

April TB (APV + VMM3)

- Parameters: 1750 V, 1 mv/fC, 100 ns slope, 25 ns peaking time
- Threshold: 209.63 mV (213 DAC counts)

VMM run	APV run	μ / spill (481 scintillator)	N_{spills}	Estimated N_{tracks} / straw	Comment
0826	418	$5.5 \cdot 10^5$	111		
0818	411	$8 \cdot 10^4 \rightarrow 1.4 \cdot 10^5$	1921	76K (at 120 merged ev/spill)	

July TB (APV + VMM3)

- Parameters: 1750 V, 1 mv/fC, 100 ns slope, 25 ns peaking time
- Threshold: 193.86 mV (190 DAC counts)

VMM run	APV run	μ / spill (481 scintillator)	N_{spills}	Estimated N_{tracks} / straw	Comment
0093	49	$2.4 \cdot 10^5$	110		
0103	59	$1.4 \cdot 10^5$	1675	66K (at 120 merged ev/spill)	

October TB (TIGER)

- Parameters: 1750 V, [tiger default: 12 mv/fC, 7.5 ns slope, 60 ns peaking time (time branch), 170 ns peaking time (energy branch)]
- Threshold: MM & scintillator – 5σ (2022-10-31), straw – by hand with double thresholds

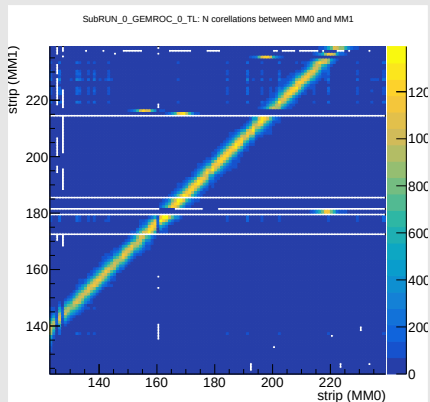
Run	μ / spill (481 scintillator)	Estimated N_{tracks} / straw	Comment
51	$6.4 \cdot 10^4$	400K	

October TB: TIGER 2 mapping problems (MM1 mapping)

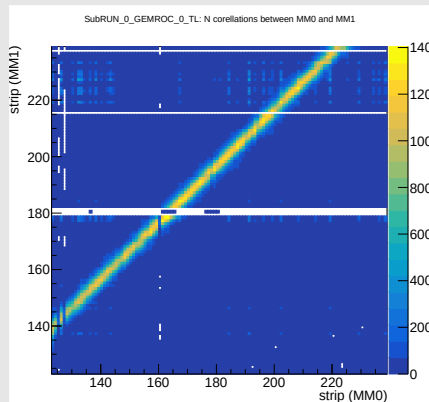
TIGER 2 changes:

- On tiger 2 for **even** channels 36-52: MM strips assigned from channel +2.
- Tiger 2, channel 54 not used.

Before



After



Mapping change

TIGER re-mapped channels connected to different strips during October TB

A-board (up to RUN 50)

TIGER	channel	Strip (before)	Strip(after)
2	36	232	229
2	38	229	224
2	40	224	179
2	42	179	188
2	44	188	187
2	46	187	234
2	48	234	222
2	50	222	223
2	52	223	192
2	54	192	not used

B2-board (RUNs 51 - 63)

TIGER	channel	Strip (before)	Strip(after)
2	36	237	not used
2	38	not used	216
2	40	216	172
2	42	172	181
2	44	181	180
2	46	180	235
2	48	235	214
2	50	214	215
2	52	215	185
2	54	185	not used

Mapping change (FEB connector)

Since it seems like tiger problem, FEB connector to tiger mapping can be updated for this TIGER

Normal FEB mapping

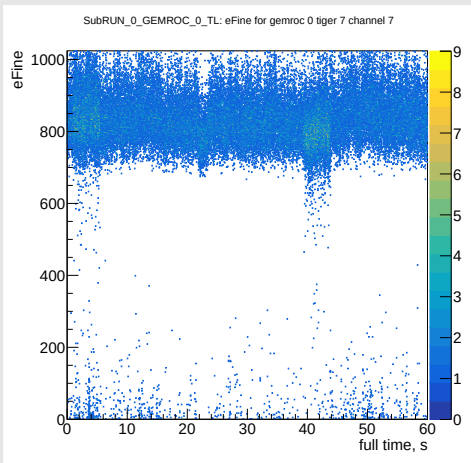
[illegible]

FEB mapping for October TB FEB1

[illegible]

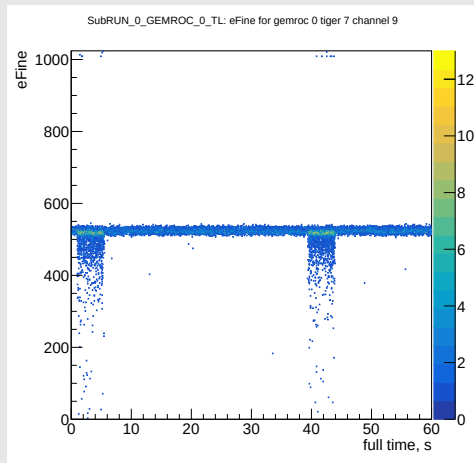
RUN 51: Strange channel

eFine for "strange" channel
(tiger 7, channel 7; MM3 strip 205)



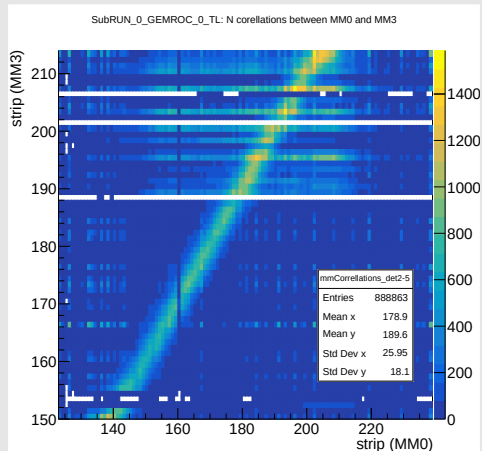
The TIGER 7 channel 7 will not be used in analysis

eFine example for "normal" channel
(tiger 7, channel 9)

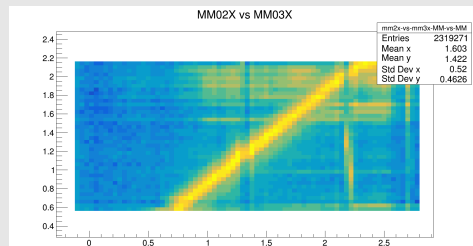


RUN 51: Noise in MM 3: problem:

Hit corellation between hits in MM0 and MM3

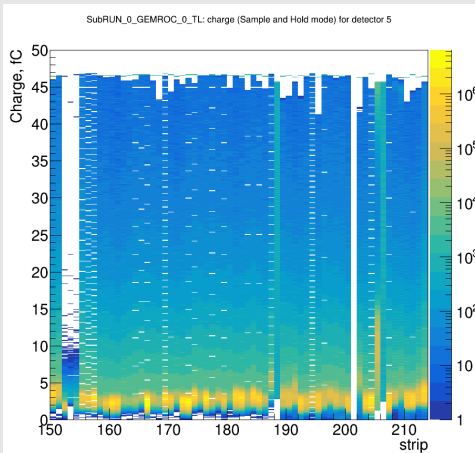


Corellation between clusters in MM0 and MM3

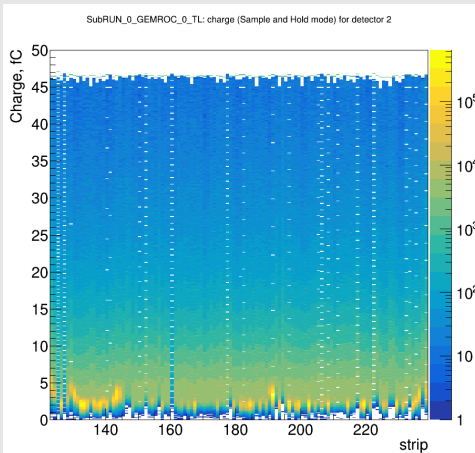


RUN 51: Charge in MM (logz)

Charge in MicroMegas 3 (B-board)



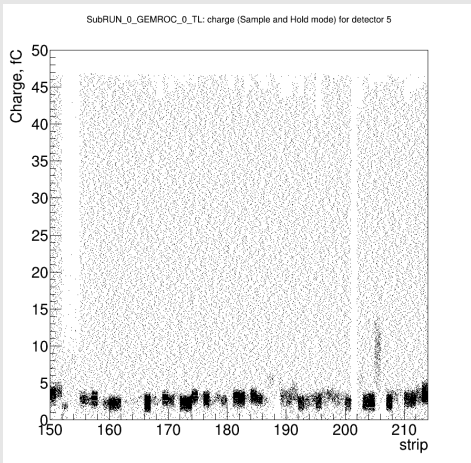
Charge in MicroMegas 0 (B2-board)



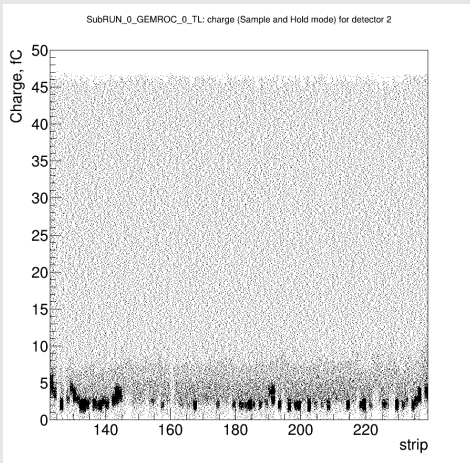
Seems more or less similar

RUN 51: Charge in MM (linear z)

Charge in MicroMegas 3 (B-board)



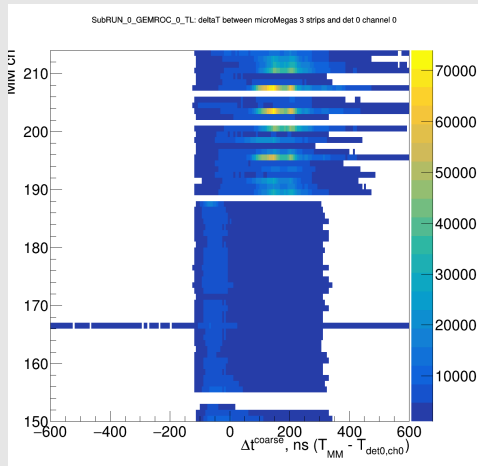
Charge in MicroMegas 0 (B2-board)



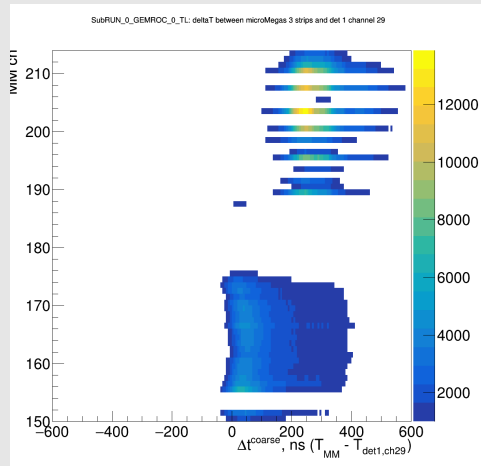
Seems more or less similar

RUN 51: Noise in MM 3

Time difference between hits in MM strips and Scint 0



Time difference between hits in MM strips and Straw 29

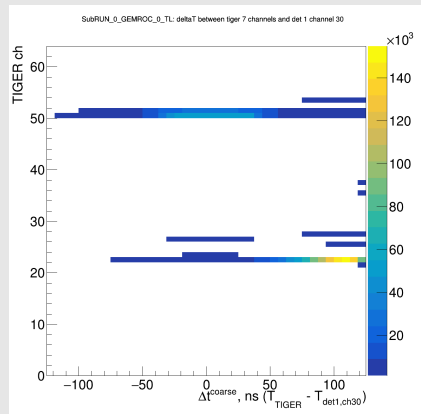


RUN 51: LEMO connectors

LEMO connectors used

TIGER	Channel	LEMO type	Comment
7	22	Scint 0	
7	46	Scint 1	
7	50	Straw 29	
7	28	Straw 30	
7	51	Straw 31	
7	26	Straw 32	
7	23	Straw 33	
7	14	LEMO #2	no signal
0	8	LEMO #8	
1	15	LEMO #9	
2	8	LEMO #10	
3	15	LEMO #11	
4	8	LEMO #12	
5	15	LEMO #13	

Example of time difference between
TIGER channels and hits to
LEMO-connected device:
Straw 30

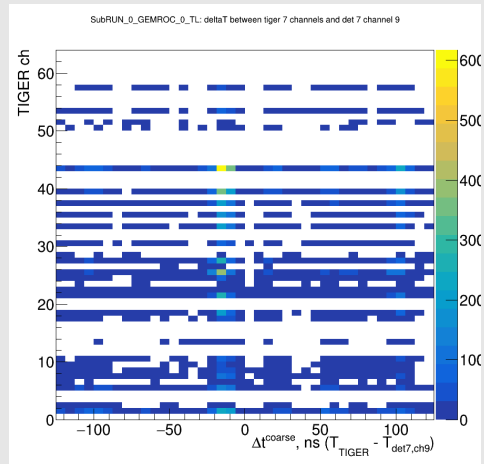


For now cannot see LEMO connector with hits synchronous to MM

LEMO connectors used

TIGER	Channel	LEMO type	Comment
7	22	Scint 0	
7	46	Scint 1	
7	50	Straw 29	
7	28	Straw 30	
7	51	Straw 31	
7	26	Straw 32	
7	23	Straw 33	
7	14	LEMO #2	no signal
0	8	LEMO #8	
1	15	LEMO #9	
2	8	LEMO #10	
3	15	LEMO #11	
4	8	LEMO #12	
5	15	LEMO #13	

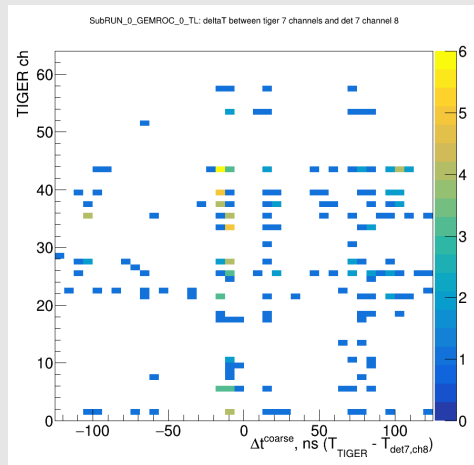
Except for the LEMO connected to FEB0:
(TIGER 7 and LEMO #9)



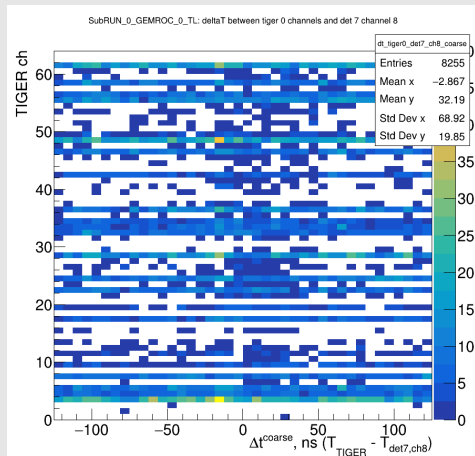
LEMO connectors used

TIGER	Channel	LEMO type	Comment
7	22	Scint 0	
7	46	Scint 1	
7	50	Straw 29	
7	28	Straw 30	
7	51	Straw 31	
7	26	Straw 32	
7	23	Straw 33	
7	14	LEMO #2	no signal
0	8	LEMO #8	
1	15	LEMO #9	
2	8	LEMO #10	
3	15	LEMO #11	
4	8	LEMO #12	
5	15	LEMO #13	

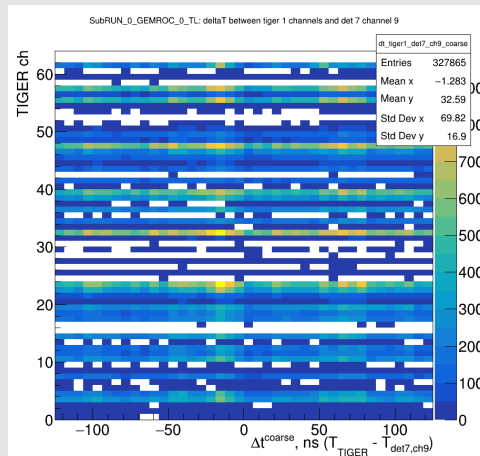
Except for the LEMO connected to FEB0:
(TIGER 7 and LEMO #8)



TIGER 0 and LEMO #8



TIGER 1 and LEMO #9



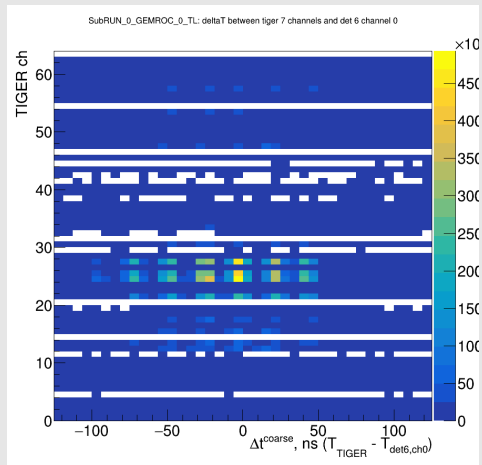
Important: to the LEMO 9 SHiP straw was connected at the end of TB

RUN 62: DeltaT vs SHiP straw

LEMO connectors used

TIGER	Channel	LEMO type	Comment
7	22	Scint 0	
7	46	Scint 1	
7	50	Straw 29	
7	28	Straw 30	
7	51	Straw 31	
7	26	Straw 32	
7	23	Straw 33	
0	8	SHiP straw	
7	14	LEMO #2	no signal
1	15	LEMO #9	
2	8	LEMO #10	
3	15	LEMO #11	
4	8	LEMO #12	
5	15	LEMO #13	

TIGER 7 and SHiP straw

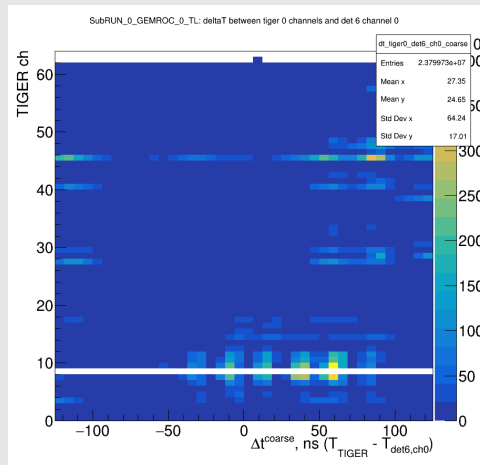


RUN 62: DeltaT vs SHiP straw

LEMO connectors used

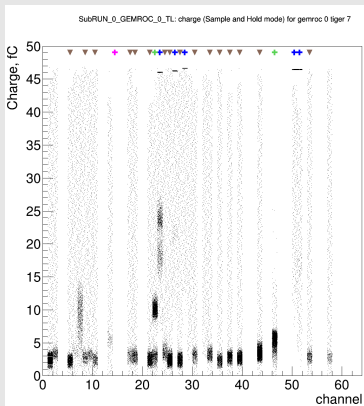
TIGER	Channel	LEMO type	Comment
7	22	Scint 0	
7	46	Scint 1	
7	50	Straw 29	
7	28	Straw 30	
7	51	Straw 31	
7	26	Straw 32	
7	23	Straw 33	
0	8	SHiP straw	
7	14	LEMO #2	no signal
1	15	LEMO #9	
2	8	LEMO #10	
3	15	LEMO #11	
4	8	LEMO #12	
5	15	LEMO #13	

TIGER 0 and SHiP straw



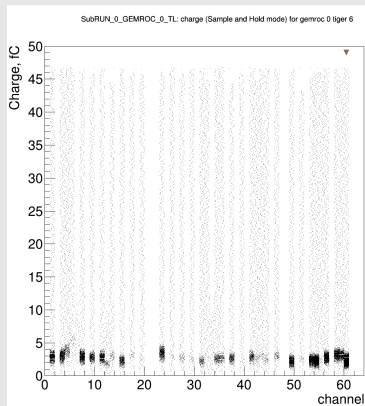
Charge in TIGERs

TIGER 7 charge (MM3)



- Green cross: Sci
- Blue cross: Straw

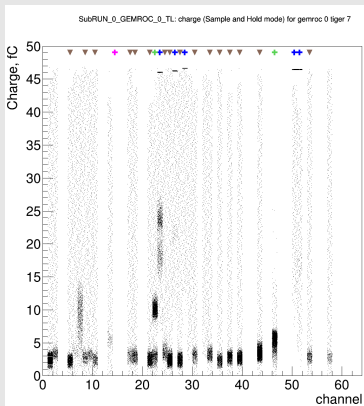
TIGER 6 charge (MM3)



- Magenta cross: LEMO unconnected
- Brown triangles: "bad" channels

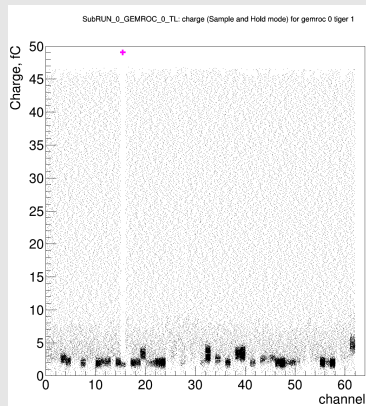
Charge in TIGERs

TIGER 7 charge (MM3)



- Green cross: Sci
- Blue cross: Straw

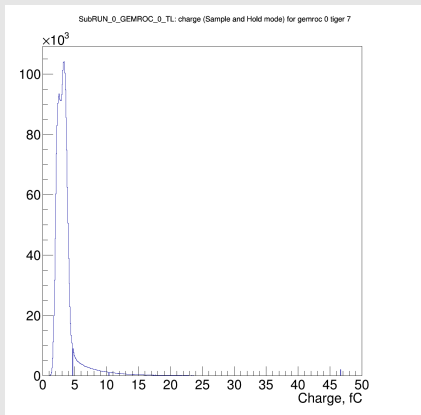
TIGER 1 charge (MM0)



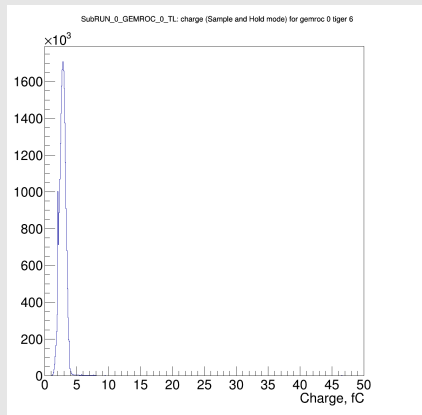
- Magenta cross: LEMO unconnected
- Brown triangles: "bad" channels

Charge in TIGERs (per-channel)

TIGER 7 channel 17 ("bad" – strip 196)

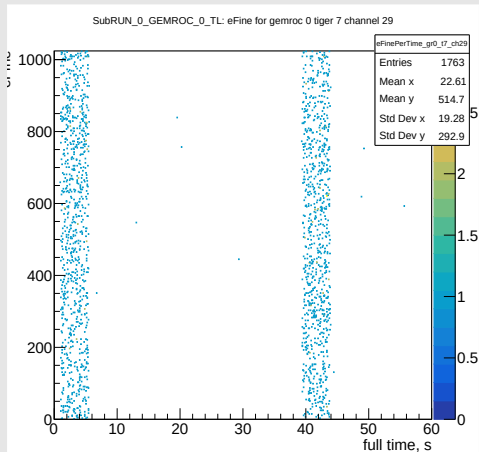


TIGER 6 channel 56 ("good" – strip 176)

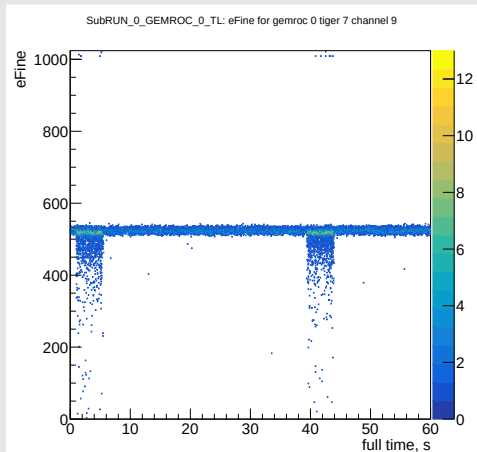


Two additional strange channels on TIGER 7 (1)

eFine for TIGER 7 channel 29
(MM3 strip 206)

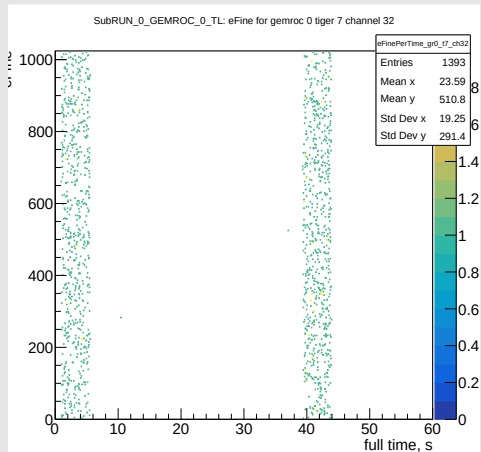


eFine example for "normal" channel
(tiger 7, channel 9)



Two additional strange channels on TIGER 7 (2)

eFine for TIGER 7 channel 32
(MM3 strip 188)



eFine example for "normal" channel
(tiger 7, channel 9)

