Testing pmt calibration

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Abstract

Toy MC test of pmt calibration method.

config	nData	nMC	μ_d	μ_M	μ_t	tailF	f_{exp}	f_{best}	χ^2_{min}	nBin
19	10000	100000	8.30	8.30	40.00	0.00	1.00	0.99	14.75	0
19	10000	100000	8.30	6.00	40.00	0.00	1.38	1.35	667.57	1
20	10000	100000	8.30	7.00	40.00	0.00	1.19	1.18	179.61	2
20	10000	100000	8.30	8.00	40.00	0.00	1.04	1.04	32.91	3
20	10000	100000	8.30	9.00	40.00	0.00	0.92	0.93	41.96	4
20	10000	100000	8.30	10.00	40.00	0.00	0.83	0.84	160.45	5
19	10000	100000	8.30	6.00	40.00	0.01	1.38	1.36	583.73	6
19	10000	100000	8.30	7.00	40.00	0.01	1.19	1.17	213.66	7
20	10000	100000	8.30	8.00	40.00	0.01	1.04	1.04	113.59	8
20	10000	100000	8.30	9.00	40.00	0.01	0.92	0.93	141.43	9
19	10000	100000	8.30	10.00	40.00	0.01	0.83	0.84	206.21	10
19	10000	100000	8.30	6.00	40.00	0.05	1.38	1.36	1107.29	11
19	10000	100000	8.30	7.00	40.00	0.05	1.19	1.19	647.55	12
19	10000	100000	8.30	8.00	40.00	0.05	1.04	1.04	529.28	13
19	10000	100000	8.30	9.00	40.00	0.05	0.92	0.93	558.16	14
19	10000	100000	8.30	10.00	40.00	0.05	0.83	0.84	700.34	15

Table 1: Different configurations and results. μ_d = mean PE in data, μ_M = mean PE in MC, μ_t = mean PE in the tail, tailF = tail fraction, f_{exp} = expected calibration factor, f_{best} = best fit calibration factor, χ^2_{min} = value of χ^2 at minimum and nBin = number of bins in histogram.