

Investigation of timing in ADC modules

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Abstract

The investigation of timing in ADC was done for LMS trigger system. The trigger delay was changed to be in agreement with real data. The decrease of the LMS amplitude required also

Introduction

The special measurements were done to understand timing in ADC and choose delay time. The delay time was changed for LMS trigger signal and the signal amplitude was defined for each specific channel. The dependence of the amplitude from the delay is presented here.

Measurements

The pedestals measurements were done first. Then data for different timing were taken:

Delay top	Delay bottom	Delta	Run number	Comment
63.5	28	0	2404	chosen delays
63.5	38	+10	2405	
63.5	48	+20	2406	
63.5	58	+30	2407	
63.5	63	+35	2408	
63.5	18	-10	2409	error writing ET. repaired
63.5	08	-20	2410	
61.5	0	-30	2411	
51.5	0	-40	2412	
41.5	0	-50	2413	
41.5	0	-50	2414	
31.5	0	-60	2415	
21.5	0	-70	2416	
11.5	0	-80	2417	
01.5	0	-90	2418	

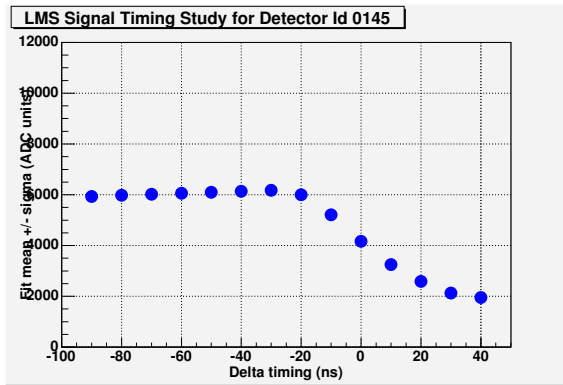


Figure 1: LMS for Glass

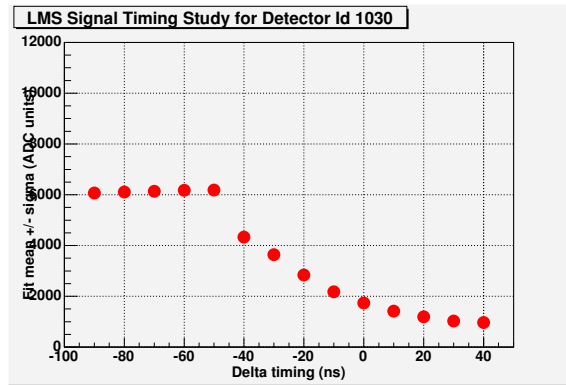
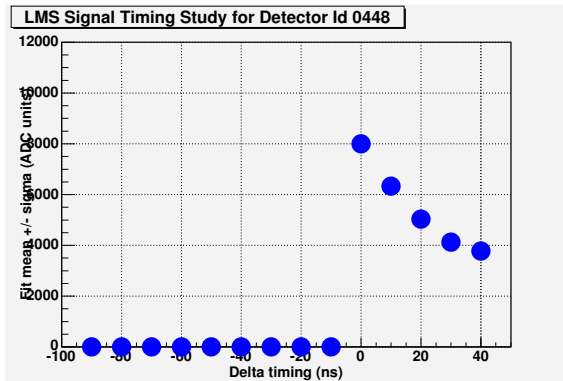


Figure 2: LMS for PWO

Results

It was found that the timing was wrong and have to be adjusted. The plateau for glass begins at -20 nsec (See. Fig.1), while for PWO – at -50 nsec (see Fig.2). The behaviour is similar for all channels in crate 6. We will do additional measurements when all delay cables will be installed.



The another result: signals in many channels are saturated due to large amplitude (see Fig.2).

Conclusion

- Decided:
- To change delay to -60 nsec
 - To additional measurement for other crates
 - To decrease LMS Amplitude.