Guinea Pig Simulation Results

Run Number	Input Energy	E_1 Corr,E_2 Corr	$\frac{E_1}{E_b}$	$\frac{E_2}{E_b}$	z_{pv}	Time	$\frac{\sqrt{s}}{\sqrt{b}}$	$\frac{E_1}{E_b} - \frac{E_2}{E_b}$	# Events
5060	125.0	0.0,0.0	9.8877e-01±2.47e-05	9.8873e-01±3.81e-05	1.5720e-01±1.40e-01	1.9952e+04±5.03e+00	9.8855e-01±2.26e-05	3.4991e-05±4.68e-05	1.8341e+05±1.77e+02
5020 (20 sigma)	125	0.0,0.0	9.8899e-01±3.41e-05	9.8903e-01±3.99e-05	2.4136e-01±2.21e-01	1.9859e+04±7.92e+00	9.8882e-01±2.36e-05	-3.8897e-05±5.87e-05	1.7672e+05±2.09e+02
5090	125	0.9,0.9	9.8849e-01±3.69e-05	9.8856e-01±2.35e-05	1.0405e-01±1.86e-01	1.9978e+04±5.92e+00	9.8831e-01±2.35e-05	-6.8103e-05±4.22e-05	1.8342e+05±2.24e+02
5070	124.0	0.0,0.0	9.8808e-01±8.53e-04	9.8892e-01±2.92e-05	-6.0455e-02±1.76e-01	1.9958e+04±4.06e+00	9.8830e-01±4.20e-04	-8.3477e-04±8.68e-04	1.8179e+05±1.70e+02
5071	123	0.0,0.0	9.8908e-01±2.76e-05	9.8906e-01±3.54e-05	-2.3924e-01±2.26e-01	1.9943e+04±4.94e+00	9.8888e-01±2.19e-05	2.2883e-05±4.66e-05	1.8044e+05±1.77e+02
5072	122.0	0.0,0.0	9.8921e-01±4.15e-05	9.8920e-01±3.03e-05	7.6478e-02±2.05e-01	1.9950e+04±7.44e+00	9.8902e-01±2.38e-05	6.1890e-06±5.53e-05	1.7866e+05±1.74e+02
5130	125	0.3,0.3	9.8863e-01±4.04e-05	9.8865e-01±3.80e-05	2.5135e-01±1.83e-01	1.9788e+04±5.68e+00	9.8843e-01±3.17e-05	-1.9684e-05±4.85e-05	1.8086e+05±1.54e+02
5131	125	0.3,-0.3	9.8863e-01±4.23e-05	9.8869e-01±3.63e-05	1.4937e+00±2.96e-01	1.9830e+04±2.75e+01	9.8845e-01±2.54e-05	-5.7930e-05±6.14e-05	1.8061e+05±5.25e+02
5132	125	-0.3,0.3	9.8860e-01±4.55e-05	9.8860e-01±4.24e-05	-1.6877e+00±2.49e-01	1.9841e+04±2.85e+01	9.8839e-01±3.74e-05	-4.8596e-06±4.92e-05	1.8048e+05±4.82e+02
5133	125	-0.3,-0.3	9.8851e-01±3.85e-05	9.8855e-01±3.65e-05	-6.4446e-02±1.81e-01	2.0054e+04±6.49e+00	9.8832e-01±3.08e-05	-4.2148e-05±4.57e-05	1.8499e+05±1.19e+02

Guinea Pig Means p-values Table (Permutation, Welch)

Run # 1, Run # 2	$\frac{E_1}{E_b}$ p-values	$\frac{E_2}{E_b}$ p-values	z_{pv} p-values	Time p-values	$\frac{\sqrt{s}}{\sqrt{b}}$ p-values	$\frac{E_1-E_2}{E_b}$ p-values	# of Events p-values
5060,6060	2.4293e-01,2.4731e-01	1.6614e-01,1.6481e-01	4.6995e-01,4.7374e-01	9.0746e-01,9.0588e-01	6.9921e-01,6.9882e-01	1.1934e-01,1.2308e-01	8.2985e-01,8.3074e-01
5020,5060	3.2475e-05,2.3795e-05	7.5776e-05,1.4369e-01	7.2779e-01,7.3166e-01	1.0825e-05,1.4331e-08	1.0825e-05,4.8199e-08	2.9531e-01,3.0113e-01	1.0825e-05,1.4264e-15
5090,5060	2.1650e-05,4.2645e-06	5.1960e-04,6.3506e-04	8.0585e-01,8.0757e-01	2.9444e-03,2.0910e-03	1.0825e-05,3.0905e-07	9.3929e-02,9.3436e-02	9.6356e-01,9.6336e-01
5070,5060	9.9703e-01,4.0726e-01	7.3611e-04,6.2218e-04	3.0950e-01,3.0849e-01	3.6487e-01,3.6226e-01	9.9994e-01,5.3972e-01	9.1905e-02,3.0615e-01	1.0825e-05,1.1697e-06
5071,5060	1.0825e-05,3.2090e-08	3.2475e-05,2.1184e-06	1.2378e-01,1.2737e-01	1.7168e-01,1.7181e-01	1.0825e-05,1.1902e-09	8.4383e-01,8.4474e-01	1.0825e-05,1.7465e-10
5072,5060	1.0825e-05,7.7063e-08	1.0825e-05,7.3736e-09	7.3121e-01,7.2876e-01	2.9911e-01,7.2919e-01	1.0825e-05,8.2530e-12	6.7291e-01,6.7178e-01	1.0825e-05,5.3935e-14
5130,5060	4.4491e-03,5.2824e-02	9.5055e-02,9.4403e-02	6.7110e-01,6.6339e-01	1.0825e-05,8.3024e-15	4.1244e-03,4.3256e-03	3.9075e-01,3.9082e-01	1.0825e-05,8.7061e-10
5131,5060	6.0837e-03,8.6224e-03	3.7058e-01,3.7536e-01	3.7888e-04,7.1263e-04	1.8403e-04,8.6052e-04	6.6250e-03,7.8686e-03	2.0977e-01,2.0960e-01	1.5155e-04,1.8840e-04
5132,5060	8.3353e-04,2.8264e-03	2.2549e-02,2.1135e-02	6.4951e-05,5.7397e-06	1.3315e-03,2.0713e-03	6.9281e-04,1.3279e-03	5.3085e-01,5.3283e-01	1.1908e-04,5.9281e-05
5133,5060	5.4125e-05,1.8334e-05	2.1650e-03,1.6076e-03	3.0461e-01,3.0802e-01	1.0825e-05,1.8951e-10	2.1650e-05,6.9939e-06	2.1522e-01,2.1768e-01	1.0825e-05,5.8942e-07

Guinea Pig Correlations Table

Run #	$E_1 E_2$ Corr.	$E_{1}z_{pv}$ Corr.	$E_{2}z_{pv}$ Corr.	$E_1\sqrt{s}$ Corr.	$E_2\sqrt{s}$ Corr.	E_1-E_2 z_{pv} Corr.
5060	7.8942e-02±5.27e-04	-1.1266e-01±5.38e-04	1.0944e-01±5.94e-04	7.3252e-01±9.89e-04	7.3587e-01±8.22e-04	-1.6361e-01±5.71e-04
5020	7.7486e-02±5.94e-04	-1.1330e-01±5.18e-04	1.1324e-01±6.50e-04	7.3451e-01±1.59e-03	7.3283e-01±1.49e-04	-1.6673e-01±4.17e-04
5090	5.2222e-02±7.32e-04	-1.5003e-01±6.77e-04	1.4210e-01±5.30e-04	7.2254e-01±8.62e-04	7.2453e-01±8.35e-04	-2.1219e-01±6.74e-04
5070	7.7907e-02±4.54e-04	-1.0848e-01±4.30e-04	1.0965e-01±6.33e-04	7.3480e-01±4.13e-04	7.3292e-01±5.18e-04	-1.6062e-01±3.50e-04
5071	7.5936e-02±6.93e-04	-1.0937e-01±5.61e-04	1.1131e-01±8.22e-04	7.3305e-01±9.58e-04	7.3331e-01±6.74e-04	-1.6233e-01±7.89e-04
5072	7.5866e-02±7.86e-04	-1.0922e-01±5.14e-04	1.1090e-01±4.76e-04	7.3313e-01±1.15e-03	7.3312e-01±1.47e-03	-1.6191e-01±2.58e-04
5130	7.4571e-02±9.32e-04	-1.2320e-01±8.25e-04	1.1962e-01±6.11e-04	7.3254e-01±1.17e-04	7.3280e-01±1.22e-04	-1.7842e-01±6.76e-04
5131	8.1598e-02±8.02e-04	-1.2301e-01±1.87e-03	1.0011e-01±1.13e-03	7.3436e-01±1.18e-03	7.3579e-01±1.17e-03	-1.6459e-01±1.51e-03
5132	8.6147e-02±1.02e-03	-9.3551e-02±1.82e-03	1.2066e-01±1.75e-03	7.3907e-01±1.08e-03	7.3413e-01±1.00e-03	-1.5838e-01±1.84e-03
5133	9.2284e-02±4.48e-04	-9.2356e-02±7.56e-04	9.3288e-02±7.72e-04	7.3962e-01±6.78e-04	7.3779e-01±8.25e-04	-1.3779e-01±7.04e-04

Guinea Pig Correlations p-values (Permutation, Welch)

Run #	$E_1 E_2$ Corr.	$E_{1}z_{pv}$ Corr.	$E_{2}z_{pv}$ Corr.	$E_1\sqrt{s}$ Corr.	$E_2\sqrt{s}$ Corr.	E_1-E_2 z_{pv} Corr.
5060,6060	2.9236e-01,2.9590e-01	6.8350e-02,7.2125e-02	6.0491e-02,6.0089e-02	1.6597e-01,1.6656e-01	7.0017e-02,7.2319e-02	8.5151e-01,8.4187e-01
5020,5060	2.7758e-01,2.6649e-01	5.9959e-01,5.9846e-01	1.7006e-02,1.4706e-02	5.1144e-01,5.1597e-01	2.8020e-01,2.8356e-01	1.5166e-02,1.3605e-02
5090,5060	1.0825e-05,2.0578e-01	1.0825e-05,1.7051e-15	1.0825e-05,1.7138e-15	1.8727e-03,3.8158e-03	9.7426e-05,1.0041e-05	1.0825e-05,1.5361e-17
5070,5060	3.6306e-01,3.6469e-01	1.3640e-03,1.4171e-03	8.8611e-01,8.8141e-01	2.0181e-01,2.0791e-01	7.4693e-02,7.6567e-02	9.7318e-03,1.3640e-02
5071,5060	4.5162e-02,4.5429e-02	1.7959e-02,1.6306e-02	2.6569e-01,2.6519e-01	8.1306e-01,8.1240e-01	1.4974e-01,1.4979e-01	4.2079e-01,4.2243e-01
5072,5060	5.8304e-02,5.9193e-02	1.0717e-02,9.6745e-03	2.5017e-01,2.4656e-01	8.0719e-01,8.0474e-01	3.2466e-01,3.2526e-01	1.0644e-01,1.1400e-01
5130,5060	2.0773e-02,2.2735e-02	2.1650e-05,6.0649e-06	2.1650e-05,6.3998e-07	9.9673e-01,9.9359e-01	2.0943e-01,2.0910e-01	1.0825e-05,5.7712e-09
5131,5060	1.0058e-01,1.0322e-01	4.0486e-03,7.2056e-03	5.5208e-04,4.4906e-04	4.6303e-01,4.6419e-01	9.7602e-01,9.7246e-01	7.6323e-01,7.1056e-01
5132,5060	1.3640e-03,1.5711e-03	1.1908e-04,7.1470e-05	1.9593e-03,2.8961e-03	1.2492e-02,1.2100e-02	4.1011e-01,4.1229e-01	9.5943e-02,1.1825e-01
5133,5060	1.0825e-05,6.2939e-10	1.0825e-05,2.4178e-10	1.0825e-05,9.6845e-09	2.3815e-03,1.9404e-03	3.1761e-01,3.1569e-01	1.0825e-05,1.4815e-12