

TB status, [2023-08-04 Fr]

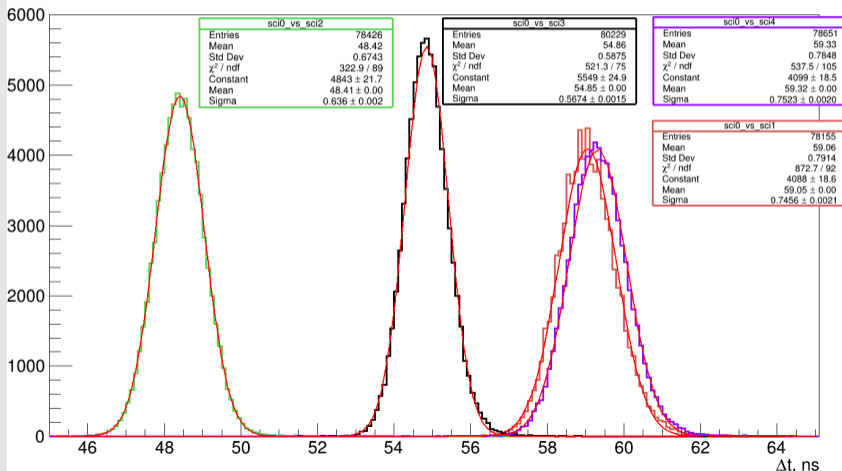
Straw TB team

August 4, 2023

Time between scintillators

2023 April TB

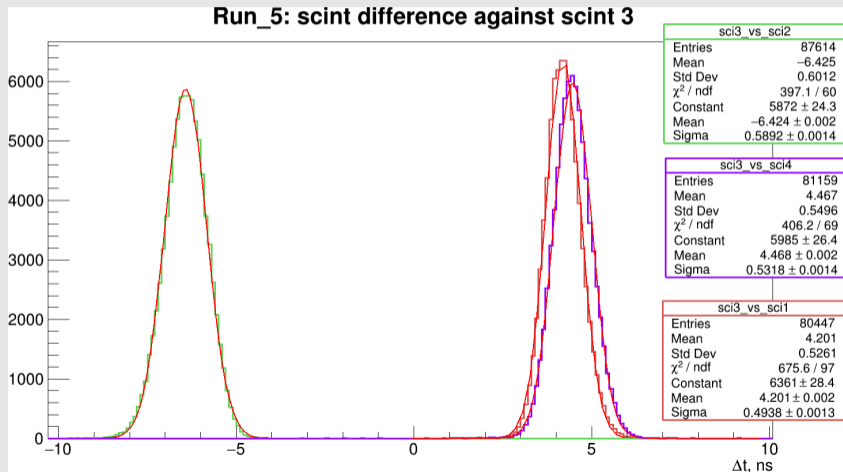
Run_5: scint difference against scint 0



Time between scintillators

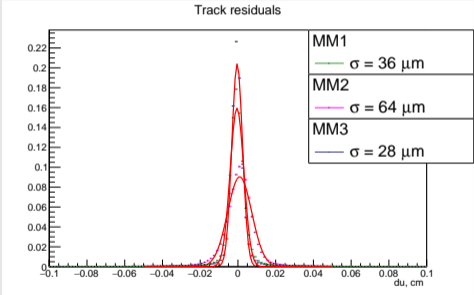
2023 April TB

Run_5: scint difference against scint 3



Residuals

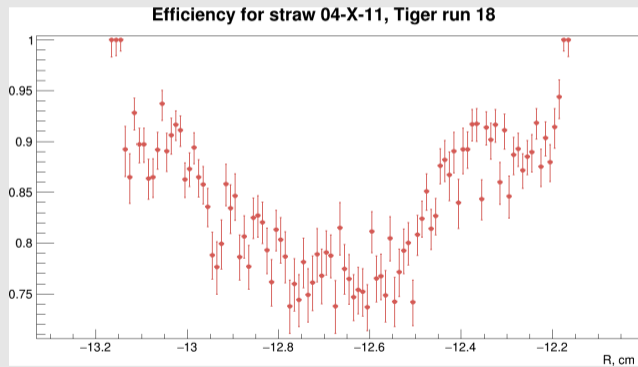
Run 8



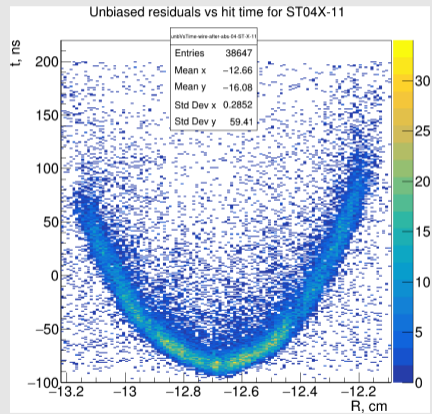
Run 77

Tiger-only efficiency

Efficiency



RT



Summary after July TB – Tiger only

Full run table: [link](#)

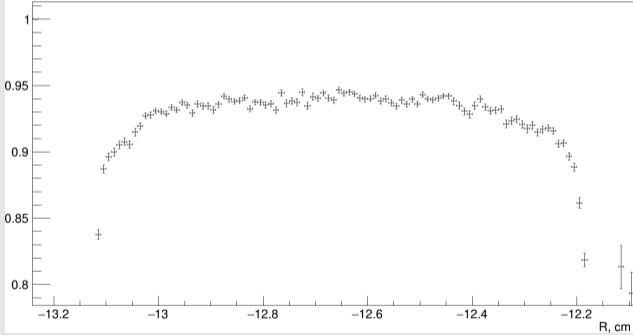
Tiger only runs:

Pressure	Description	gas gain	N hits 5 mm	x efficiency (85% / 75%)	Tiger runs
+0.1	Electrons, 30GeV	45K	7K		44
+0	ToT mode	45K	500K	425K / 375K	23
+0	Default, gain 45K	45K	6.9M	5.8M / 5.2M	5-8, 22
+0	Default + 1900V(20mm)	45K && 20mm-1900V	250K (1M on 20mm)	210K / 185K	24
+0	Thr scan (4-10,12,13,15,17)	45K	30K-150K	25K-125K / 20K-110K	9-21
+0.1	Default, gain 45K	45K	1.3M	1.1M / 975K	77,78
+0.1	Thr scan (4,6,8,10,13,17 mV)	45K	80-160K	65K-135K / 60K-120K	85,88,93,94,97,98,89
+0.1	Default, gain 25K	25K	79K	65K / 55K	79, 81
+0.1	Thr scan (4,6,8,10,13,17 mV)	25K	60-130K	50K-110K / 45K-95K	86,87,90,92,95,96,91
+0.1	HV scan	4 points between 25 and 45	~100K each	85K / 75K	80,82,83,84

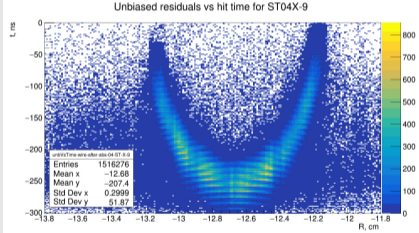
Tiger & Mu2E efficiency

Efficiency

Efficiency (04-ST-X-9, merged Tiger&Mu2E, run 38)



RT (10mm)



Summary after July TB – Mu2E #3

Tiger & Mu2E #3

Pressure	Description	gas gain	N hits 5 mm	× efficiency 85%	Tiger runs
+0	3.0mV/fC, 25ns, 5mV thr	45K	2.5M	2.1M	33, 38
+0	3.0mV/fC, 25ns, Thr scan (7,10,15)	45K	120K-140K	100K-120K	39,40,41
+0.1	3.0mV/fC, 25ns, thr 5mV	1500/1800/2050	127K	107K	42
+0.1	3.0mV/fC, 25ns, thr 5mV	45K	2.4M	2M	43,45,67,69
+0.1	3.0mV/fC, 25ns, Thr scan (4-10,15,17 mV)	45K	90-130K	75K-110K	46-53
+0.5	3.0mV/fC, 25ns, thr 5mV	45K	330K	280K	59
~+0.6	3.0mV/fC, 25ns, thr 5mV	1650	150K	125K	36
+1.0	3.0mV/fC, 25ns, thr 5mV	45K	195K	165K	63
+0.1	3.0mV/fC, 25ns, thr 5mV	25K	240K	200K	76
+0.5	3.0mV/fC, 25ns, thr 5mV	25K	140K	120K	60
+1.0	3.0mV/fC, 25ns, thr 5mV	25K	170K	145K	64
+0.1	0.5mV/fC, 200ns, thr 5mV	45K	1.9M	1.6M	57, 58, 75, (55 only after merging)
+0.5	0.5mV/fC, 200ns, thr 5mV	45K	79K	65K	61
+1.0	0.5mV/fC, 200ns, thr 5mV	45K	110K	90K	66
+0.1	0.5mV/fC, 200ns, thr 5mV	25K	190K	160K	70
+0.5	0.5mV/fC, 200ns, thr 5mV	25K	53K	45K	62
+1.0	0.5mV/fC, 200ns, thr 5mV	25K	172K	145K	65
+0.1	0.5mV/fC, 200ns, thr 5mV, HV scan	4 points between 25 and 45	120-240K	100K-200K	71,72,73,74
+0.1	1.0mV/fC, 25ns, thr 5mV	45K	214K	180K	56
+0.1	0.5mV/fC, 25ns, thr 5mV	45K	290K	245K	54

Summary after July TB – Additional

Mu2E #2

Pressure	Description	gas gain	N hits 5 mm	× efficiency 85%	Tiger runs
+0	1.0mV/fC, 25ns, ~12mV thr	45K && 20mm-1900V	3.5M	3.0M	27, 28
+0	1.0mV/fC, 25ns, ~34mV thr	45K && 20mm-1900V	470K	400K	26
+0	3.0mV/fC, 25ns, <u>-8mV</u> thr	45K	2.6M	2.2M	29, 31

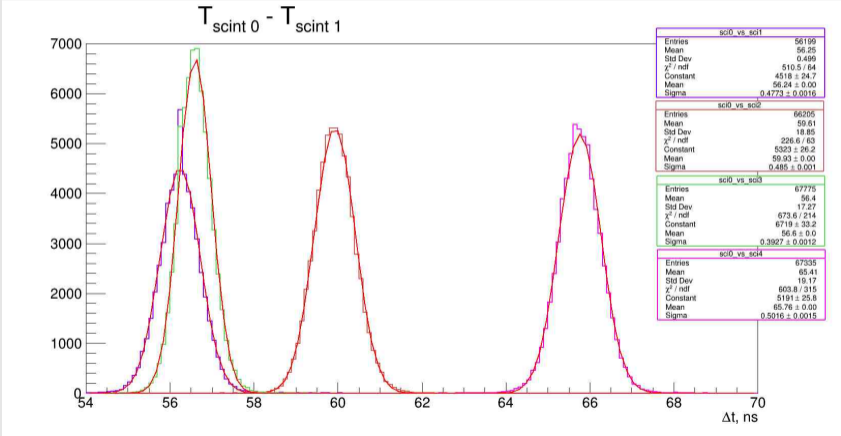
Rotated setup (Tiger + Mu2E #3)

Pressure	Description	gas gain	N hits 5 mm	× efficiency 85%	Tiger Runs
+0.1	3.0mV/fC, 25ns, thr 5mV	25K	220K	187K	101
+0.1	0.5mV/fC, 200ns, thr 5mV	25K	130K	110K	100
+0.1	3.0mV/fC, 25ns, thr 5mV	45K	220K	187K	102
+0.1	0.5mV/fC, 200ns, thr 5mV	45K	130K	100K	

Backup

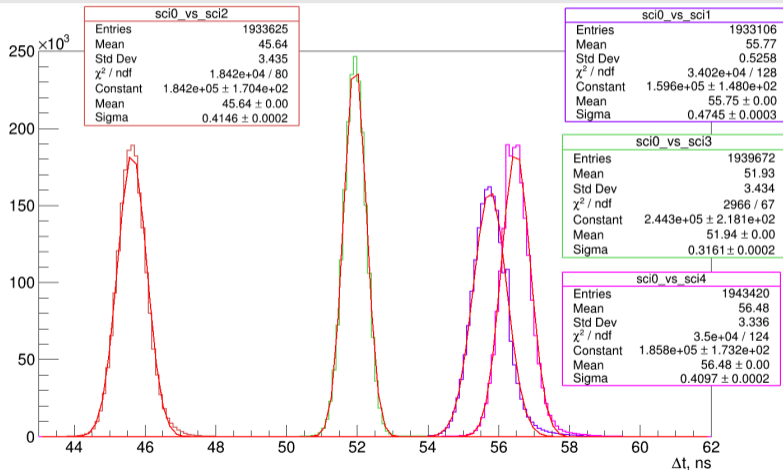
ΔT (Scint), april TB

2023 April TB



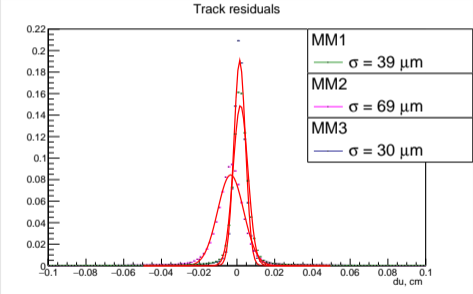
ΔT (Scint), May Beamdump

BeamDump, May



April TB residuals

Run 18



Run 72

