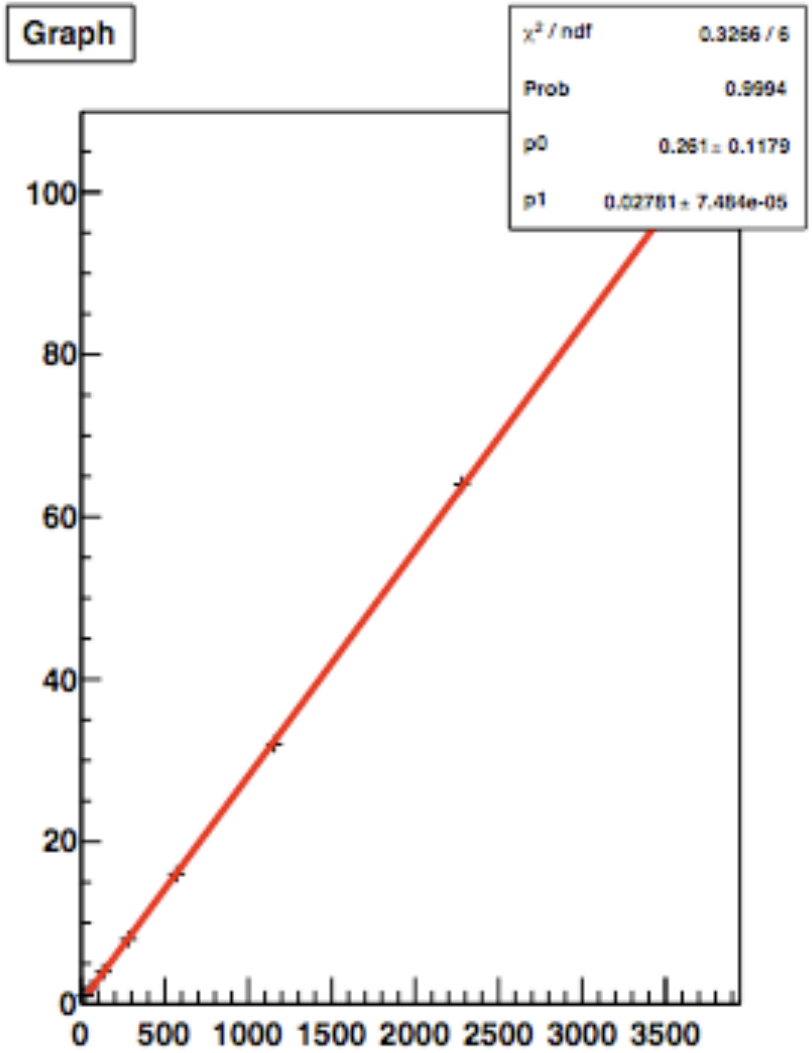
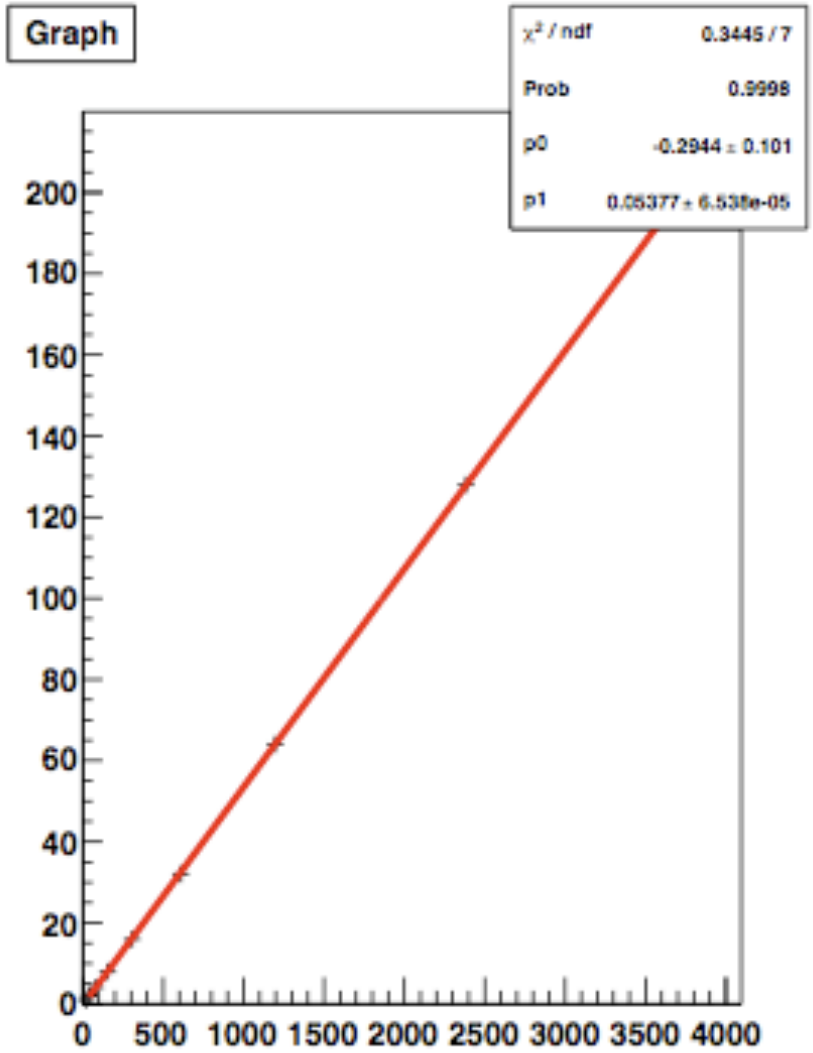
TDC-calibration



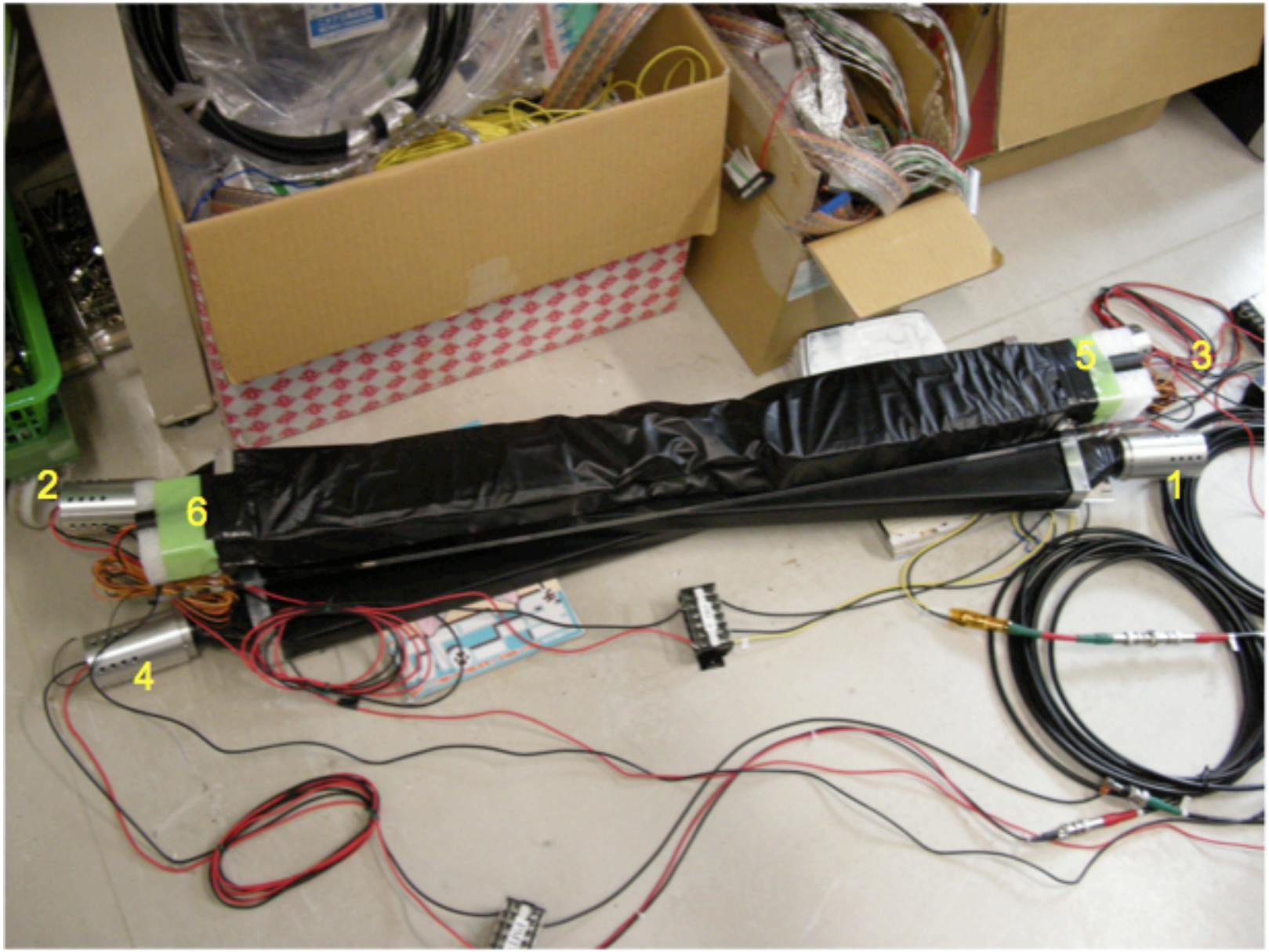
100[ch]
0.28[ps/ch]

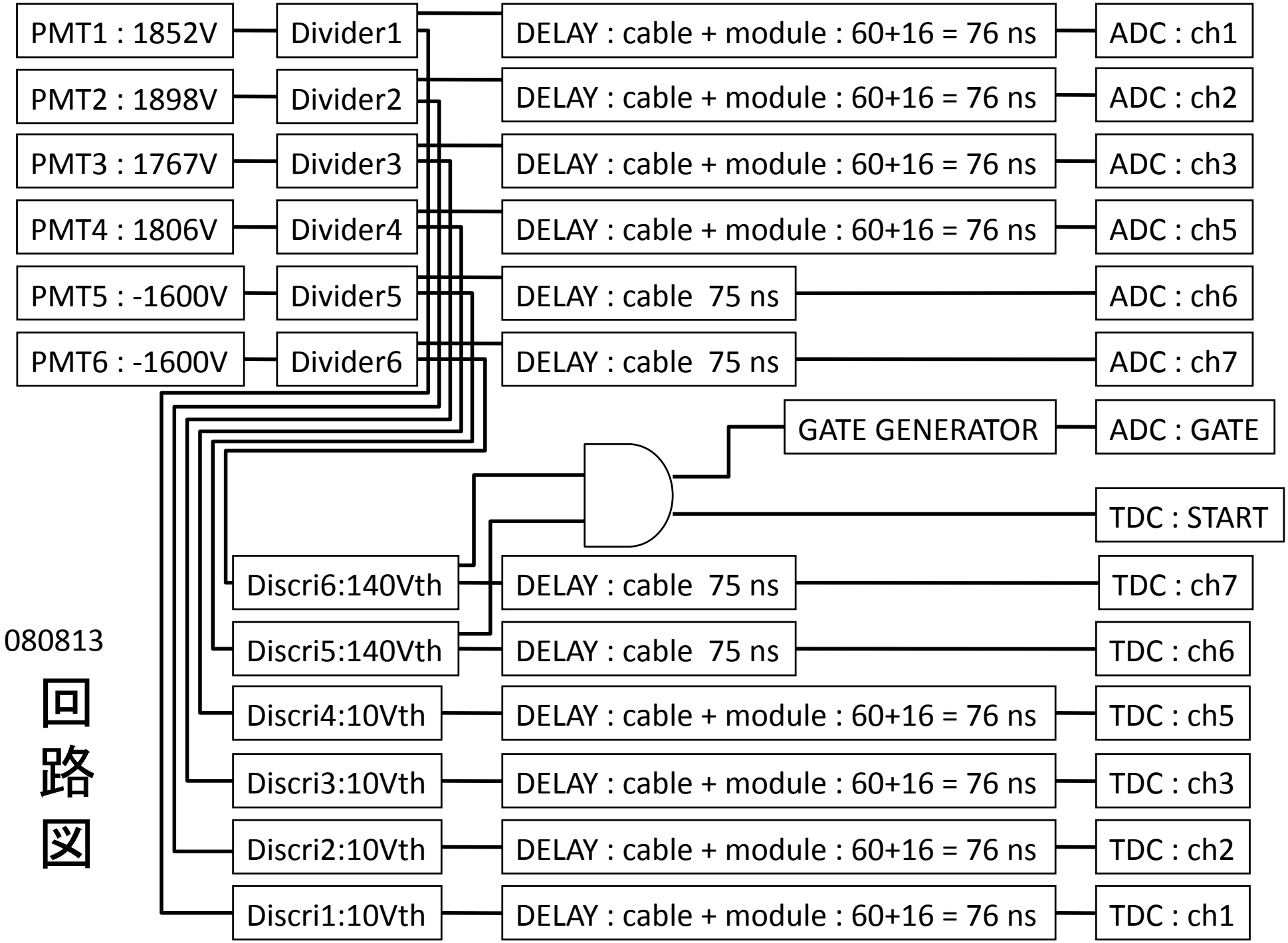


200[ch]
0.54[ps/ch]

CDH-resolution (TDC-54[ps/ch])

080813



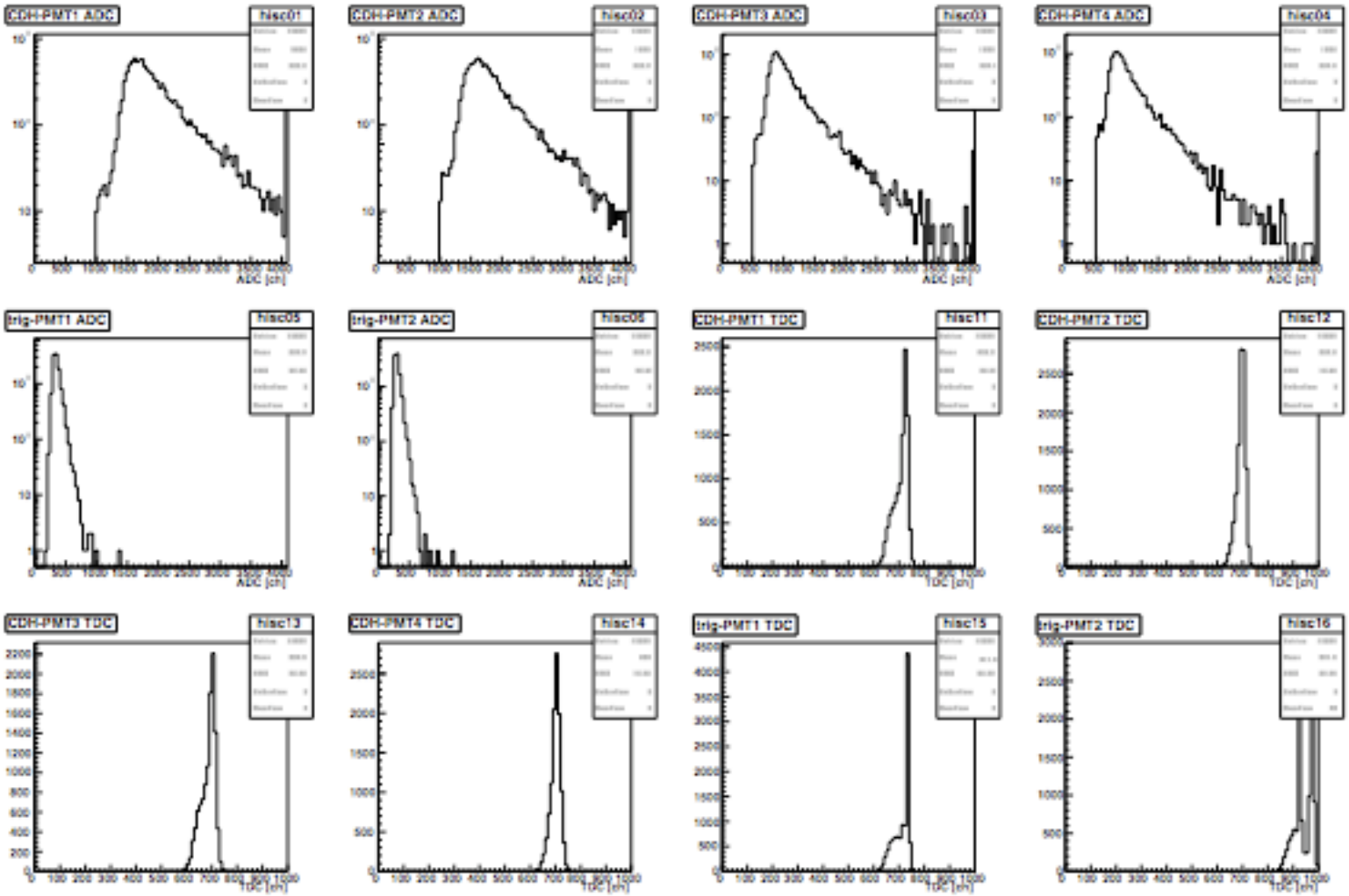

PMT1 : 1852V
PMT2 : 1898V
PMT3 : 1767V
PMT4 : 1806V
PMT5 : -1600V
PMT6 : -1600V
Divider1
Divider2
Divider3
Divider4
Divider5
Divider6
DELAY : cable + module : 60+16 = 76 ns
DELAY : cable + module : 60+16 = 76 ns
DELAY : cable + module : 60+16 = 76 ns
DELAY : cable + module : 60+16 = 76 ns
DELAY : cable 75 ns
DELAY : cable 75 ns
ADC : ch1
ADC : ch2
ADC : ch3
ADC : ch5
ADC : ch6
ADC : ch7
GATE GENERATOR
ADC : GATE
TDC : START
Discri6:140Vth
Discri5:140Vth
Discri4:10Vth
Discri3:10Vth
Discri2:10Vth
Discri1:10Vth
DELAY : cable 75 ns
DELAY : cable 75 ns
DELAY : cable + module : 60+16 = 76 ns
DELAY : cable + module : 60+16 = 76 ns
DELAY : cable + module : 60+16 = 76 ns
DELAY : cable + module : 60+16 = 76 ns
TDC : ch7
TDC : ch6
TDC : ch5
TDC : ch3
TDC : ch2
TDC : ch1

080813

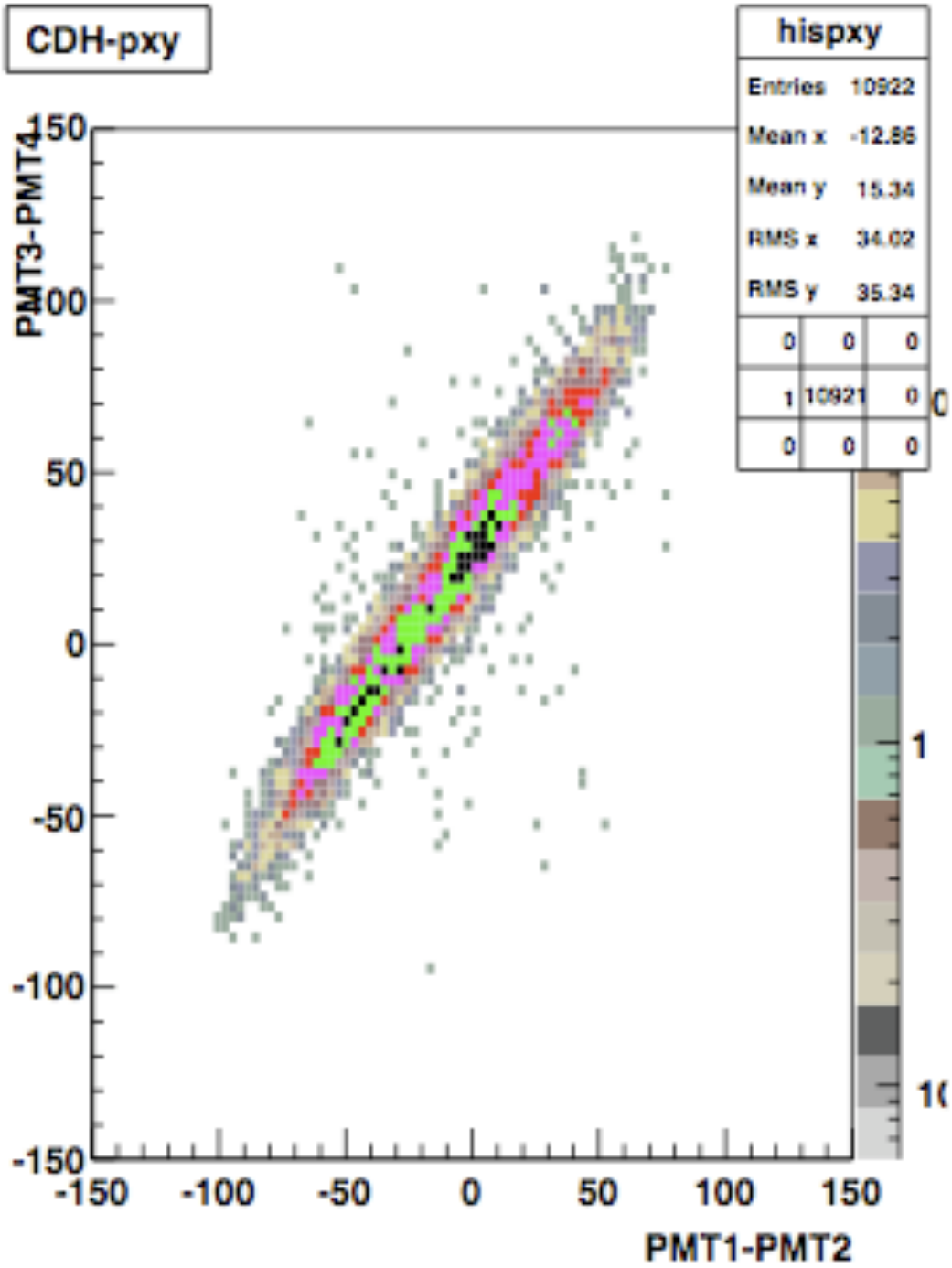
回路図

CDH-resolution (TDC-54[ps/ch])

080813

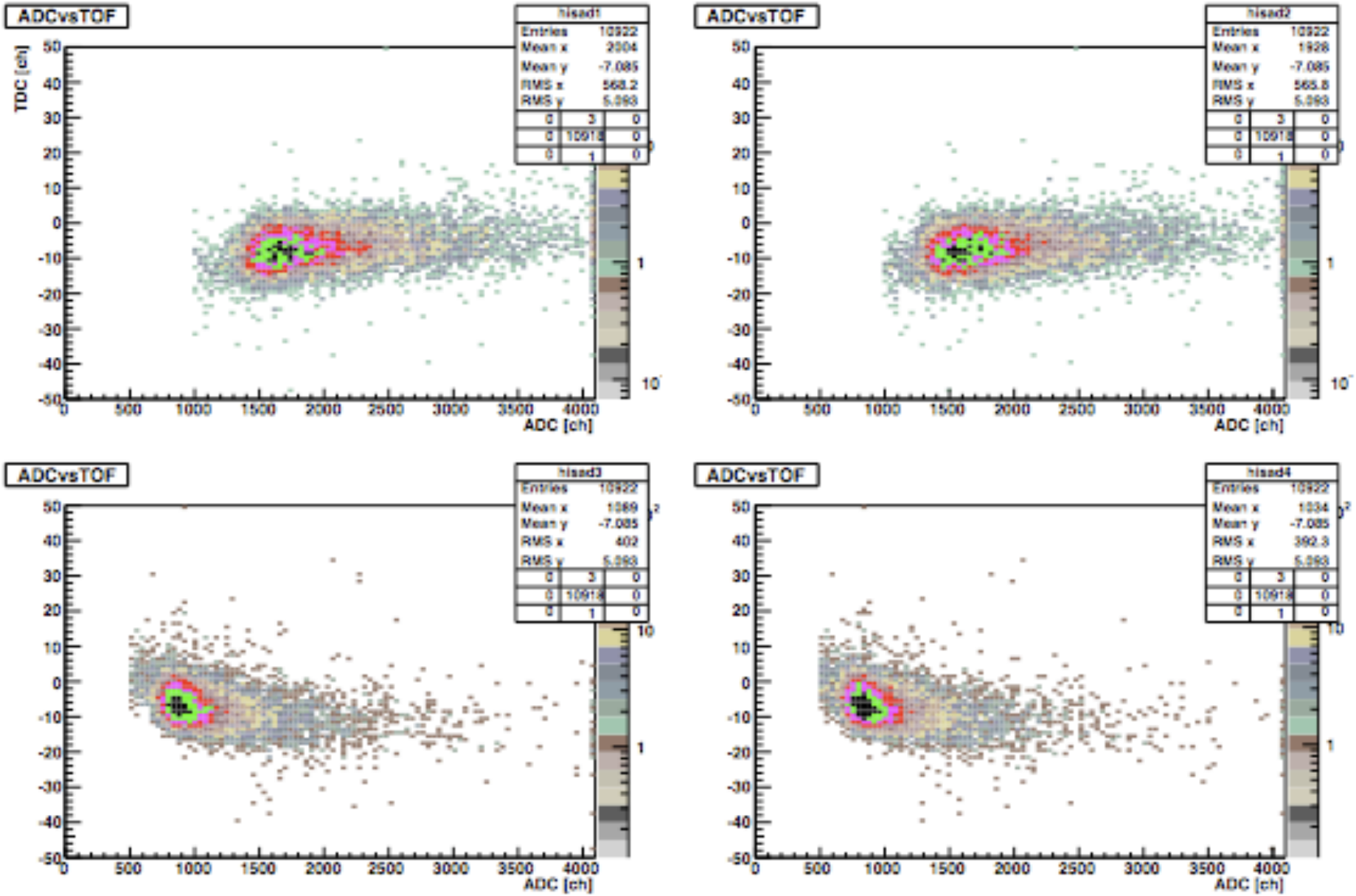


080813


CDH-pxy
hispxy
Entries 10922
Mean x -12.56
Mean y 15.34
RMS x 34.02
RMS y 35.34
0 0 0
1 10921 0
0 0 0
PMT3-PMT4
PMT1-PMT2
150
100
50
0
-50
-100
-150
-150
-100
-50
0
50
100
150
1

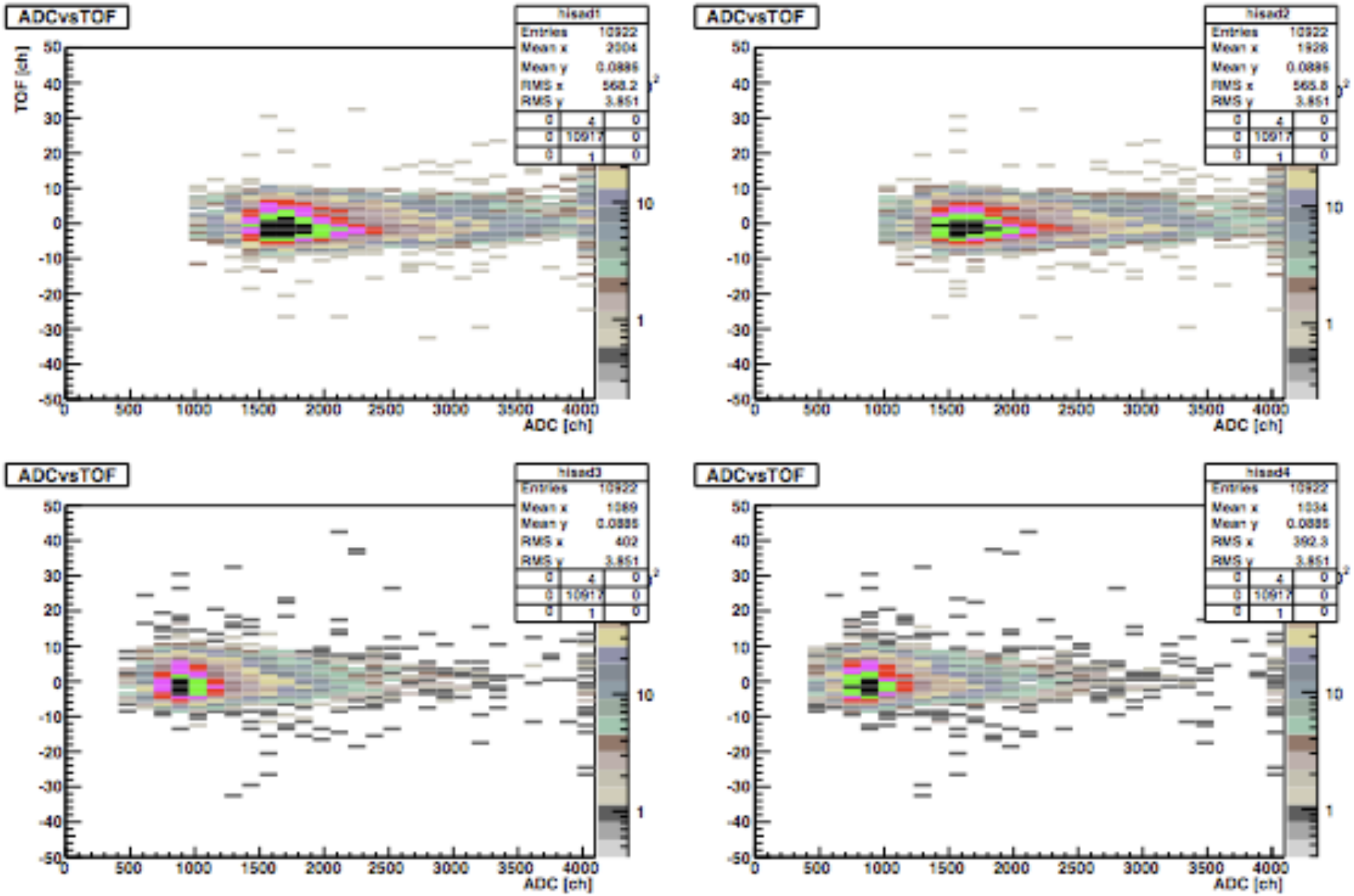
080813

ADC vs TOF before slewing collection

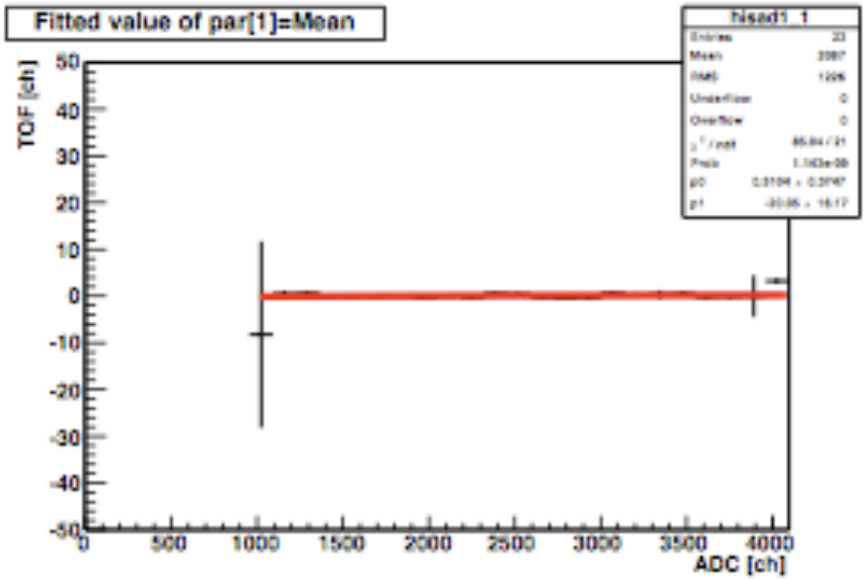


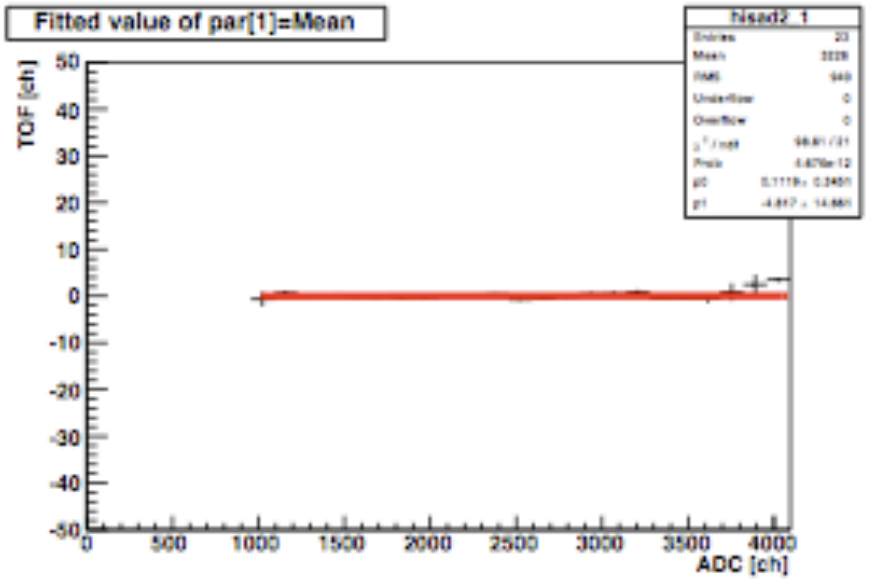
080813

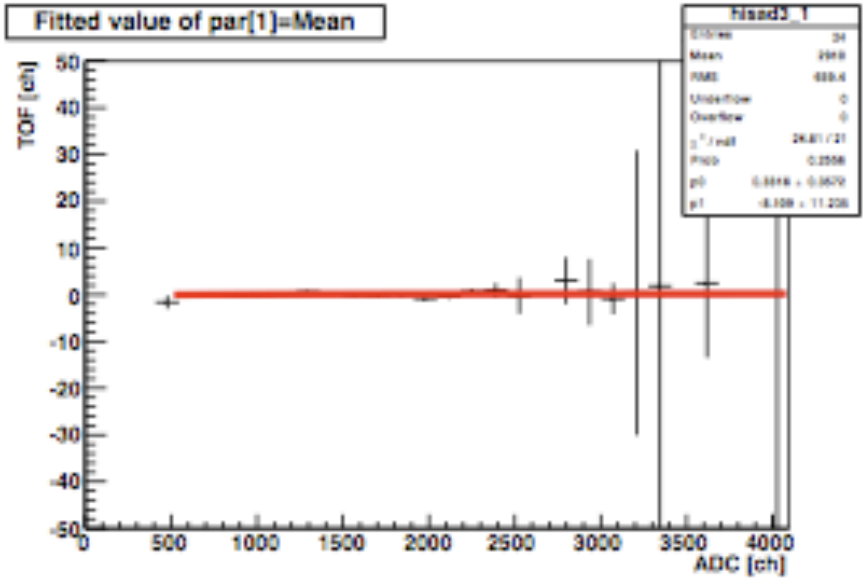
ADC vs TOF after slewing collection

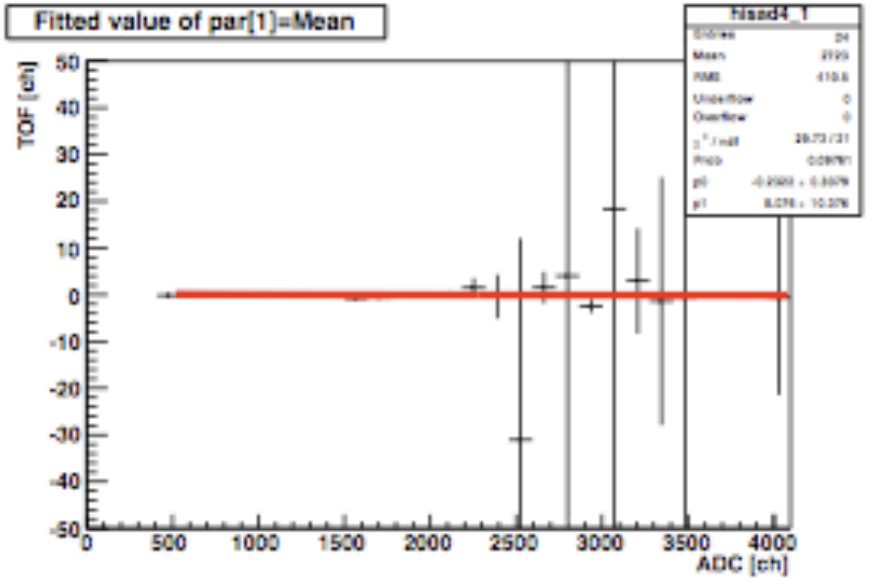


080813

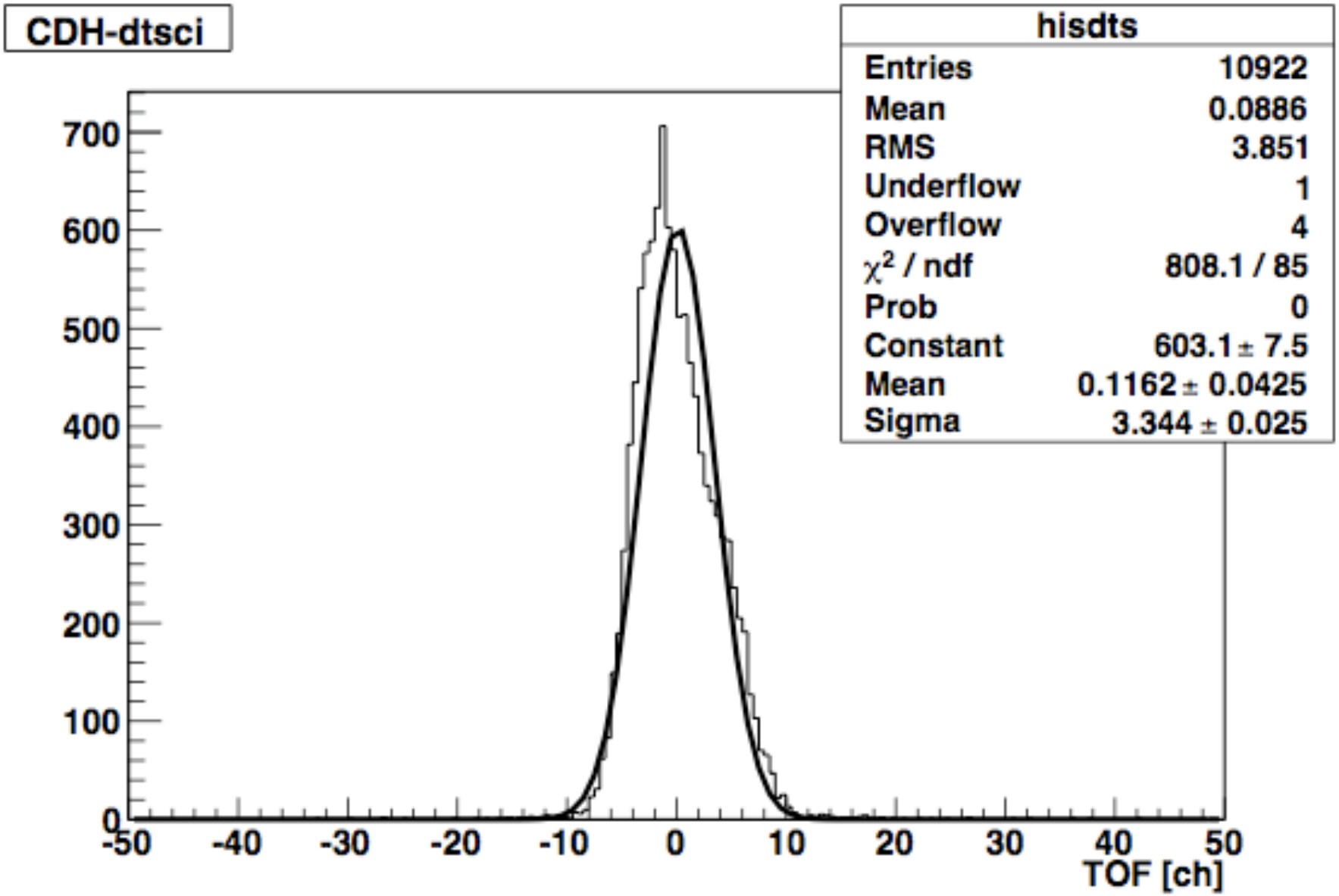

Fitted value of par[1]=Mean
hisad1_1
TOF [ch]
ADC [ch]


Fitted value of par[1]=Mean
hisad2_1
TOF [ch]
ADC [ch]

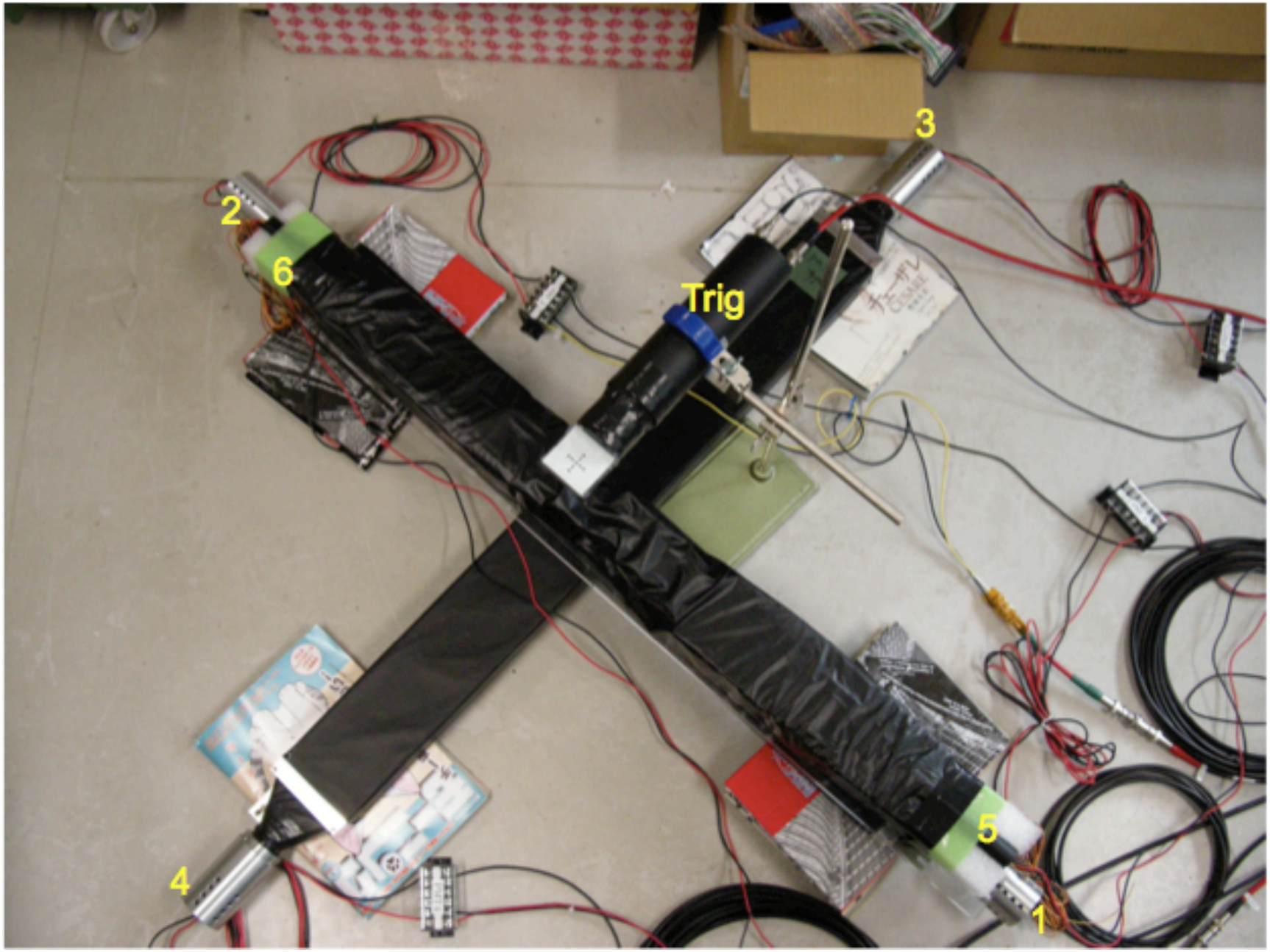

Fitted value of par[1]=Mean
hisad3_1
TOF [ch]
ADC [ch]

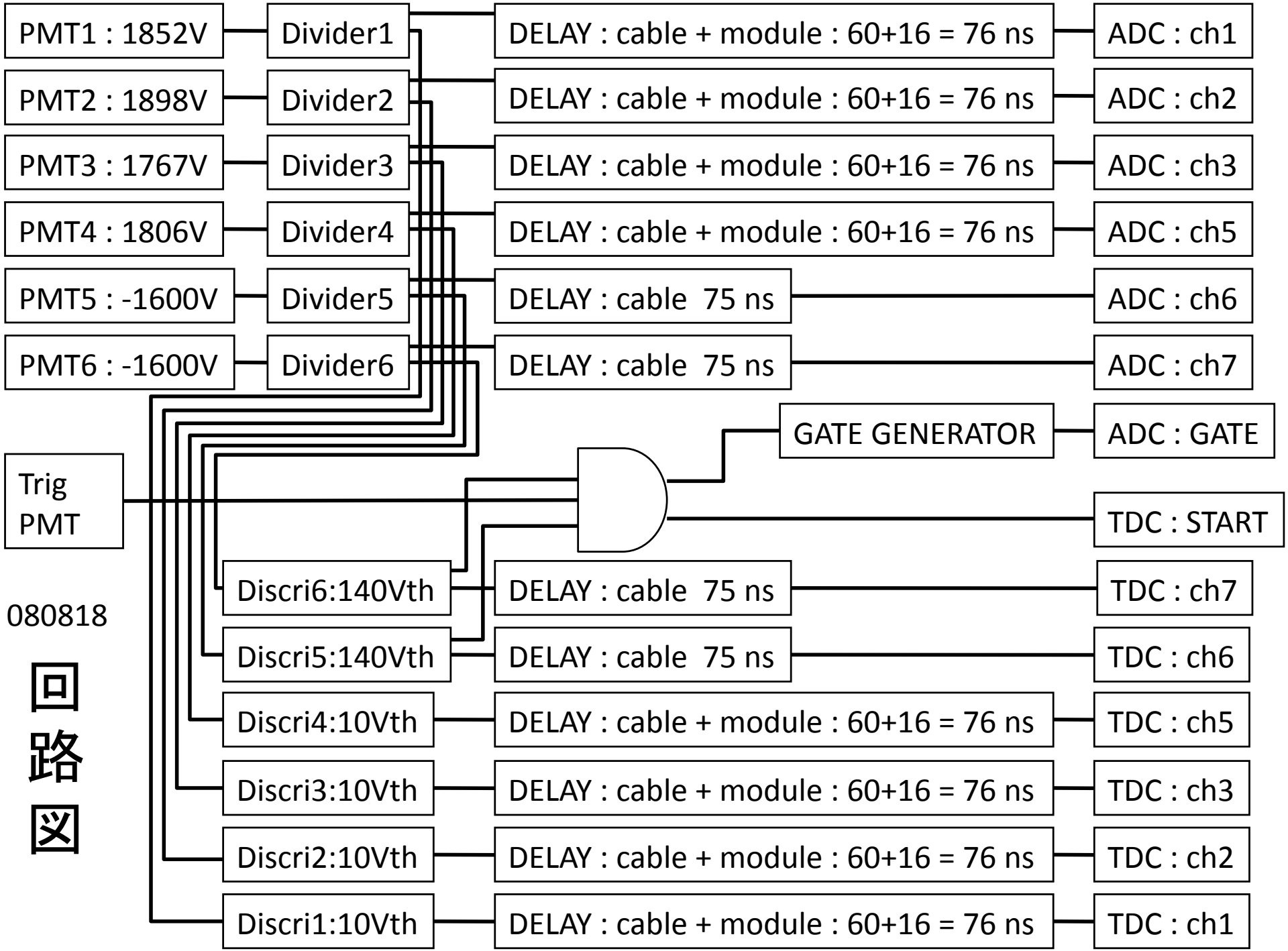

Fitted value of par[1]=Mean
hisad4_1
TOF [ch]
ADC [ch]

080813 TOF σ = 3.34[ch]*54[ps/ch]=180psec

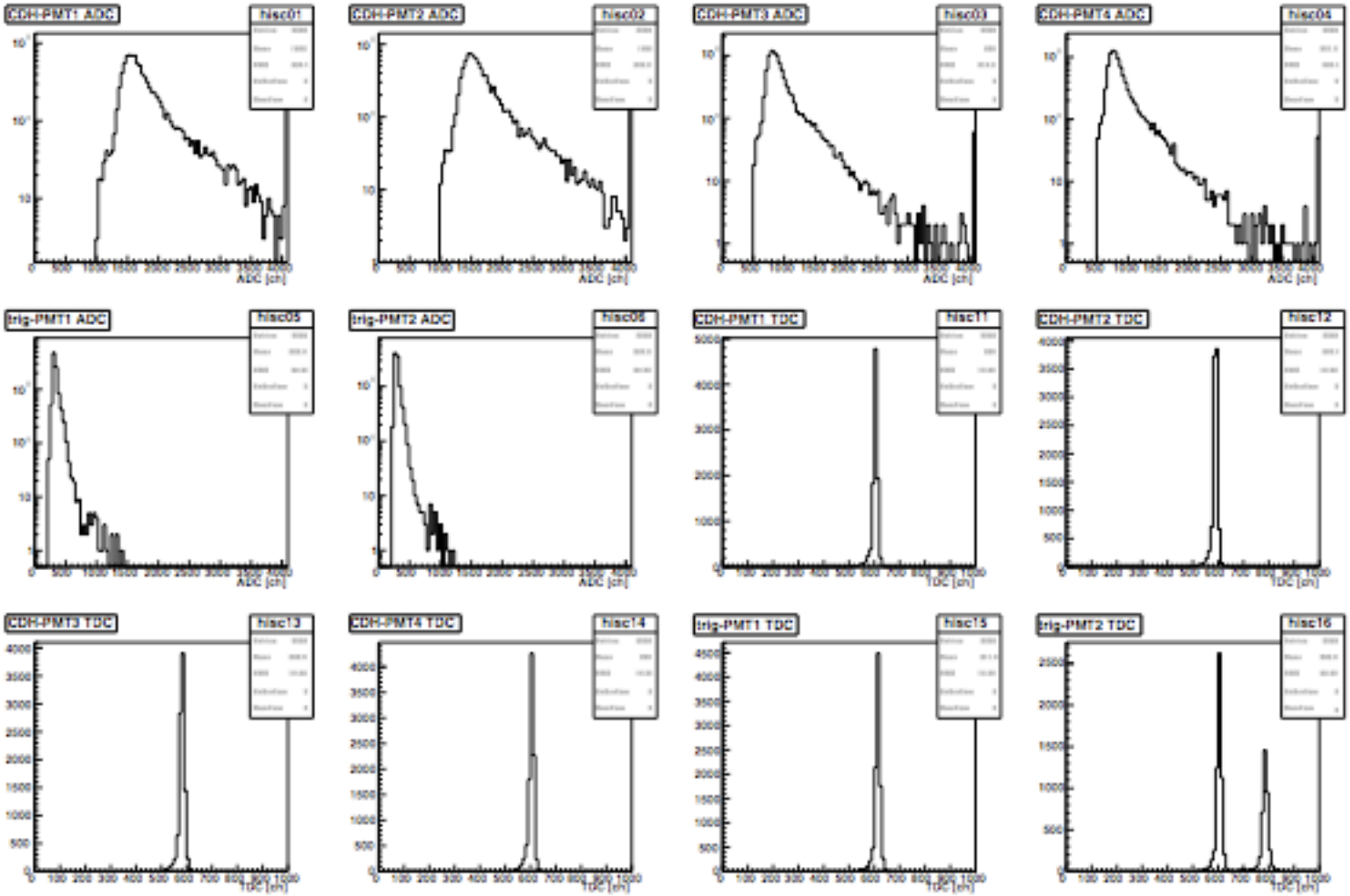


080818

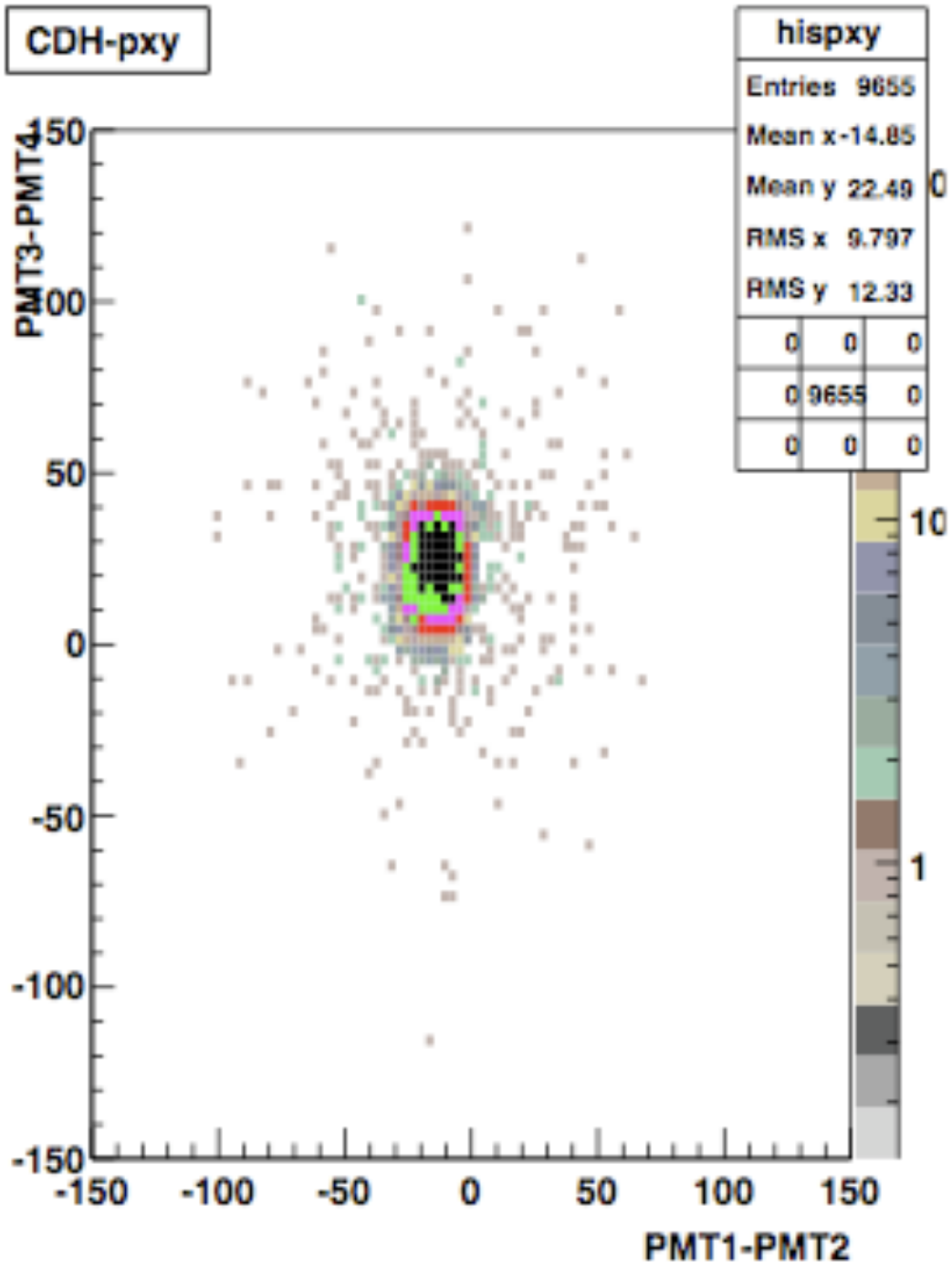



PMT1 : 1852V
PMT2 : 1898V
PMT3 : 1767V
PMT4 : 1806V
PMT5 : -1600V
PMT6 : -1600V
Divider1
Divider2
Divider3
Divider4
Divider5
Divider6
DELAY : cable + module : 60+16 = 76 ns
DELAY : cable + module : 60+16 = 76 ns
DELAY : cable + module : 60+16 = 76 ns
DELAY : cable + module : 60+16 = 76 ns
DELAY : cable 75 ns
DELAY : cable 75 ns
ADC : ch1
ADC : ch2
ADC : ch3
ADC : ch5
ADC : ch6
ADC : ch7
GATE GENERATOR
ADC : GATE
Trig PMT
TDC : START
Discri6:140Vth
Discri5:140Vth
Discri4:10Vth
Discri3:10Vth
Discri2:10Vth
Discri1:10Vth
DELAY : cable 75 ns
DELAY : cable 75 ns
DELAY : cable + module : 60+16 = 76 ns
DELAY : cable + module : 60+16 = 76 ns
DELAY : cable + module : 60+16 = 76 ns
DELAY : cable + module : 60+16 = 76 ns
TDC : ch7
TDC : ch6
TDC : ch5
TDC : ch3
TDC : ch2
TDC : ch1
080818
回路図

080818

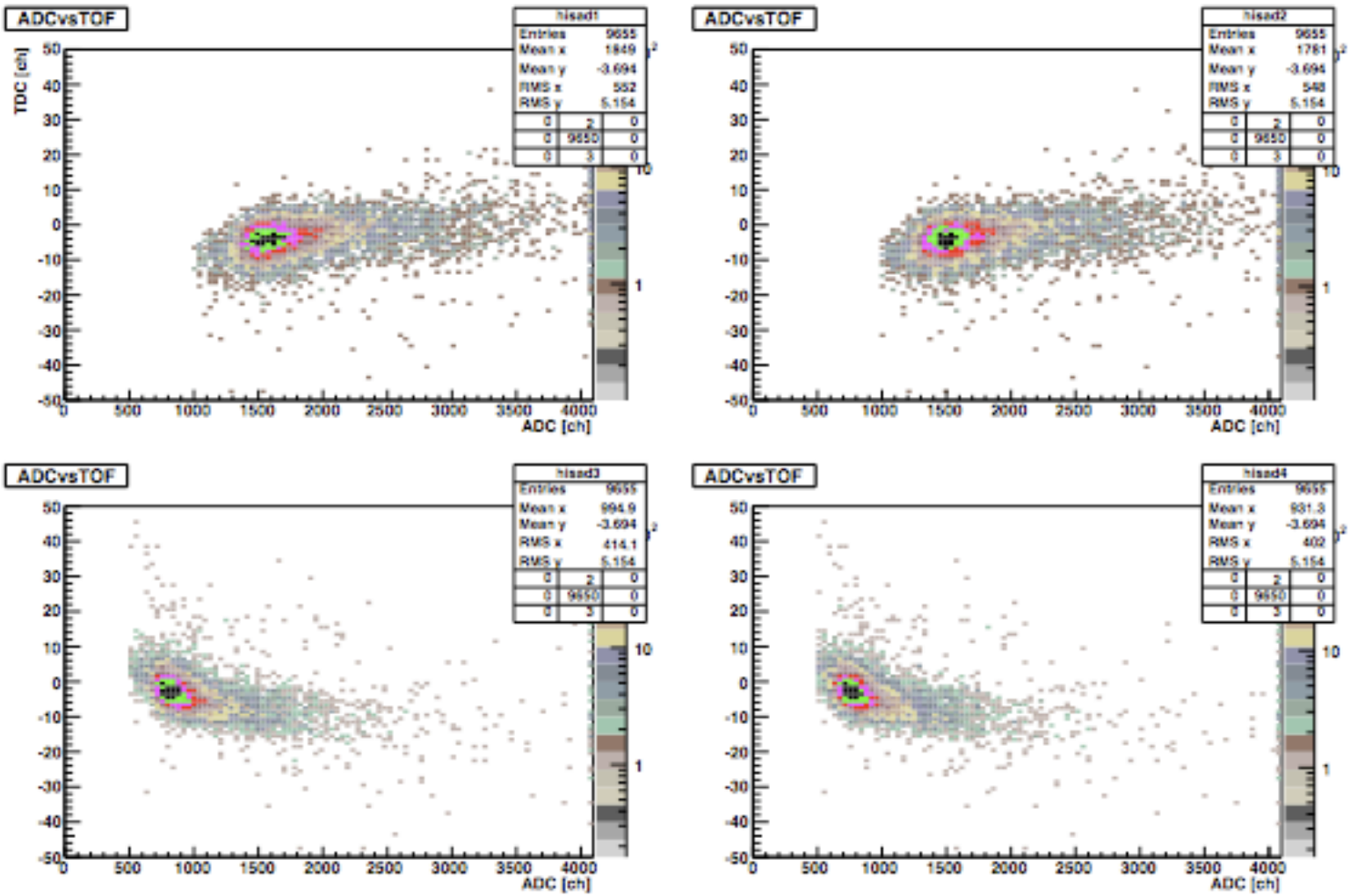

CDH-PMT1 ADC
hisc01
CDH-PMT2 ADC
hisc02
CDH-PMT3 ADC
hisc03
CDH-PMT4 ADC
hisc04
trig-PMT1 ADC
hisc05
trig-PMT2 ADC
hisc06
CDH-PMT1 TDC
hisc11
CDH-PMT2 TDC
hisc12
CDH-PMT3 TDC
hisc13
CDH-PMT4 TDC
hisc14
trig-PMT1 TDC
hisc15
trig-PMT2 TDC
hisc16
ADC [ch]
TDC [ch]

080818


CDH-pxy
hispxy
Entries 9655
Mean x -14.85
Mean y 22.49
RMS x 9.797
RMS y 12.33
0 0 0
0 9655 0
0 0 0
PMT3-PMT4
PMT1-PMT2
150
100
50
0
-50
-100
-150
-150 -100 -50 0 50 100 150
10
1

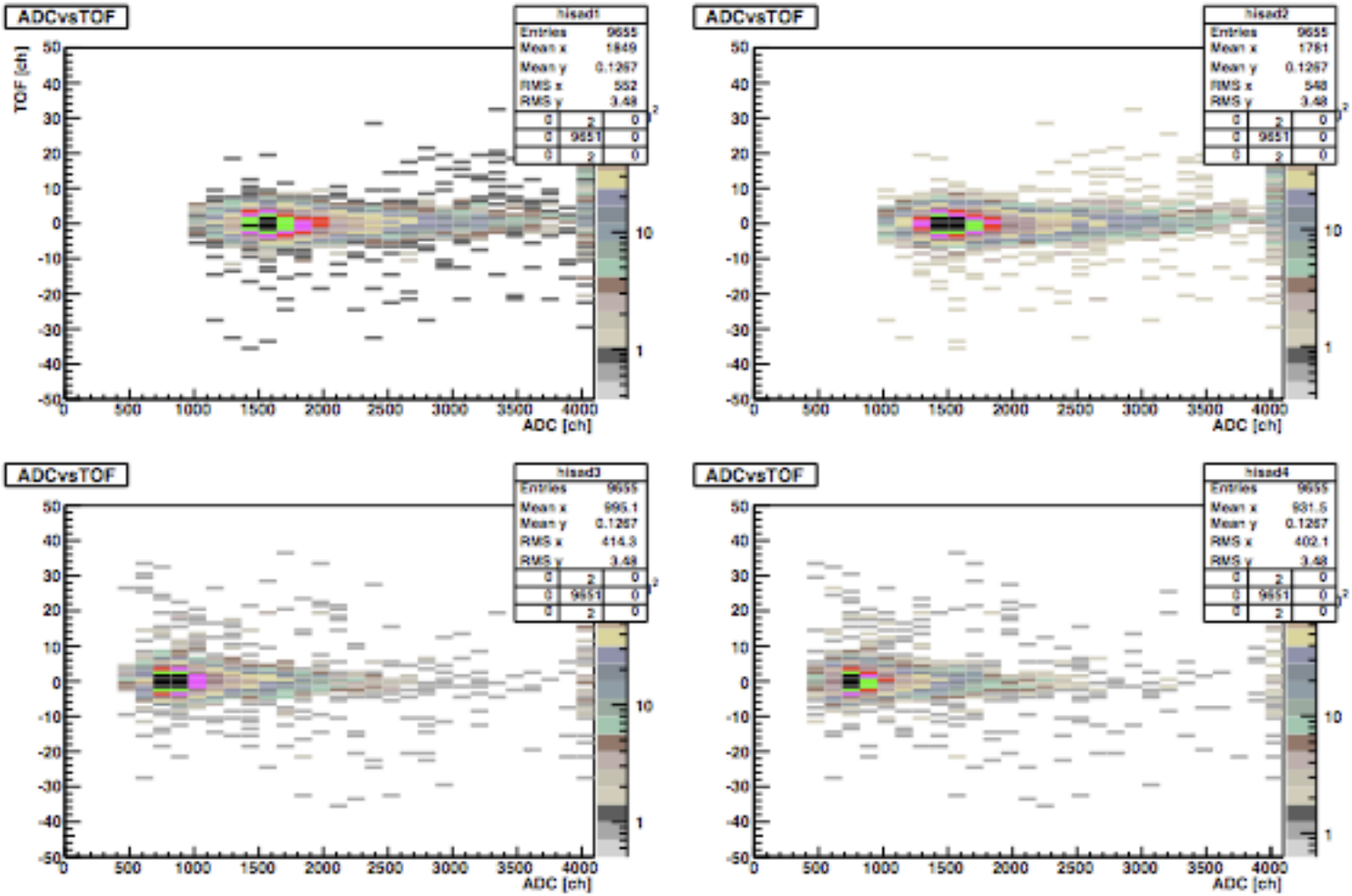
080818

ADC vs TOF before slewing collection

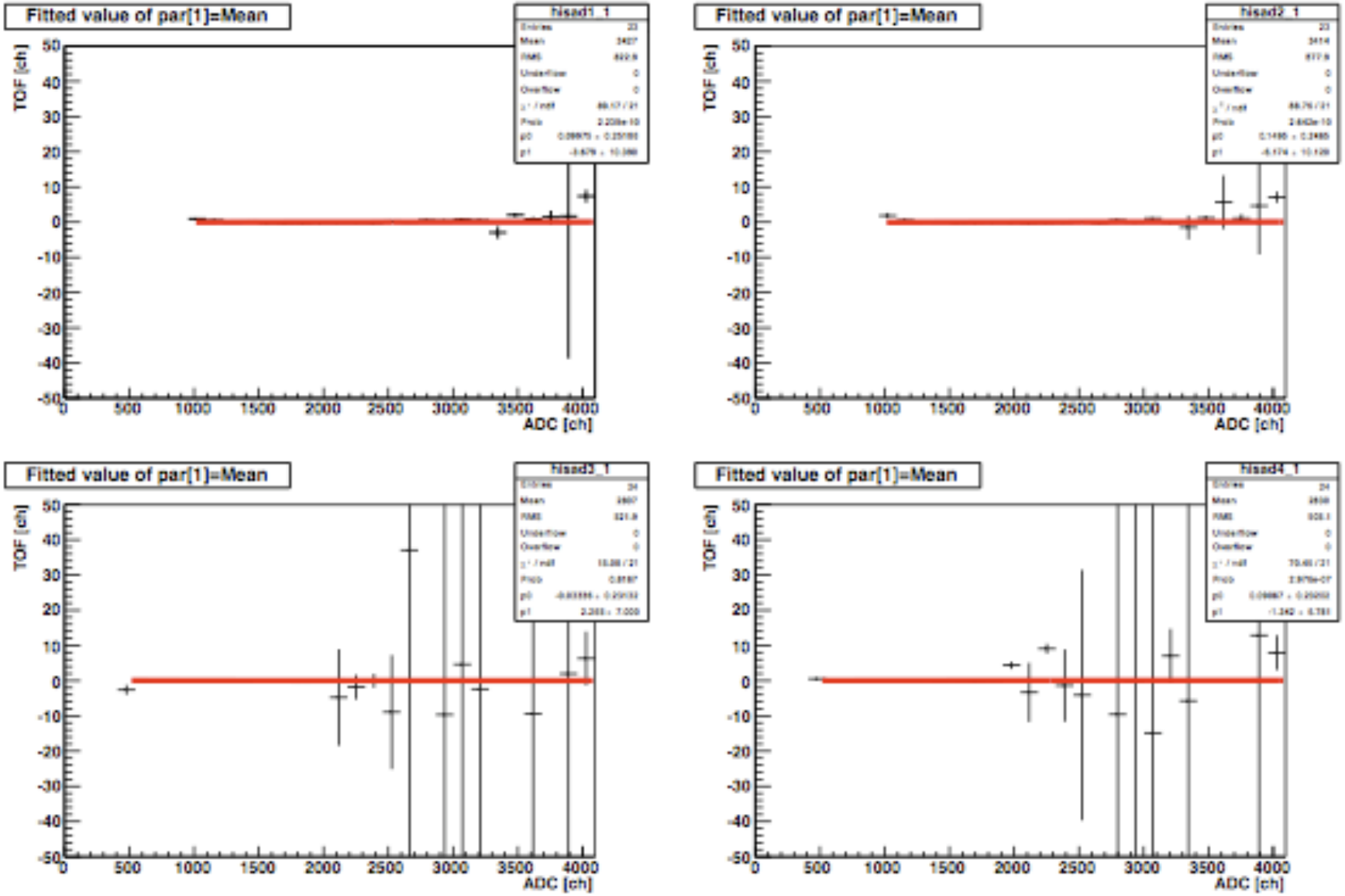


080818

ADC vs TOF after slewing collection

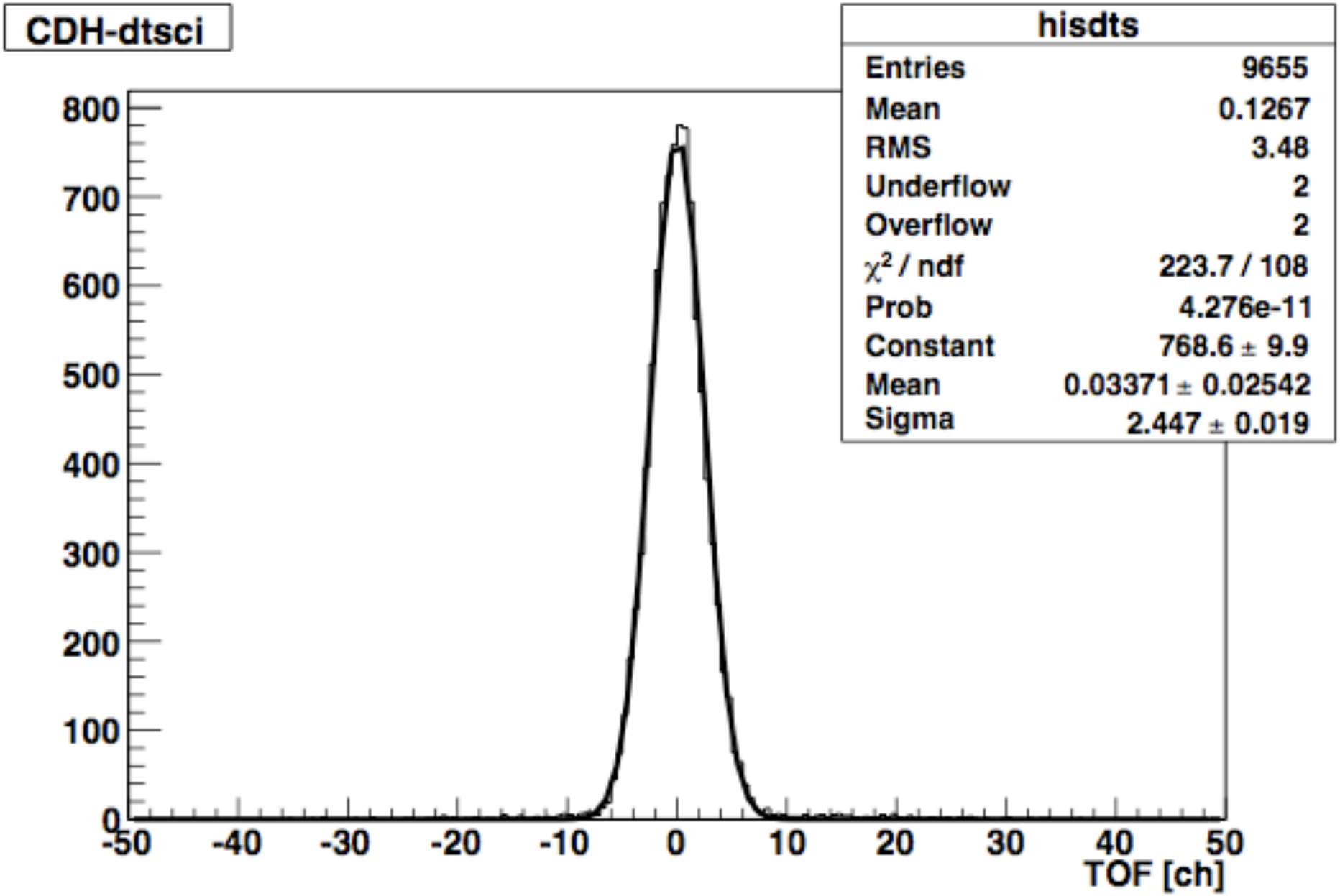


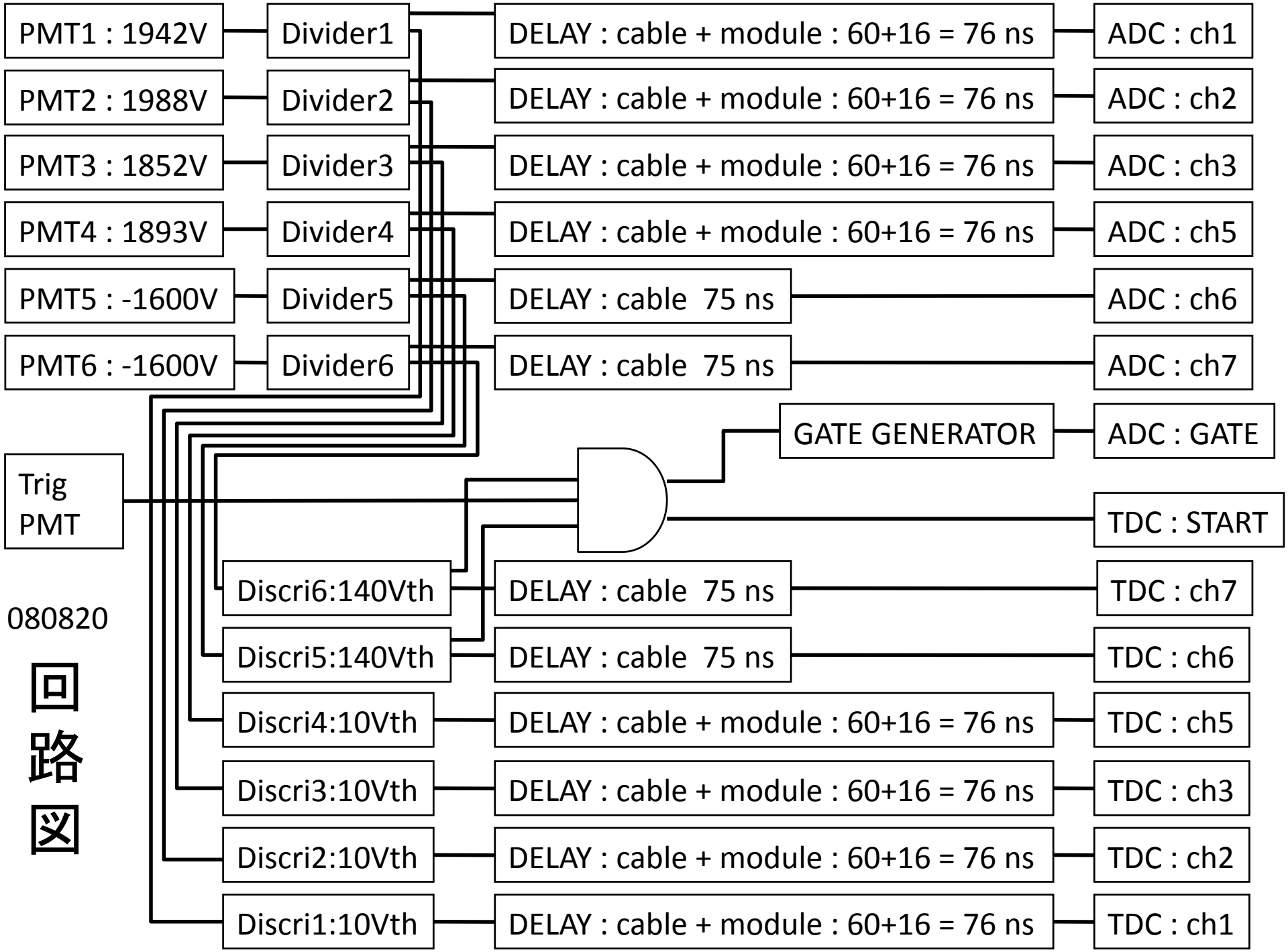
080820


Fitted value of par[1]=Mean
hsad1_1
TOF [ch]
ADC [ch]
Fitted value of par[1]=Mean
hsad2_1
TOF [ch]
ADC [ch]
Fitted value of par[1]=Mean
hsad3_1
TOF [ch]
ADC [ch]
Fitted value of par[1]=Mean
hsad4_1
TOF [ch]
ADC [ch]

080818

TOF σ = 2.45[ch]* 54[ps/ch]=132.3ps
σ = 93.6ps

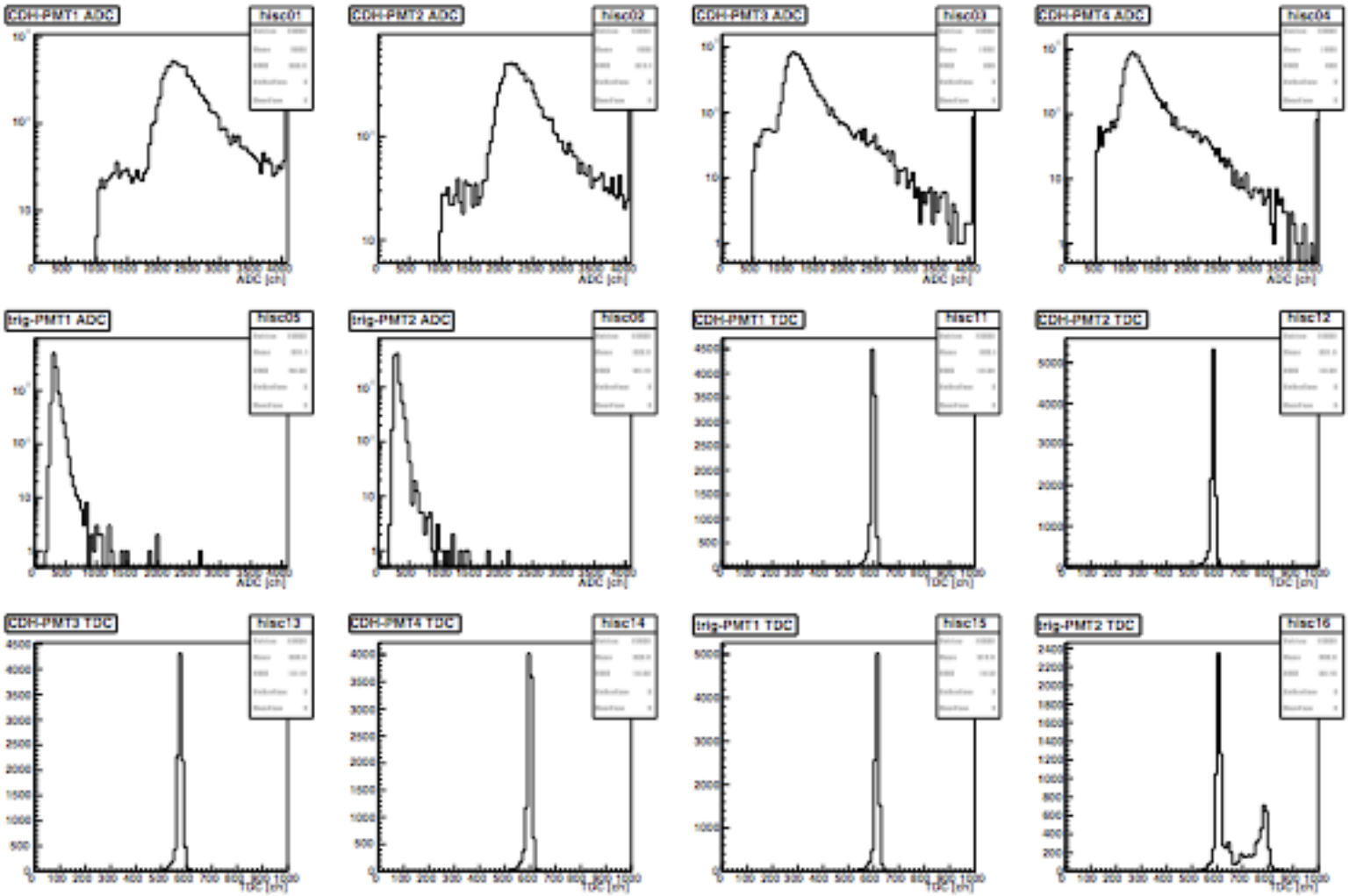



PMT1 : 1942V
PMT2 : 1988V
PMT3 : 1852V
PMT4 : 1893V
PMT5 : -1600V
PMT6 : -1600V
Divider1
Divider2
Divider3
Divider4
Divider5
Divider6
DELAY : cable + module : 60+16 = 76 ns
DELAY : cable + module : 60+16 = 76 ns
DELAY : cable + module : 60+16 = 76 ns
DELAY : cable + module : 60+16 = 76 ns
DELAY : cable 75 ns
DELAY : cable 75 ns
ADC : ch1
ADC : ch2
ADC : ch3
ADC : ch5
ADC : ch6
ADC : ch7
GATE GENERATOR
ADC : GATE
Trig PMT
TDC : START
Discri6:140Vth
Discri5:140Vth
Discri4:10Vth
Discri3:10Vth
Discri2:10Vth
Discri1:10Vth
DELAY : cable 75 ns
DELAY : cable 75 ns
DELAY : cable + module : 60+16 = 76 ns
DELAY : cable + module : 60+16 = 76 ns
DELAY : cable + module : 60+16 = 76 ns
DELAY : cable + module : 60+16 = 76 ns
TDC : ch7
TDC : ch6
TDC : ch5
TDC : ch3
TDC : ch2
TDC : ch1

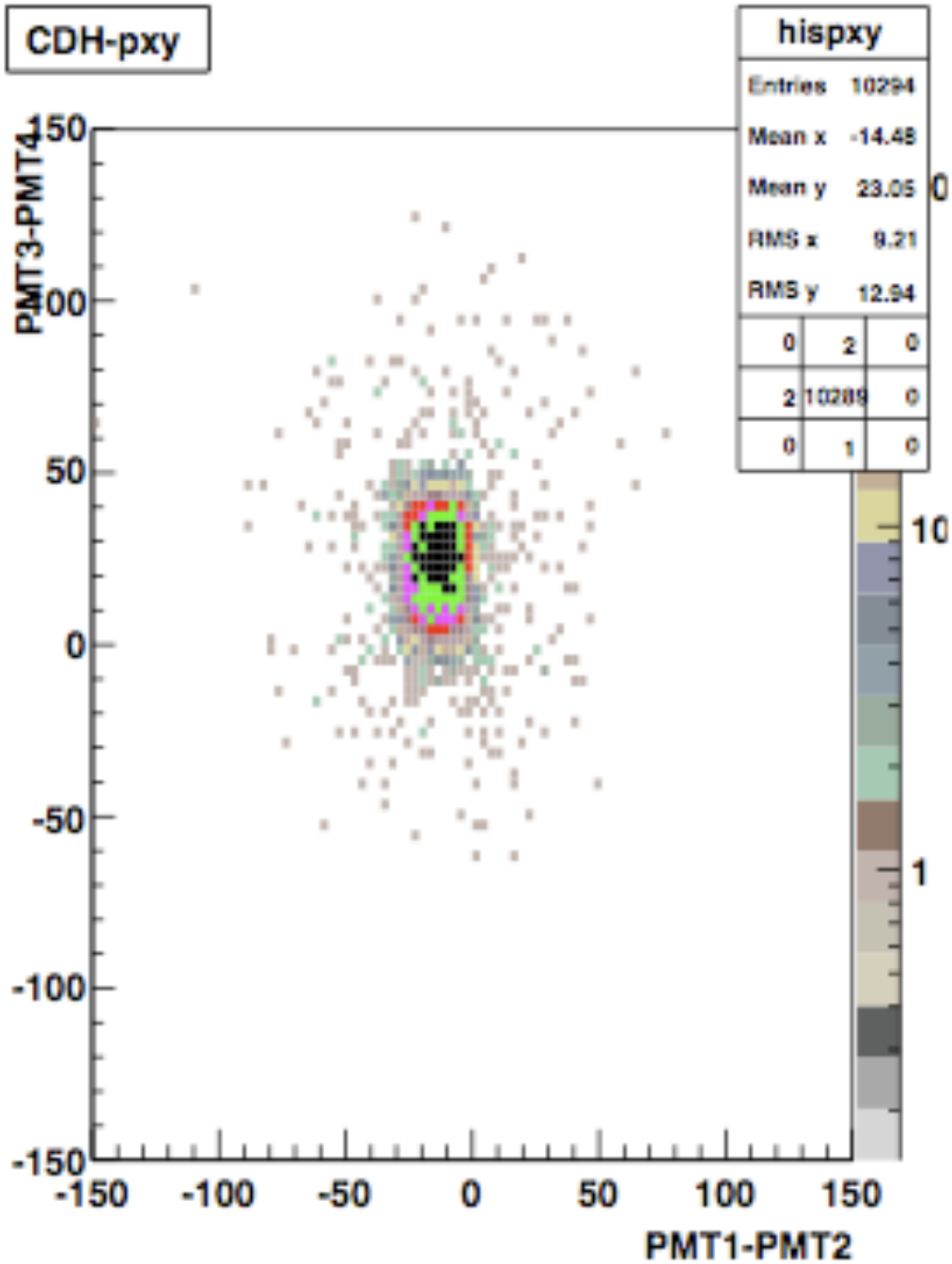
080820

回路図

080820

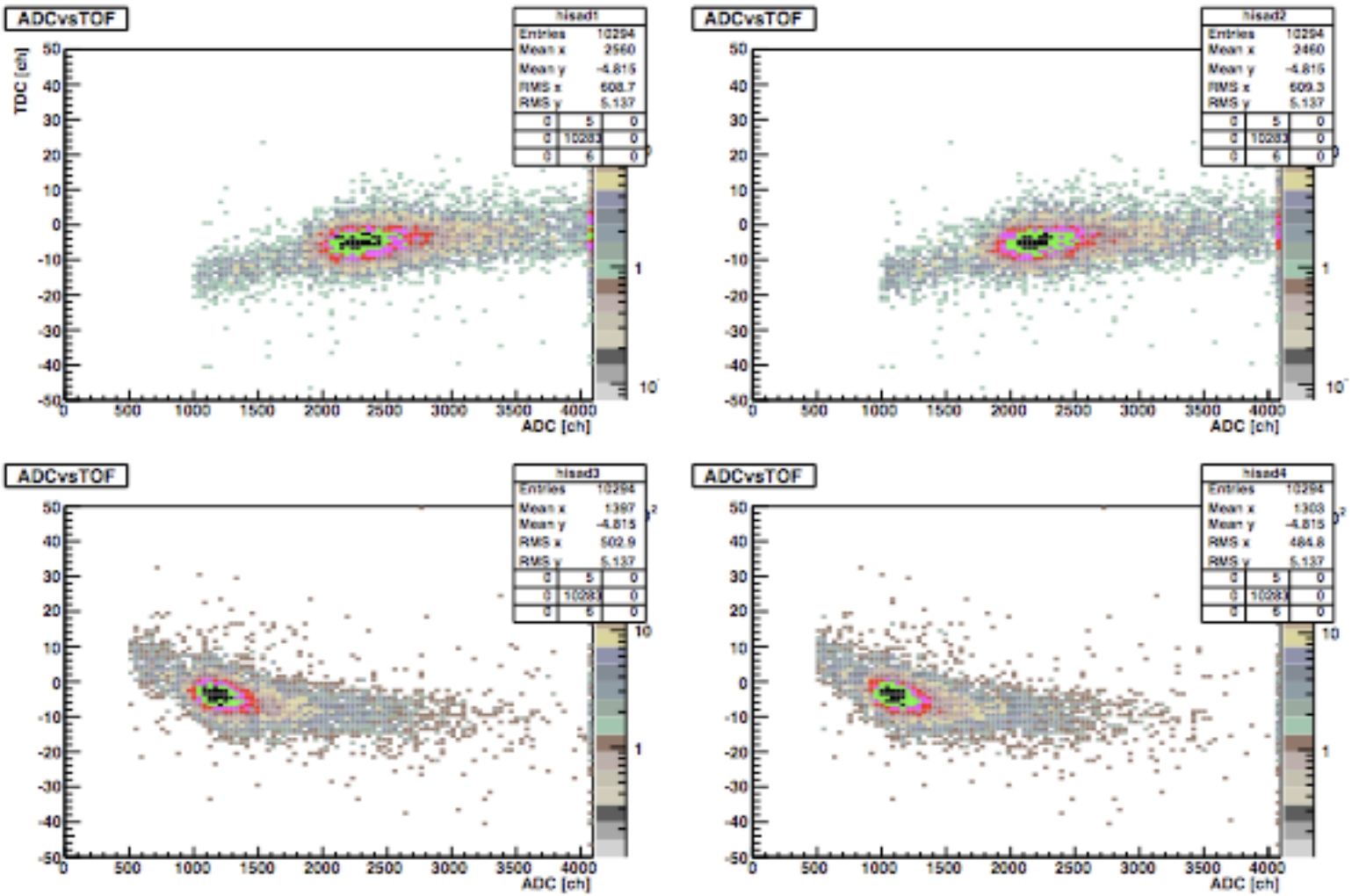

CDH-PMT1 ADC
hisc01
CDH-PMT2 ADC
hisc02
CDH-PMT3 ADC
hisc03
CDH-PMT4 ADC
hisc04
trig-PMT1 ADC
hisc05
trig-PMT2 ADC
hisc06
CDH-PMT1 TDC
hisc11
CDH-PMT2 TDC
hisc12
CDH-PMT3 TDC
hisc13
CDH-PMT4 TDC
hisc14
trig-PMT1 TDC
hisc15
trig-PMT2 TDC
hisc16
ADC [ch]
TDC [ch]

080820


CDH-pxy
hispxy
Entries 10294
Mean x -14.48
Mean y 23.05
RMS x 9.21
RMS y 12.94
0 2 0
2 10289 0
0 1 0
PMT3-PMT4
PMT1-PMT2
150
100
50
0
-50
-100
-150
-150 -100 -50 0 50 100 150
10
1

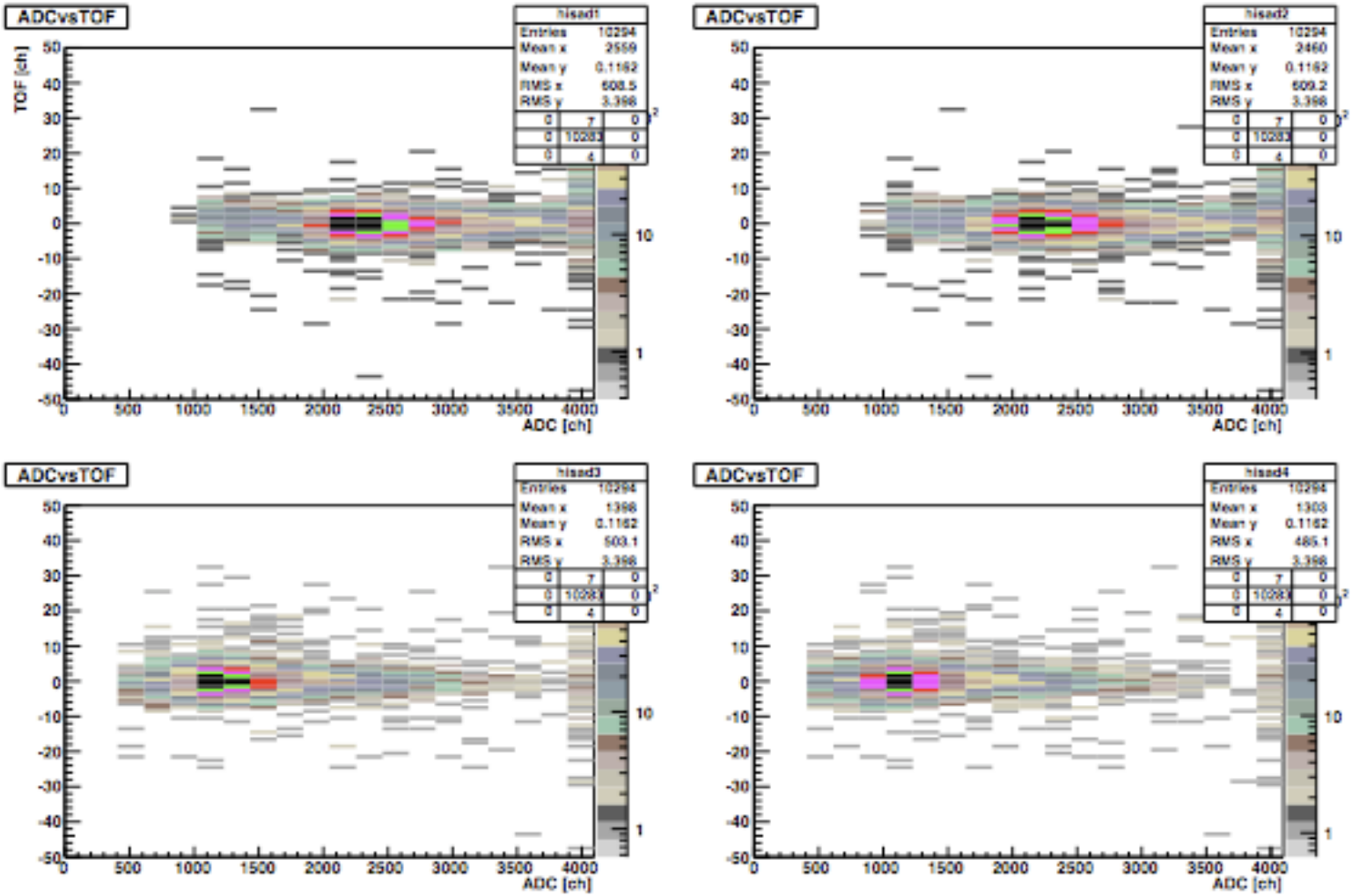
080820

ADC vs TOF before slewing collection

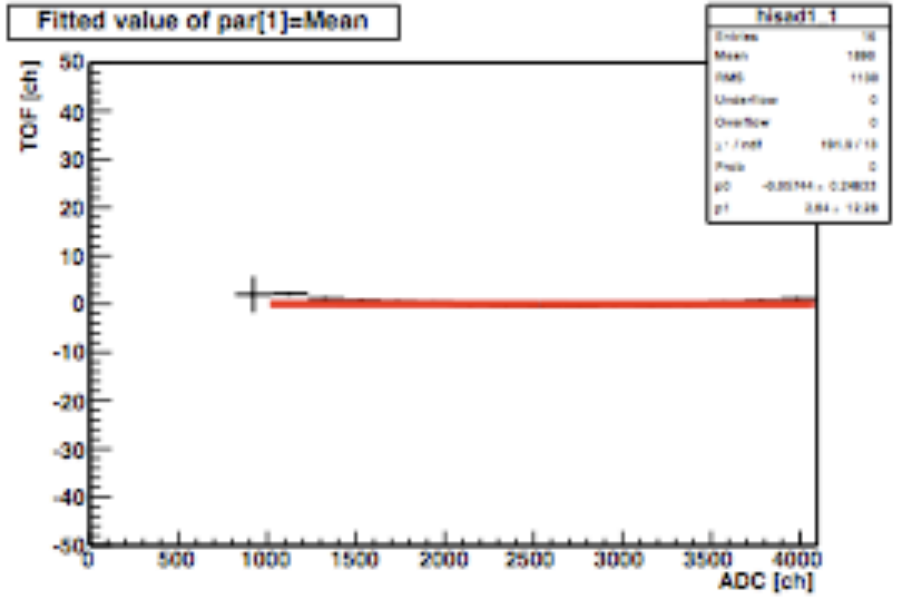


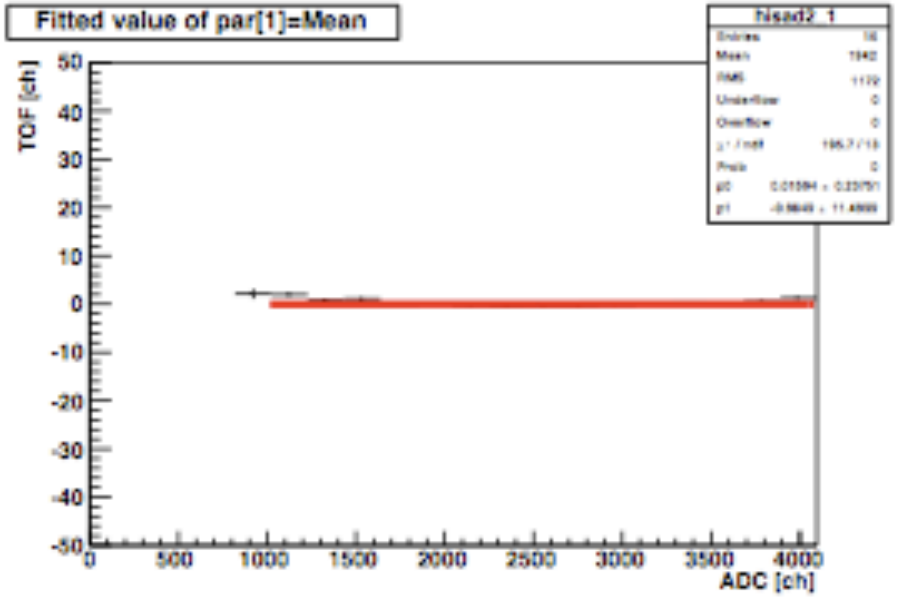
080820

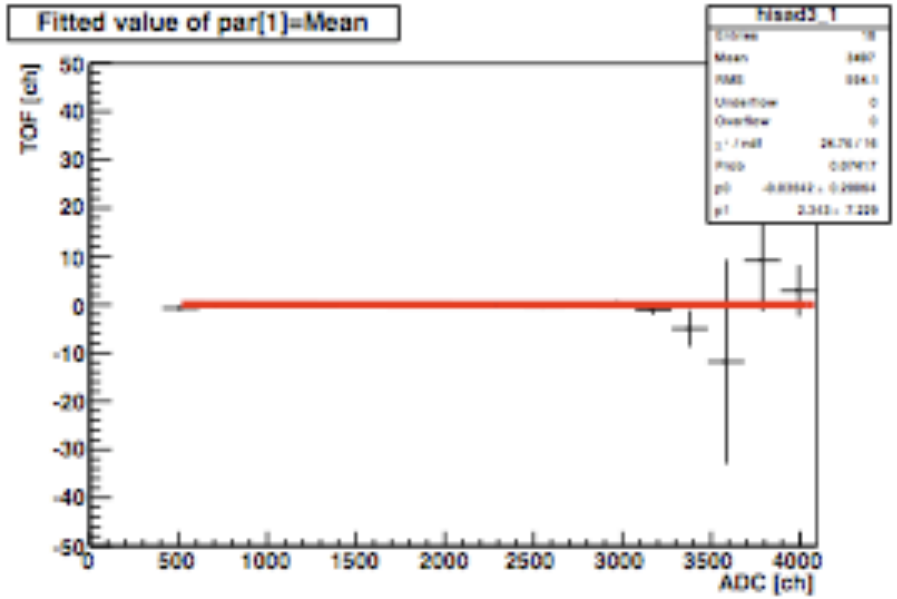
ADC vs TOF after slewing collection

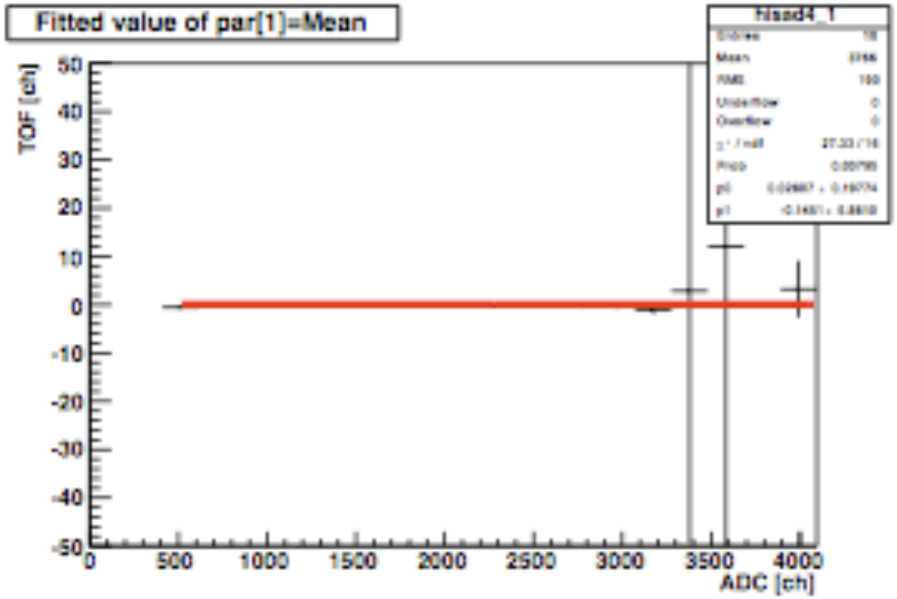


080820


Fitted value of par[1]=Mean
hisad1_1
TOF [ch]
ADC [ch]


Fitted value of par[1]=Mean
hisad2_1
TOF [ch]
ADC [ch]

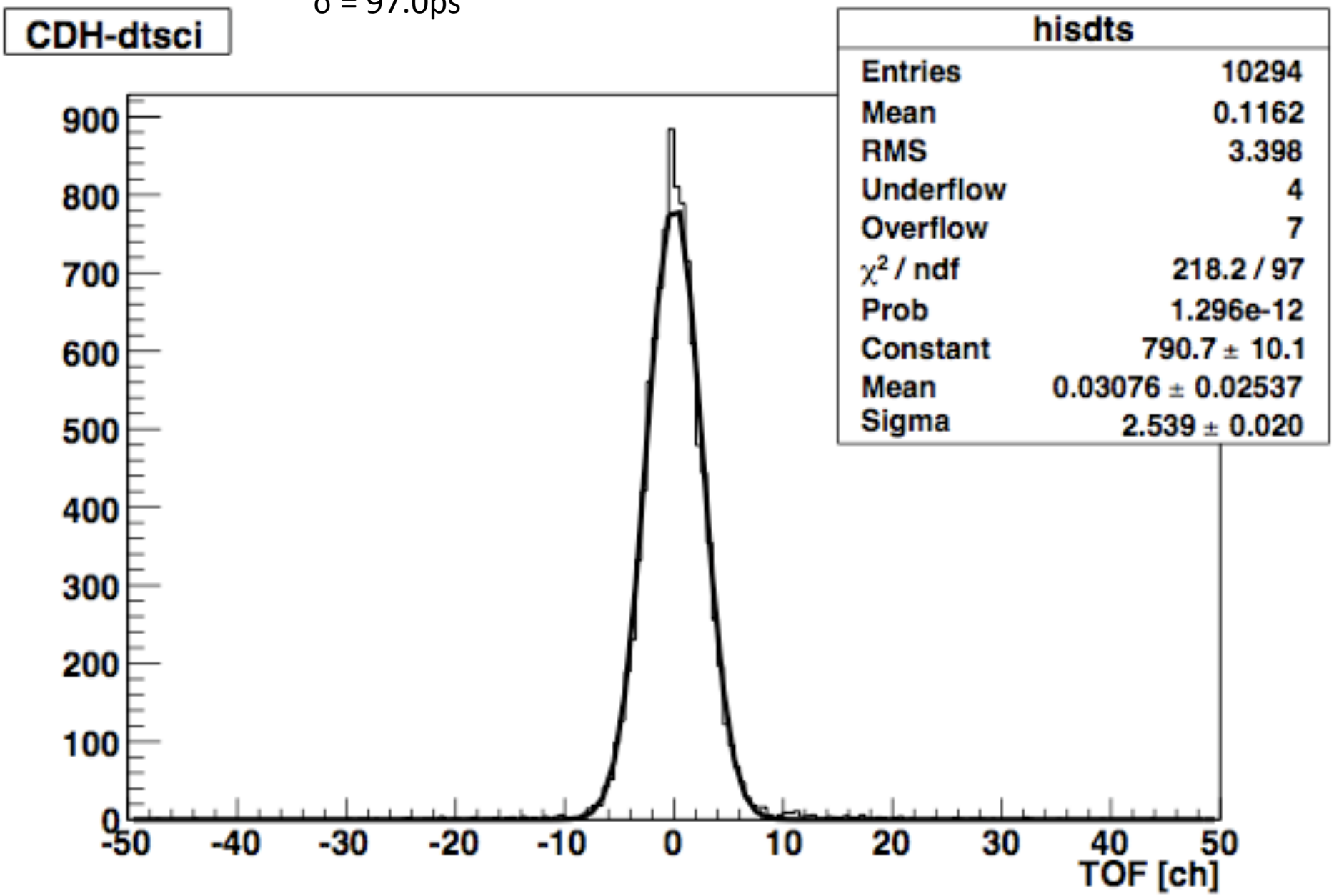

Fitted value of par[1]=Mean
hisad3_1
TOF [ch]
ADC [ch]


Fitted value of par[1]=Mean
hisad4_1
TOF [ch]
ADC [ch]

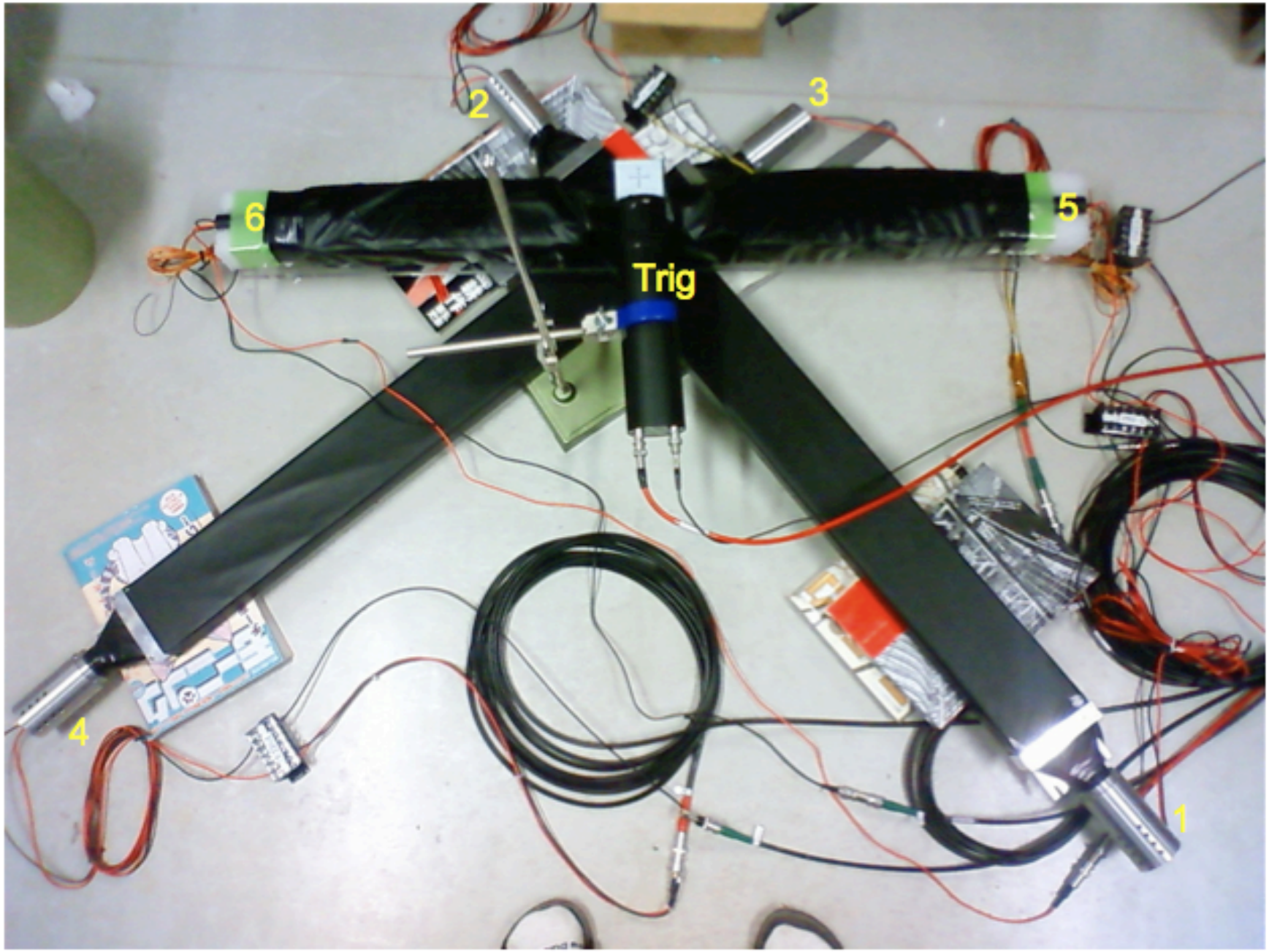
080820

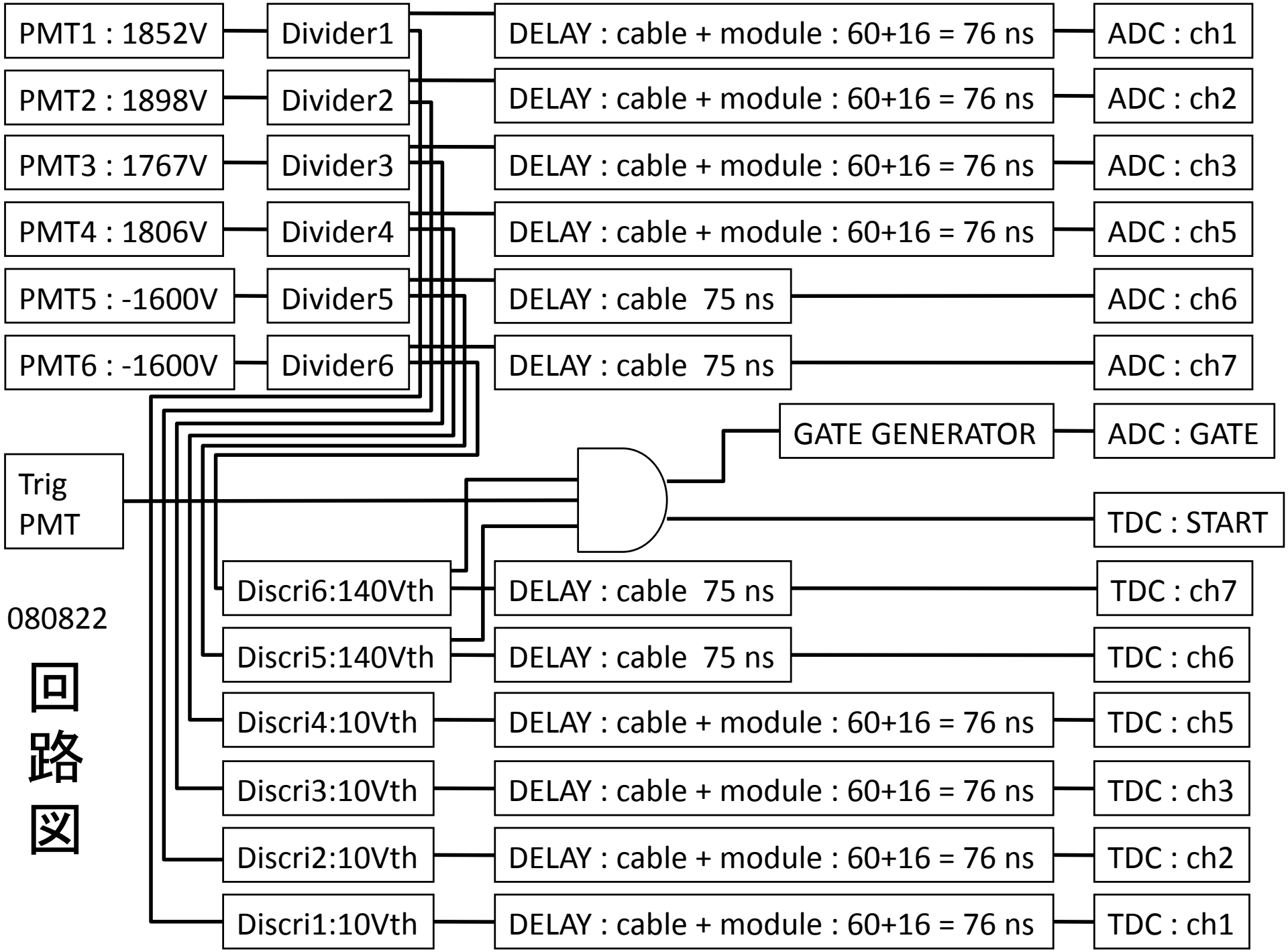
TOF σ = 2.54[ch]* 54[ps/ch]=137.2ps

σ = 97.0ps

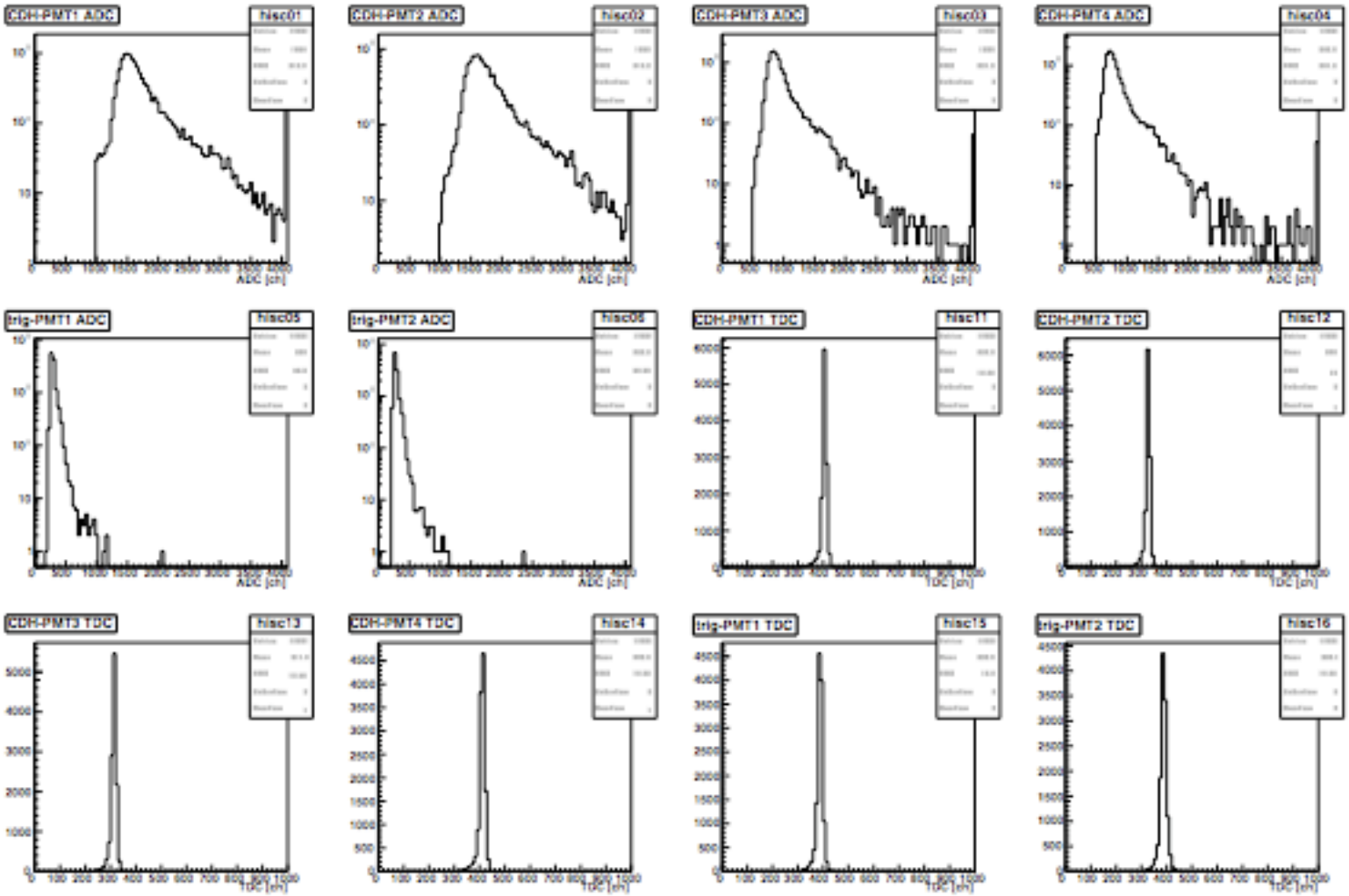


080822

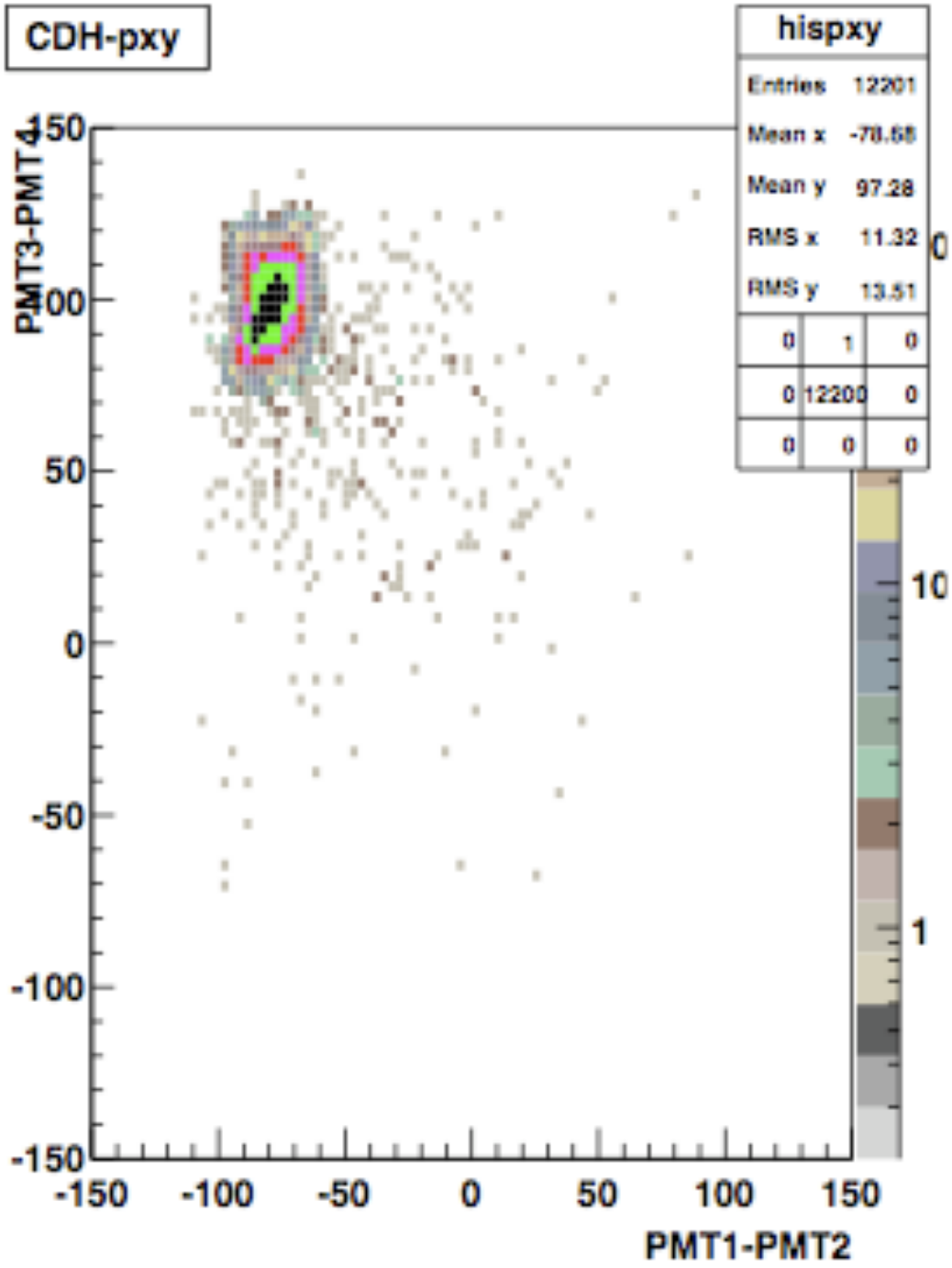



PMT1 : 1852V
PMT2 : 1898V
PMT3 : 1767V
PMT4 : 1806V
PMT5 : -1600V
PMT6 : -1600V
Divider1
Divider2
Divider3
Divider4
Divider5
Divider6
DELAY : cable + module : 60+16 = 76 ns
DELAY : cable + module : 60+16 = 76 ns
DELAY : cable + module : 60+16 = 76 ns
DELAY : cable + module : 60+16 = 76 ns
DELAY : cable 75 ns
DELAY : cable 75 ns
ADC : ch1
ADC : ch2
ADC : ch3
ADC : ch5
ADC : ch6
ADC : ch7
GATE GENERATOR
ADC : GATE
Trig PMT
TDC : START
Discri6:140Vth
Discri5:140Vth
Discri4:10Vth
Discri3:10Vth
Discri2:10Vth
Discri1:10Vth
DELAY : cable 75 ns
DELAY : cable 75 ns
DELAY : cable + module : 60+16 = 76 ns
DELAY : cable + module : 60+16 = 76 ns
DELAY : cable + module : 60+16 = 76 ns
DELAY : cable + module : 60+16 = 76 ns
TDC : ch7
TDC : ch6
TDC : ch5
TDC : ch3
TDC : ch2
TDC : ch1
080822
回路図

080822

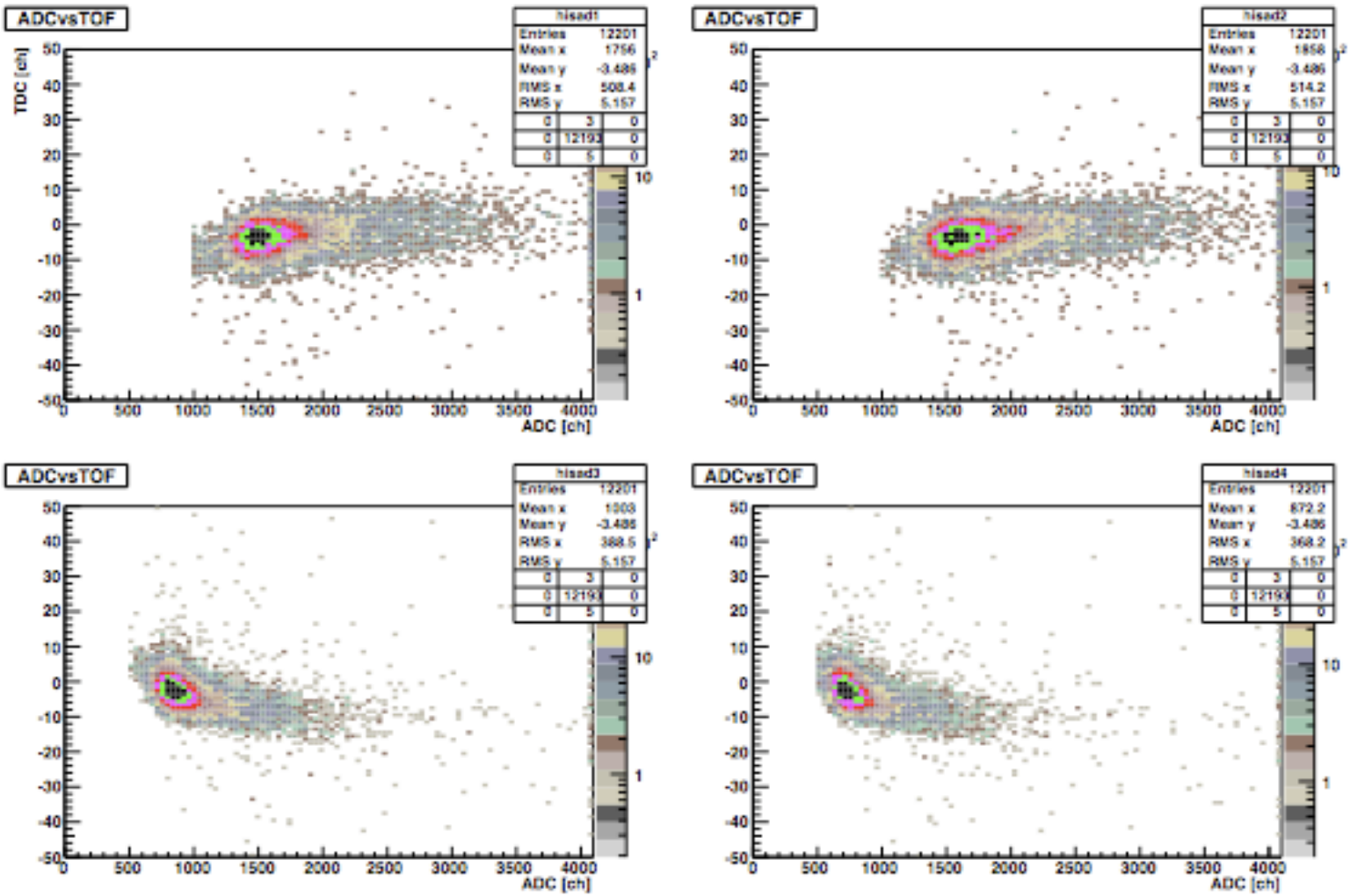

CDH-PMT1 ADC
hisc01
CDH-PMT2 ADC
hisc02
CDH-PMT3 ADC
hisc03
CDH-PMT4 ADC
hisc04
trig-PMT1 ADC
hisc05
trig-PMT2 ADC
hisc06
CDH-PMT1 TDC
hisc11
CDH-PMT2 TDC
hisc12
CDH-PMT3 TDC
hisc13
CDH-PMT4 TDC
hisc14
trig-PMT1 TDC
hisc15
trig-PMT2 TDC
hisc16
ADC [ch]
TDC [ch]

080822


CDH-pxy
hispxy
Entries 12201
Mean x -78.68
Mean y 97.28
RMS x 11.32
RMS y 13.51
0 1 0
0 12200 0
0 0 0
PMT3-PMT4
PMT1-PMT2
150
100
50
0
-50
-100
-150
-150 -100 -50 0 50 100 150
10
1

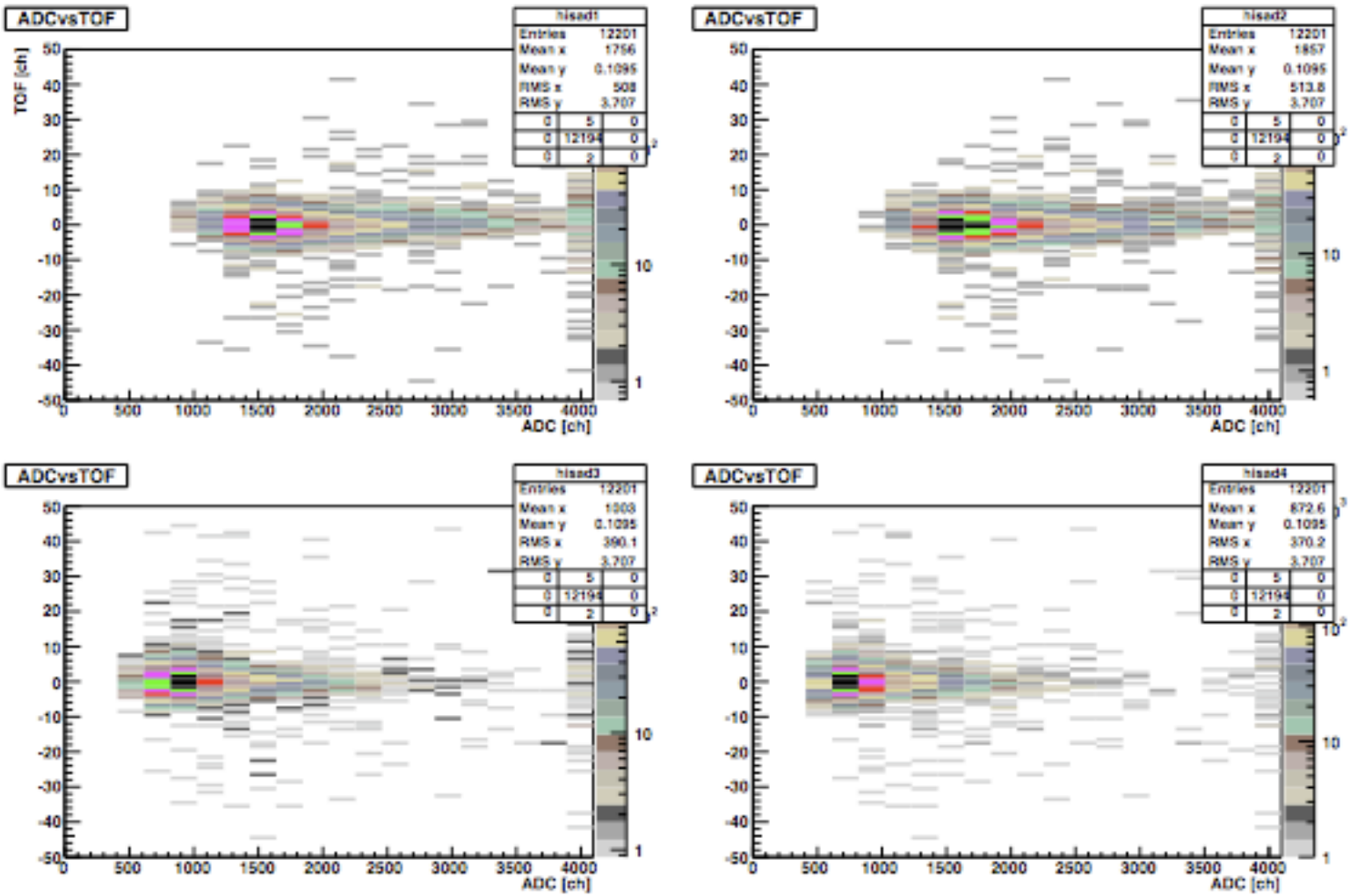
080822

ADC vs TOF before slewing collection

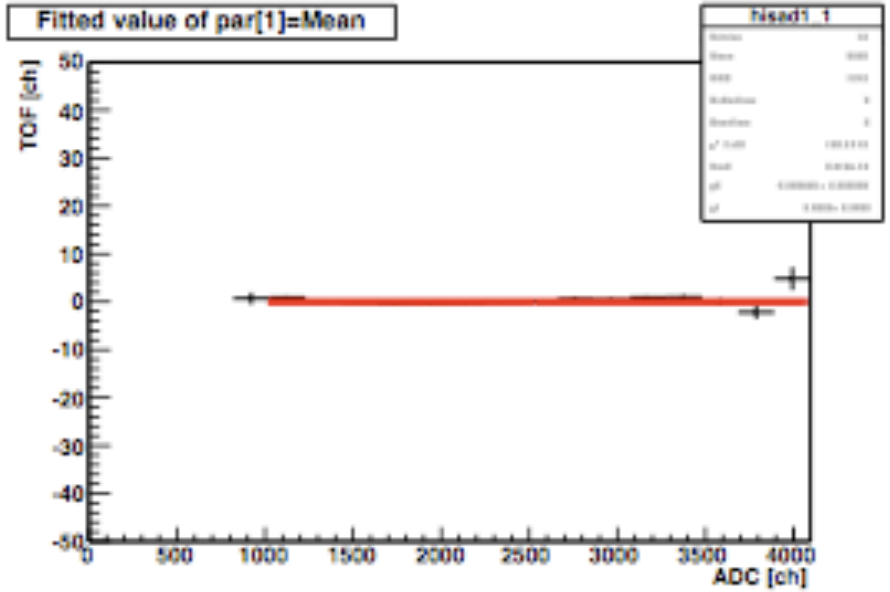


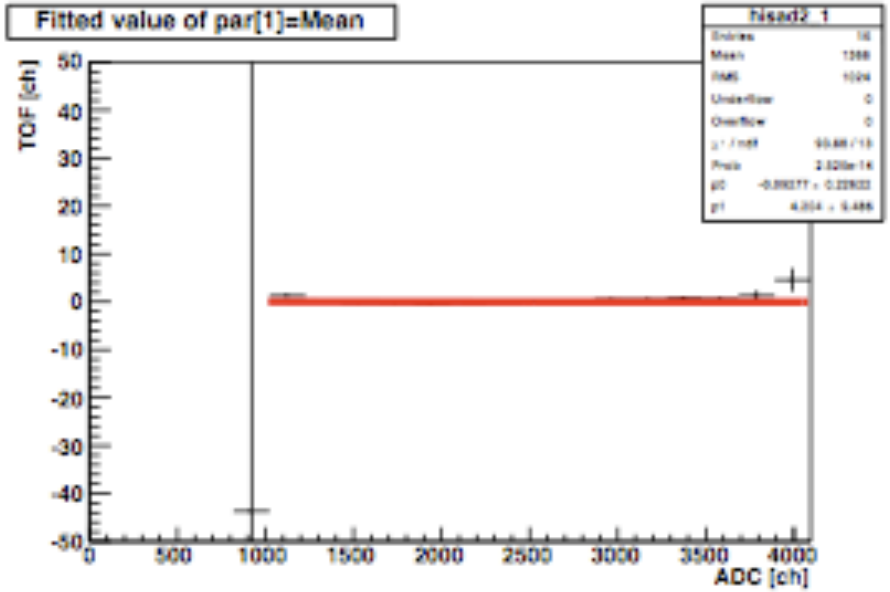
080822

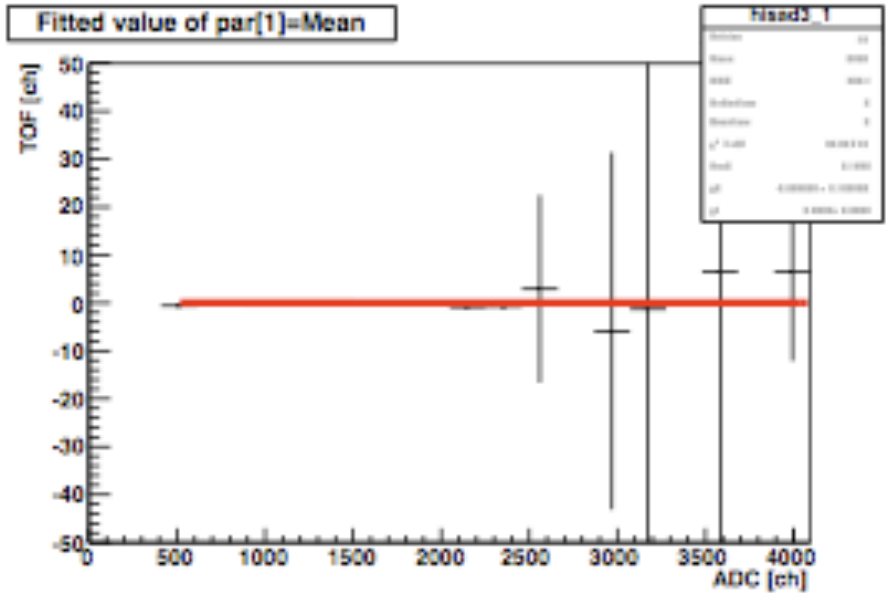
ADC vs TOF after slewing collection

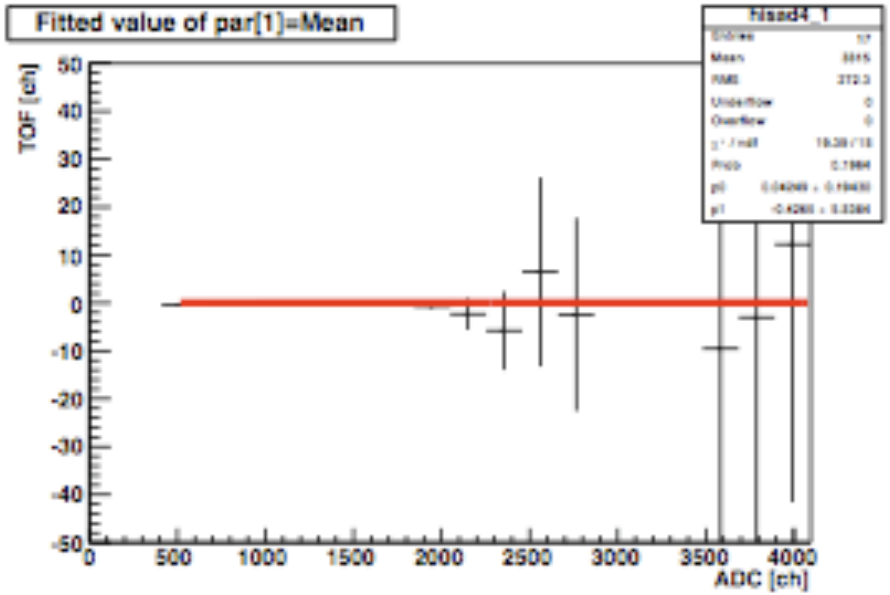


080822

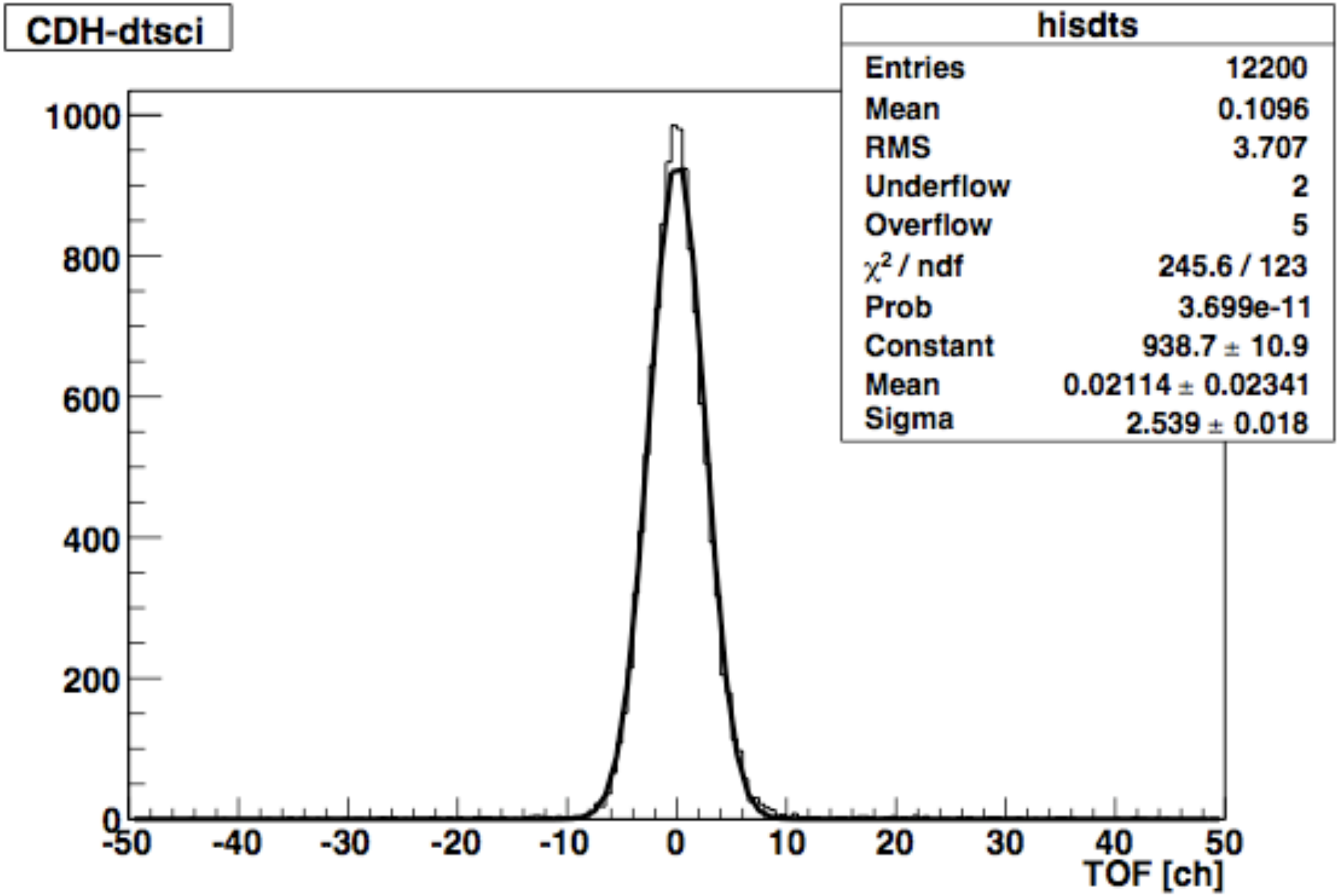

Fitted value of par[1]=Mean
hsad1_1
TOF [ch]
ADC [ch]


Fitted value of par[1]=Mean
hsad2_1
TOF [ch]
ADC [ch]


Fitted value of par[1]=Mean
hsad3_1
TOF [ch]
ADC [ch]


Fitted value of par[1]=Mean
hsad4_1
TOF [ch]
ADC [ch]

080822

TOF σ = 2.54[ch]* 54[ps/ch]=137.9ps

σ = 97.5ps