01	419.01	3,737.34	410.90	0.72	509.52	-670.94	479.48	37.00	50.00	13.00	407.52	-251.93	4,216.82	479.10
4	22	5,475.96	0.99982	-71.17	475.21	5,559.24	411.13	0.72	-146.68	-169.76	943.39				-217.85	305.45	6,502.63	375.18
4	14	288.59	0.96376	45.03	61.98	371.50	513.26	0.76	131.47	180.96	1,084.57				176.50	242.94	1,456.07	300.29
5	26	3,074.27	0.99945	-228.59	-303.83	3,154.71	571.40	0.78	459.04	26.53	1,089.51	47.00	88.00	41.00	230.45	-277.30	4,244.21	360.56
4	21	5,313.73	0.99981	204.07	-691.90	5,369.48	637.11	0.80	-477.54	604.68	1,003.72				-273.47	-87.22	6,373.20	287.04
3	37	4,139.15	0.99969	321.09	-536.52	4,196.53	685.35	0.82	-137.52	123.77	1,311.94	39.00	94.00	55.00	183.57	-412.75	5,508.47	451.73
4	28	2,141.36	0.99891	161.00	422.53	2,197.87	749.92	0.83	490.40	-54.24	1,313.70				651.39	368.29	3,511.57	748.30
4	32	933.31	0.86530	-15.62	318.17	1,587.60	933.31	0.87	-15.62	318.17	1,587.60	75.00	106.00	31.00	-31.25	636.34	3,175.20	637.10
4	16	2,914.82	0.99940	205.88	540.35	2,962.08	1,216.30	0.90	132.30	347.23	1,903.44	50.00	61.00	11.00	338.19	887.59	4,865.52	949.83
4	18	5,120.95	0.99980	-21.29	-427.03	5,207.37	1,263.71	0.90	-8.12	-162.80	1,985.22				-29.41	-589.83	7,192.59	590.56
4	3	4,046.92	0.99968	531.18	469.22	4,089.64	1,305.78	0.91	260.86	230.43	2,008.38				792.04	699.64	6,098.01	1,056.80
4	5	251.47	0.95564	174.59	-223.53	188.68	1,316.04	0.91	-216.14	180.75	2,030.14				-41.54	-42.77	2,218.82	59.63
4	10	5747.81214766708850.99983906356365381 75.45079180265283					1,322.71	0.91	61.67	117.58	2,052.64				61.67	117.58	2,052.64	132.77
4	11	5,774.07	0.99984	-114.69	-708.40	5,834.17	1,436.51	0.92	-42.56	-262.89	2,165.07				-157.26	-971.29	7,999.24	983.94
4	15	4,704.06	0.99976	-191.46	296.61	4,794.94	1,438.83	0.92	-86.97	134.73	2,178.02	74.00	85.00	11.00	-278.43	431.34	6,972.95	513.39