Analysis of MCP-PMT pulses from Argonne laser test stand

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method:
- low-pass filtering by cubic splines with different time constants
- constant fraction discriminator applied to the filtered signal
Discrimination level in noise

**CH1**
- sigma noise = 8.50
- amplitude ~ 62

**CH2**
- sigma noise = 11.0
- amplitude ~ 62

Unit: ADC counts

**FILTER CONSTANT**

**Improvement by filtering!!**

7.42 ps
CH1
sigma noise = 1.6
amplitude ~ 95

CH2
sigma noise = 1.7
amplitude ~ 96

Unit : ADC counts
CH1

sigma noise = 3.3
amplitude ~ 99

CH2

sigma noise = 3.4
amplitude ~ 100

Unit : ADC counts

4.87 ps
CH1
sigma noise = 1.6
amplitude ~ 86

CH2
sigma noise = 1.7
amplitude ~ 87
Unit : ADC counts
CH1
sigma noise = 1.4
amplitude ~ 86

CH2
sigma noise = 1.3
amplitude ~ 83

Unit: ADC counts

2.17 ps

FILTER CONSTANT

no filtering
100 ps
200 ps
400 ps
800 ps
1600 ps
CH1
sigma noise = 1.4
amplitude ~ 143

CH2
sigma noise = 1.3
amplitude ~ 138

Unit: ADC counts

FILTER CONSTANT

1.48 ps