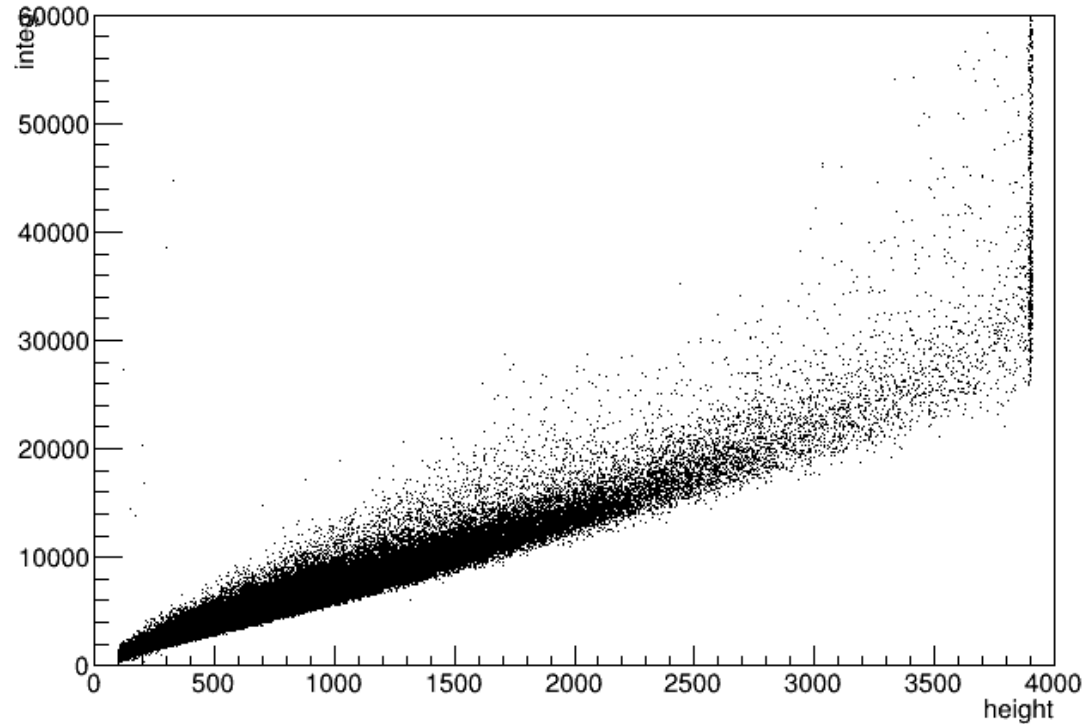




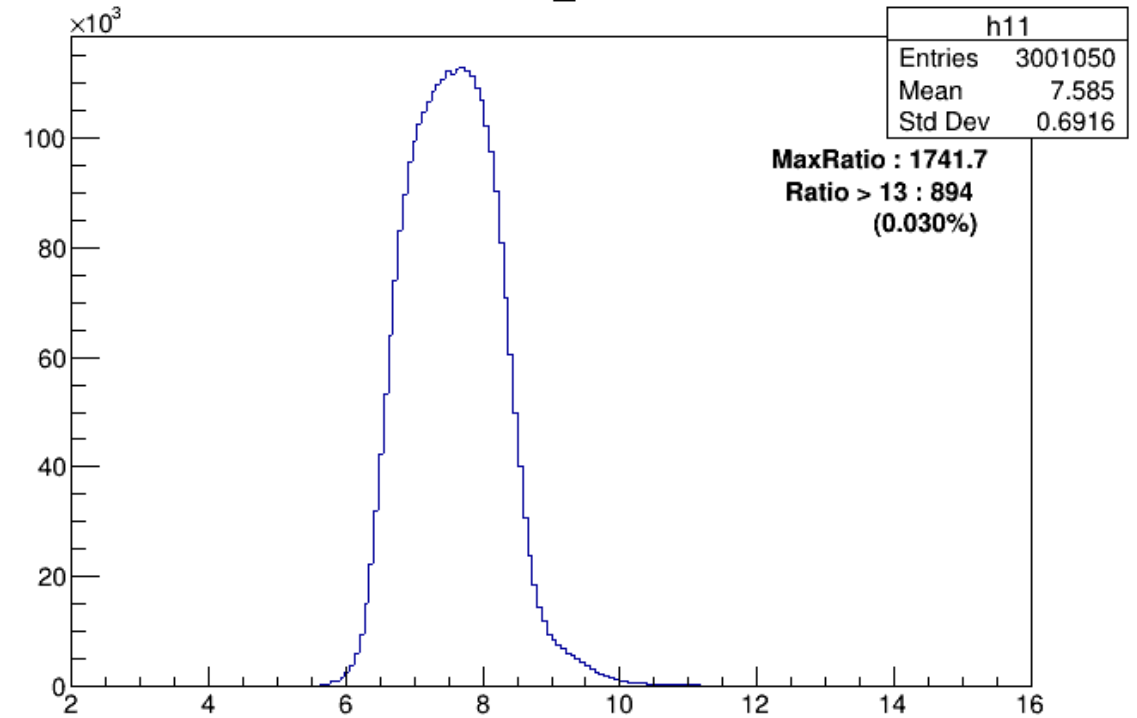
190311

BYUNGCHAN LEE

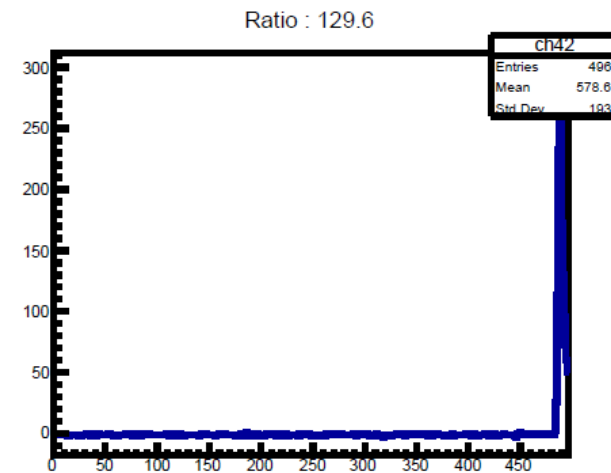
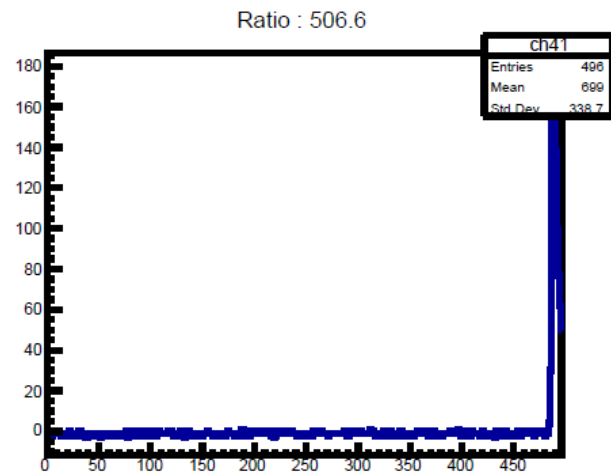
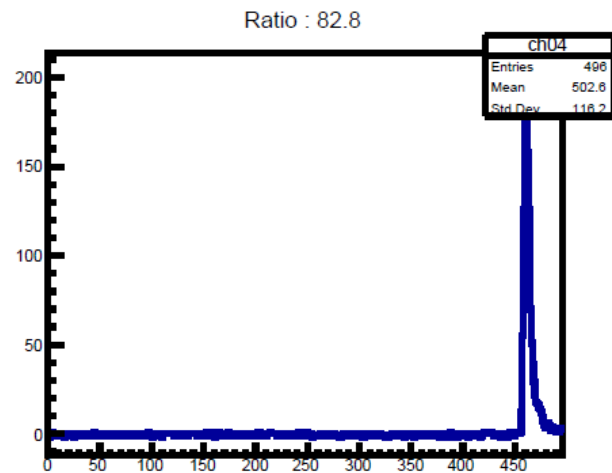
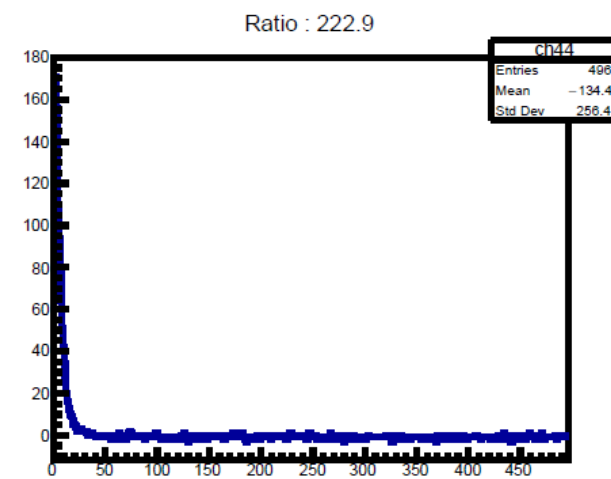
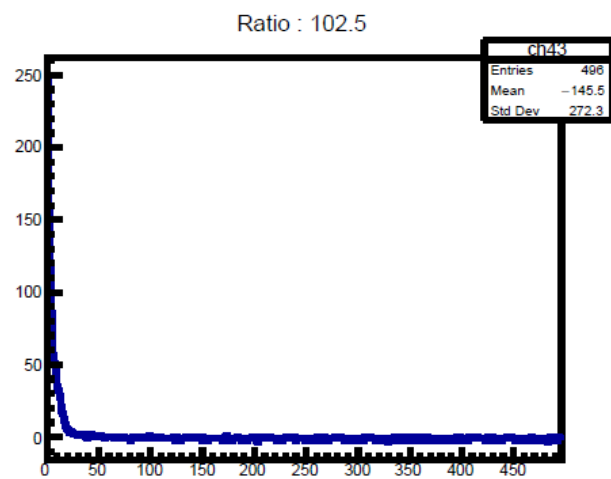
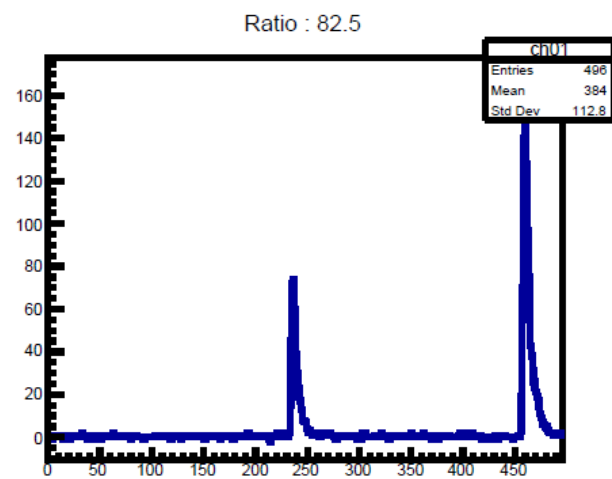
integ : height (747)



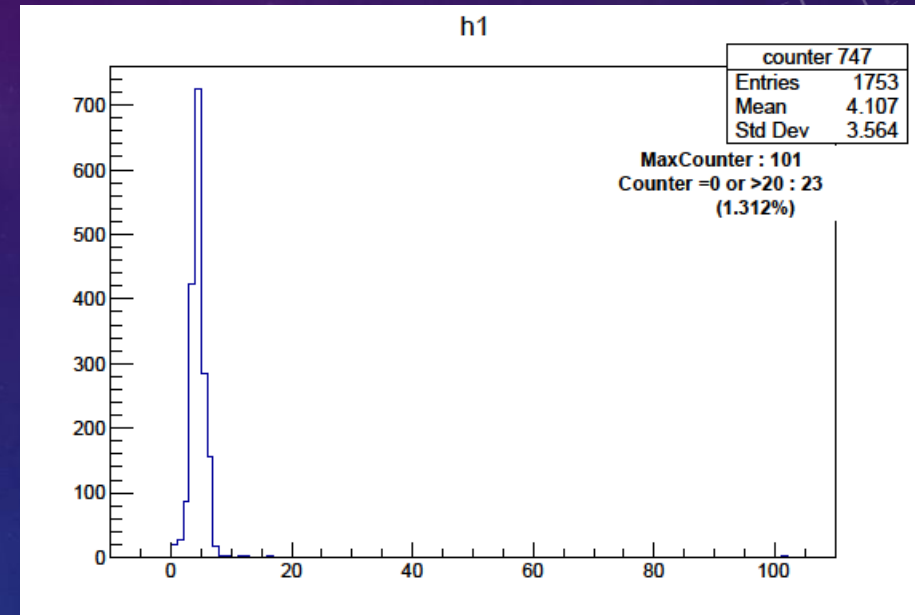
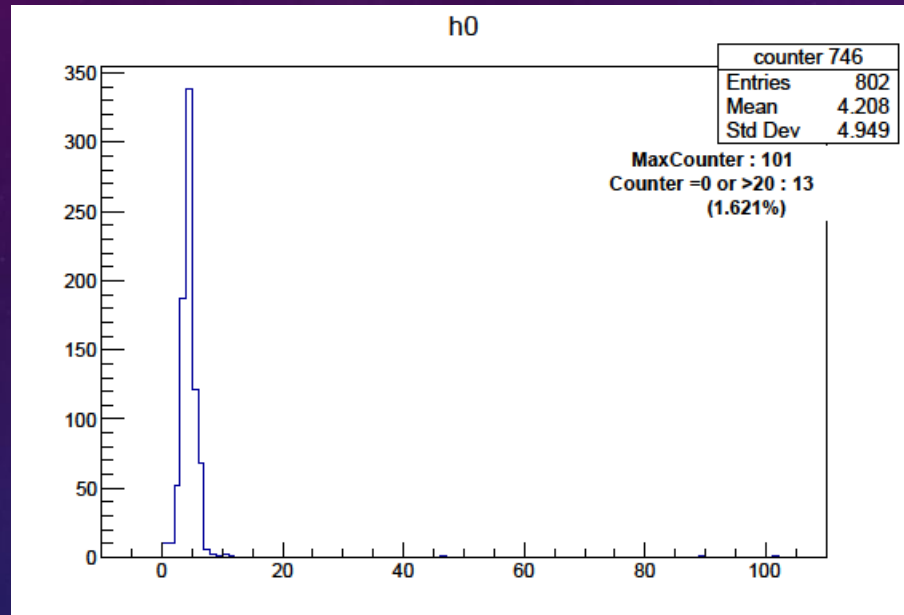
Ratio_747



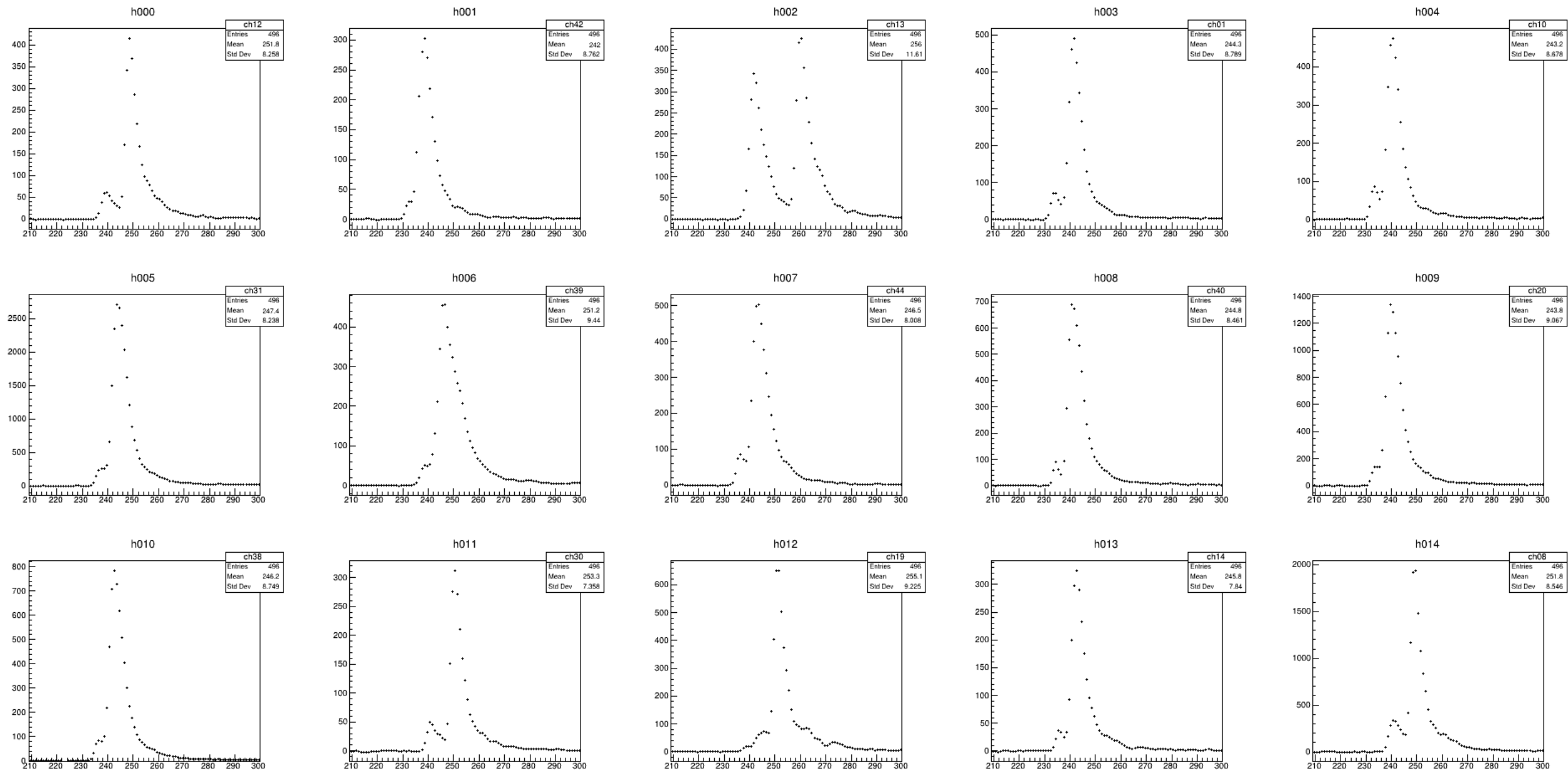
- There is a linear relationship between integration and height
- $\text{Ratio} = \text{Integ} / \text{height}$



COUNTER DISTRIBUTION



COUNTER = 0

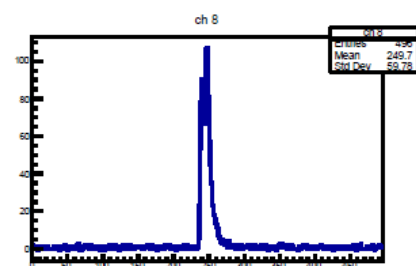
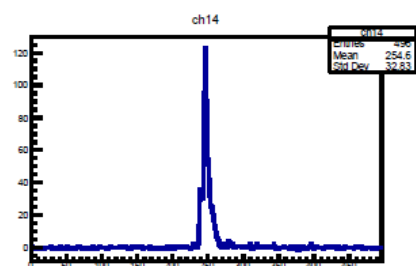
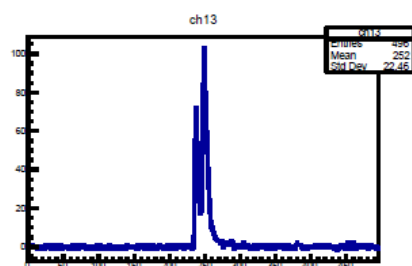
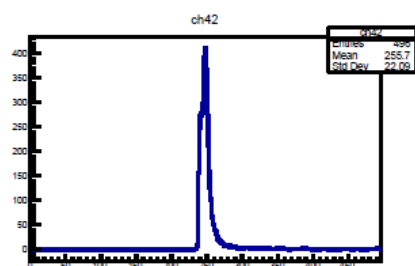
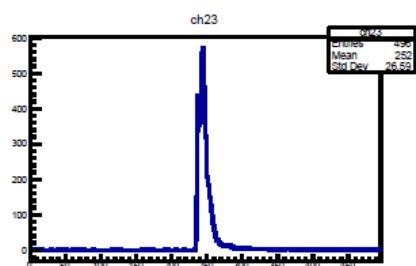
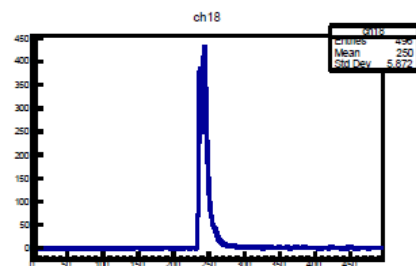
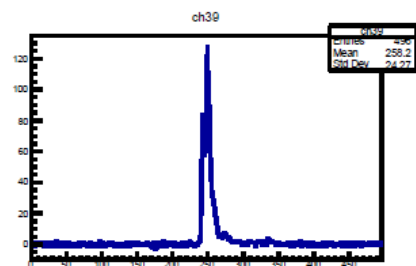
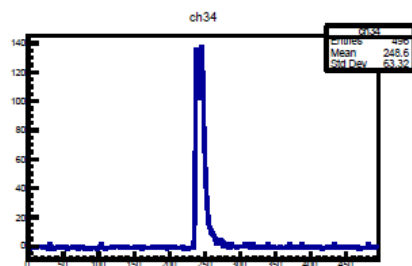
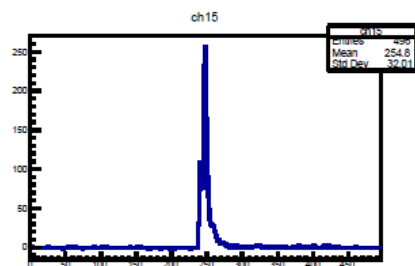
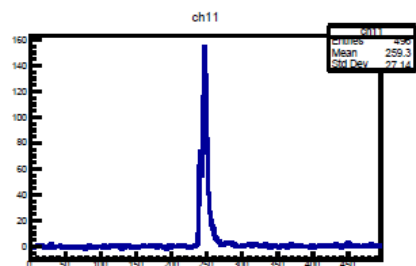
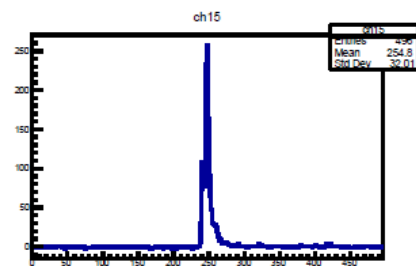
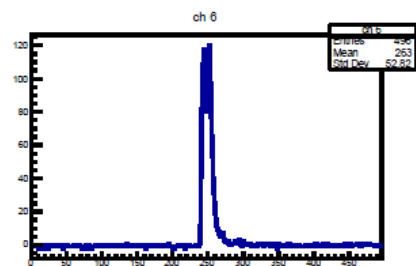
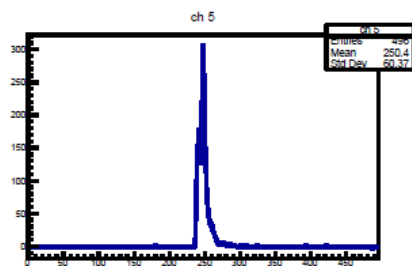
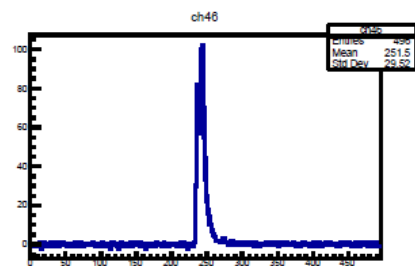
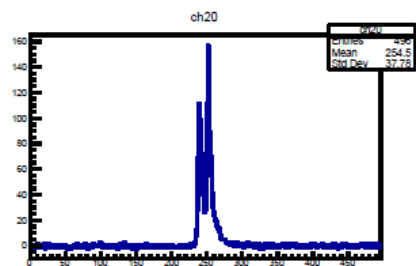
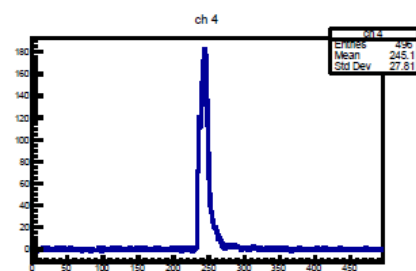
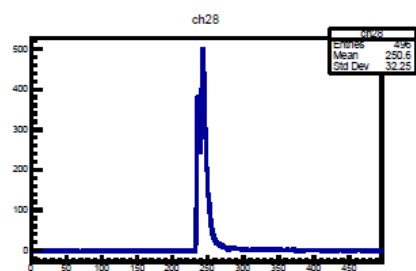
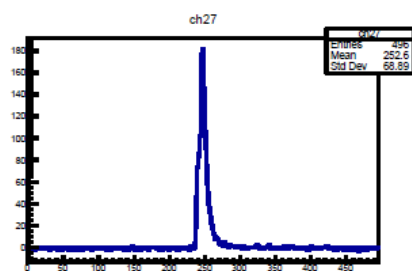
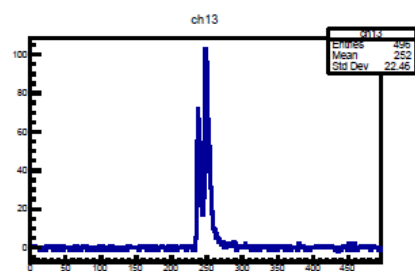
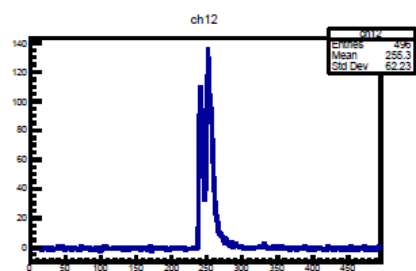


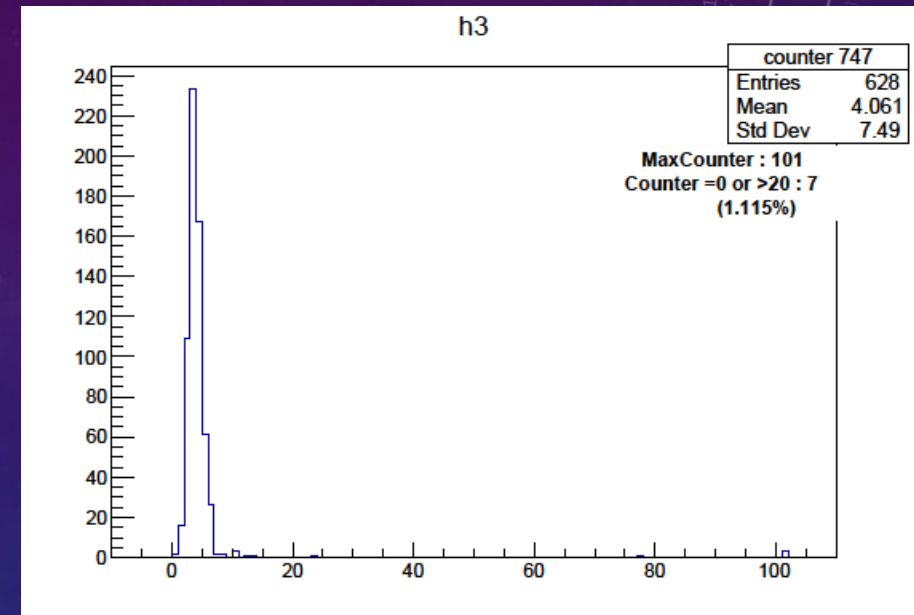
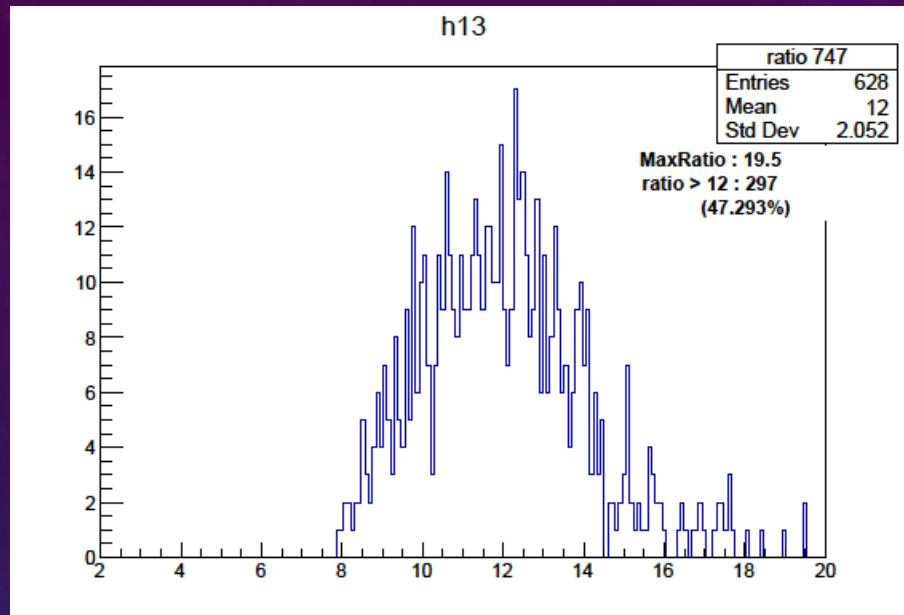
NEW CONDITION

```
double h = xs[1] - xs[0];  
double dif = abs(y - ys[0]);  
int ns = 0;  
for (int i = 0 ; i < n ; i++){  
    if ( abs(y - ys[i]) < dif ) {  
        ns = i; dif = abs(y - ys[i]); }  
}  
  
if (ns < 2 || n - ns <= 3)  
    return 0;
```

- If the first interpolation point is higher than the 3rd or 4th interpolation point.
- If the time interval between the last interpolation point and the peak point is larger than 10ns

```
if (height>100&&(ys[ns]<ys[0]||abs((2*iMax)-x[NP_INTER-1])>10)){
```





- Selected events show higher average Ratio(=integ / height)
- But counter distribution is not different from the original

- DATA : FADCT_000747
- Event Number : 208,344
- 24Bars, 48 Channels
- Count the number of bars in each event, where the maximum pulse height > 100count at both PMT
- Total Entry : $2 \times 1,437,742$
- Sum = $(192 + 1753 + 628/2)$

	Counter =0 or 101	Integ/Height > 12	NewCondntion	Sum
Entries	192	1753	628	2259
#/total entry	6.7×10^{-5}	6.1×10^{-4}	2.2×10^{-4}	7.9×10^{-4}

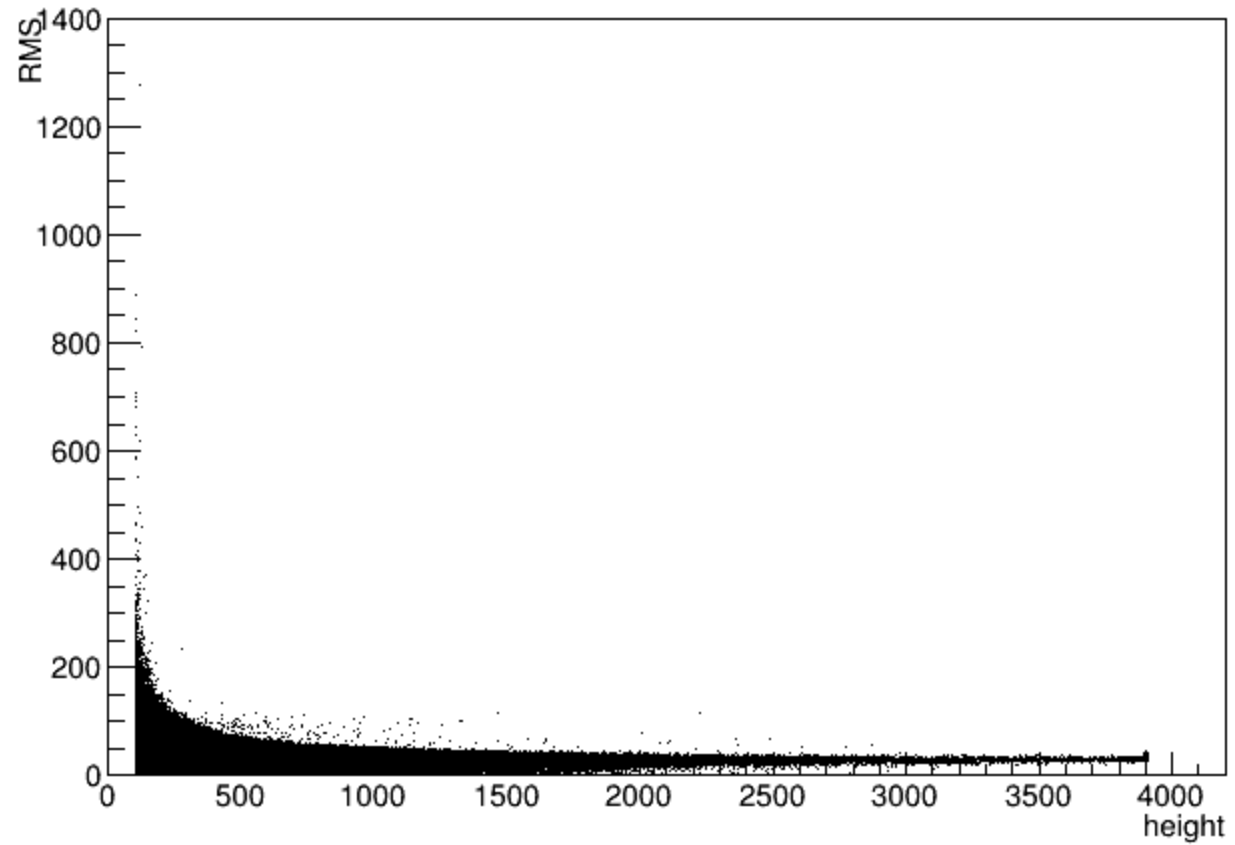
SUMMARY

- Without modifying EvRec, we can filter out events with higher 'Integ/height' value if we need
- EvRec can determine t_0 better with stronger condition

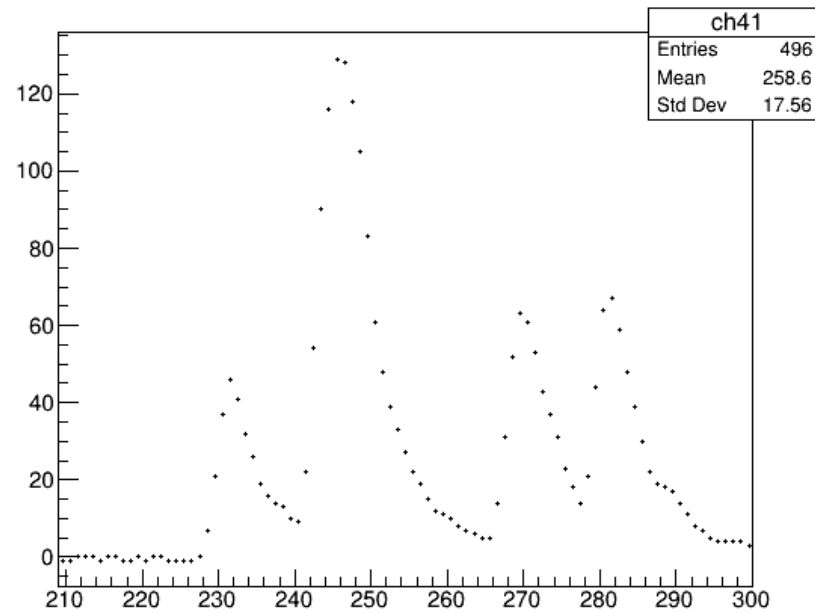


BACKUP

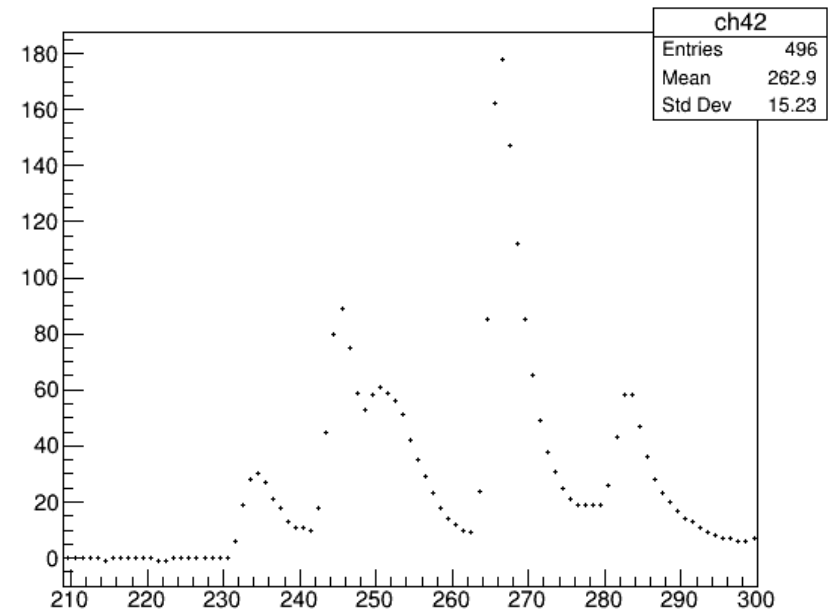
RMS:height {height>100}



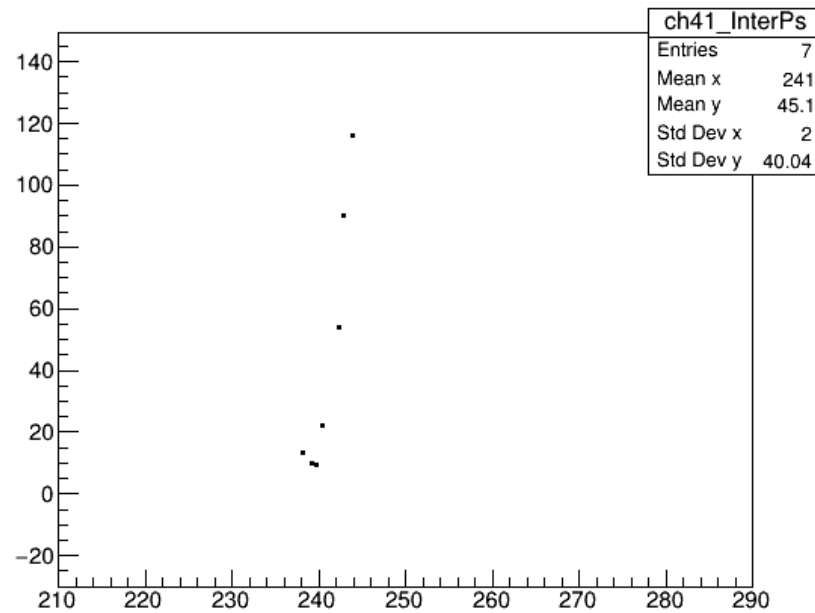
h010



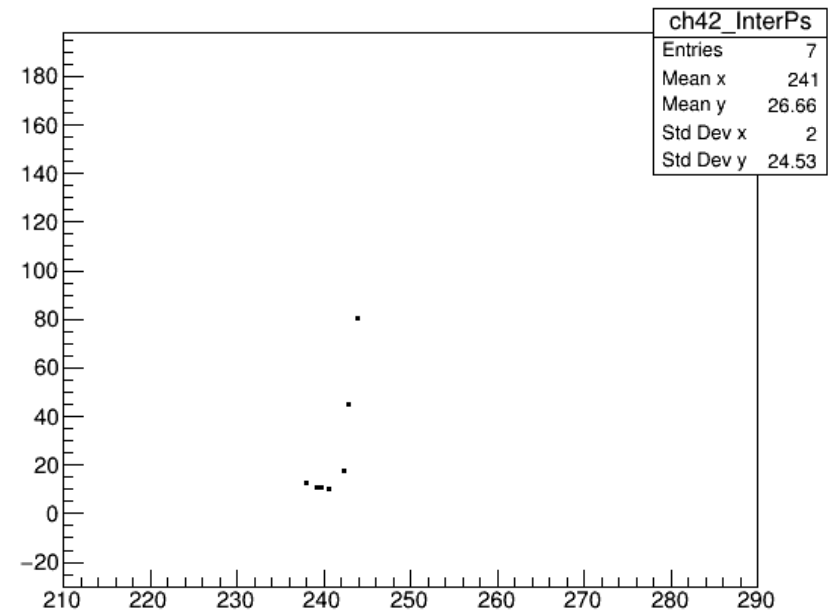
h011

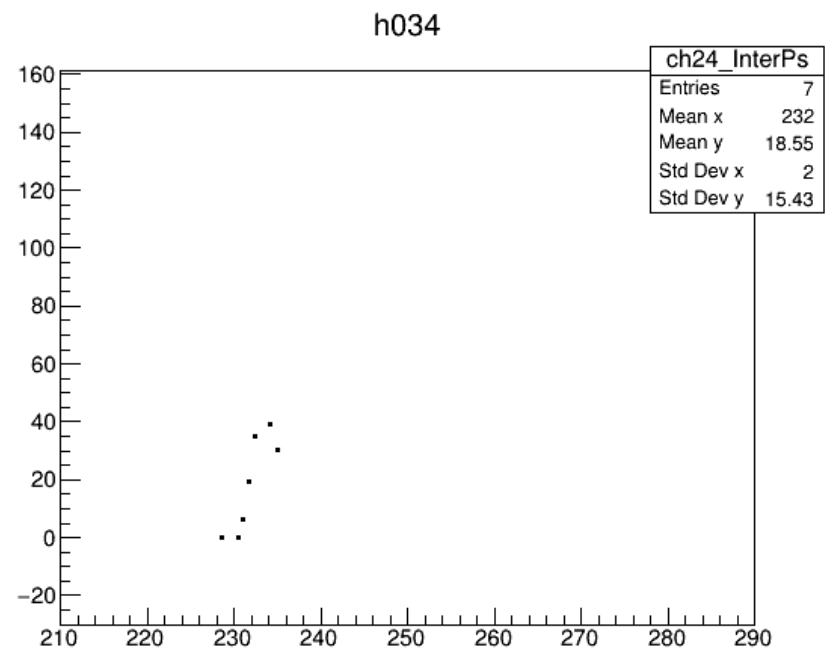
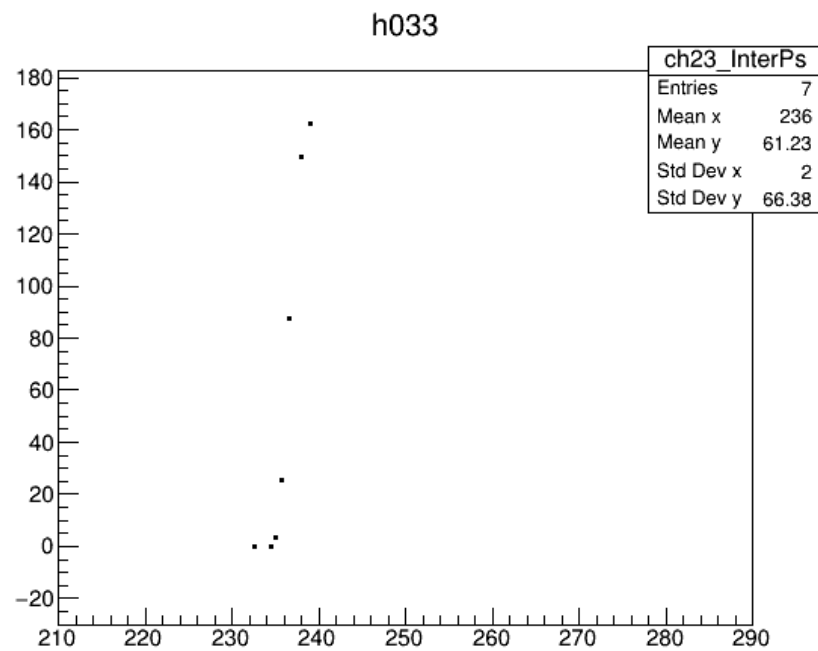
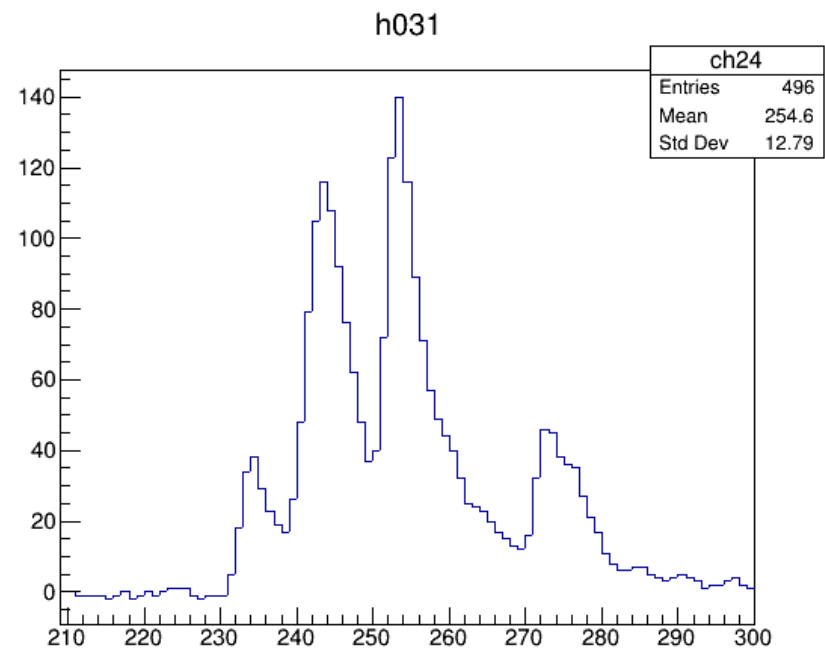
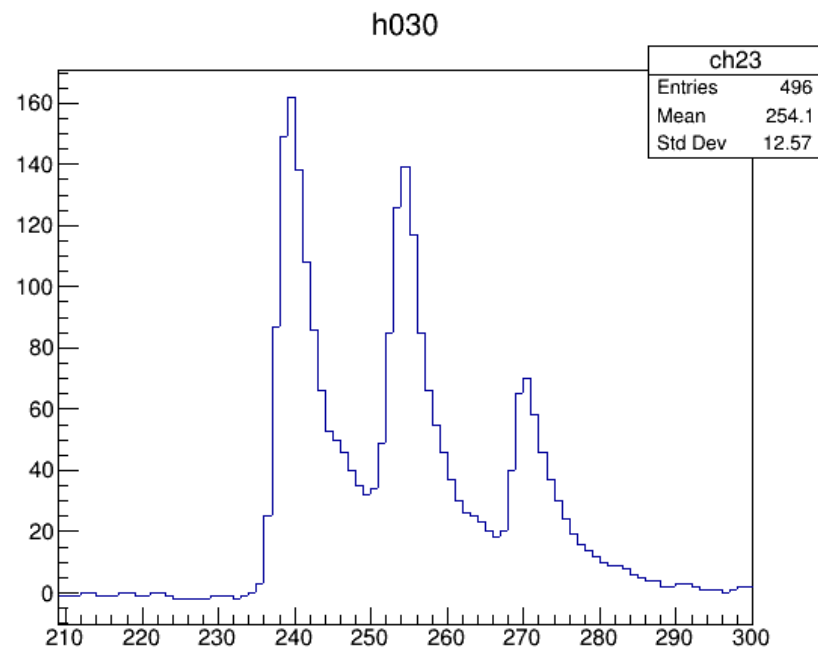


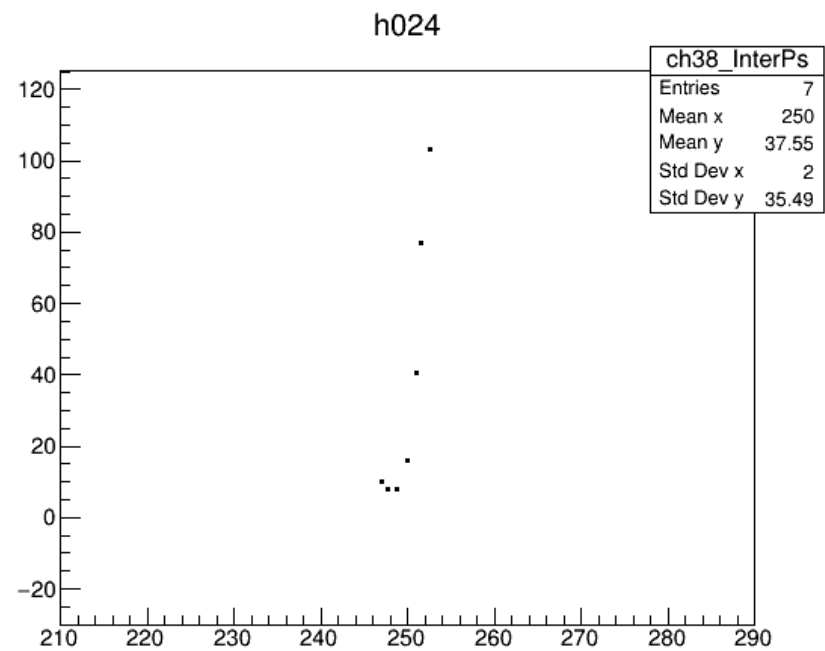
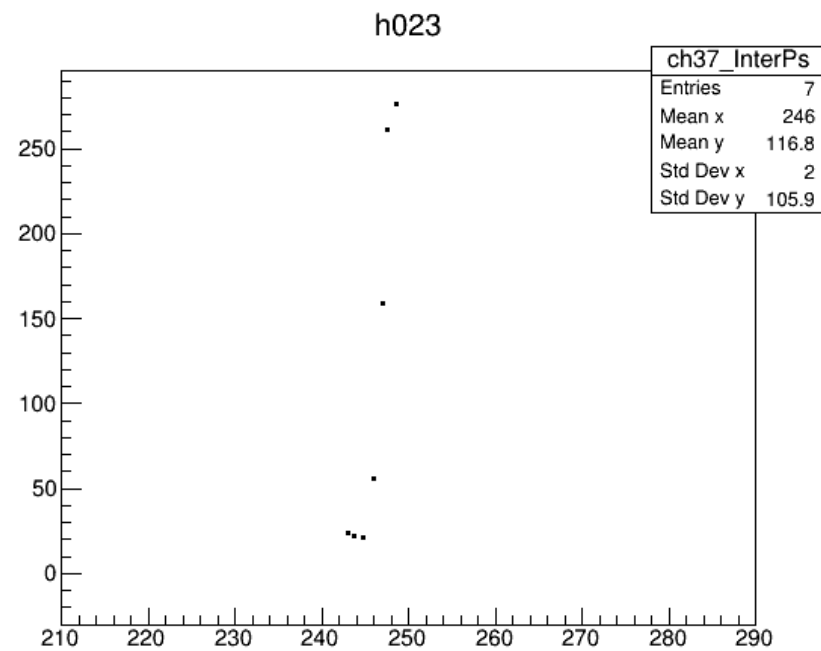
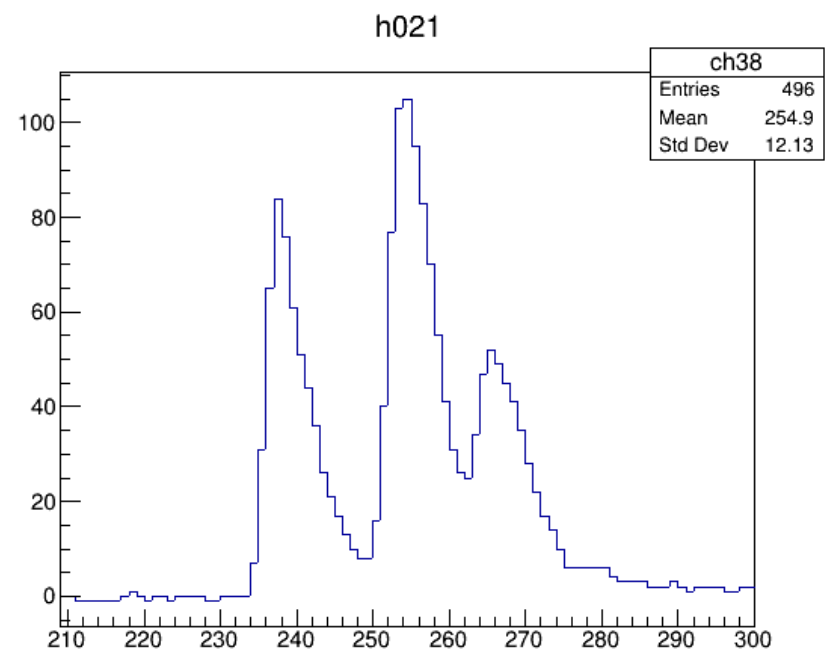
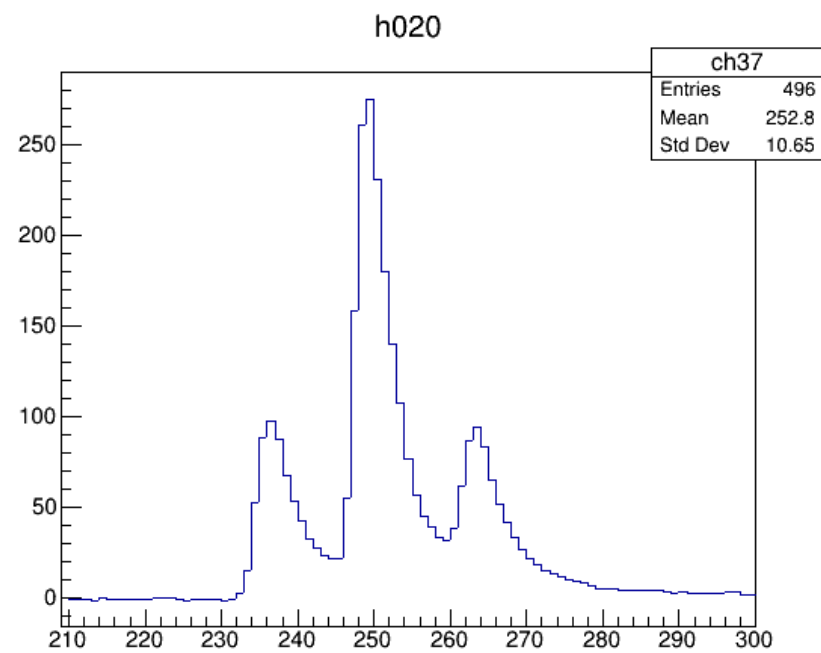
h013

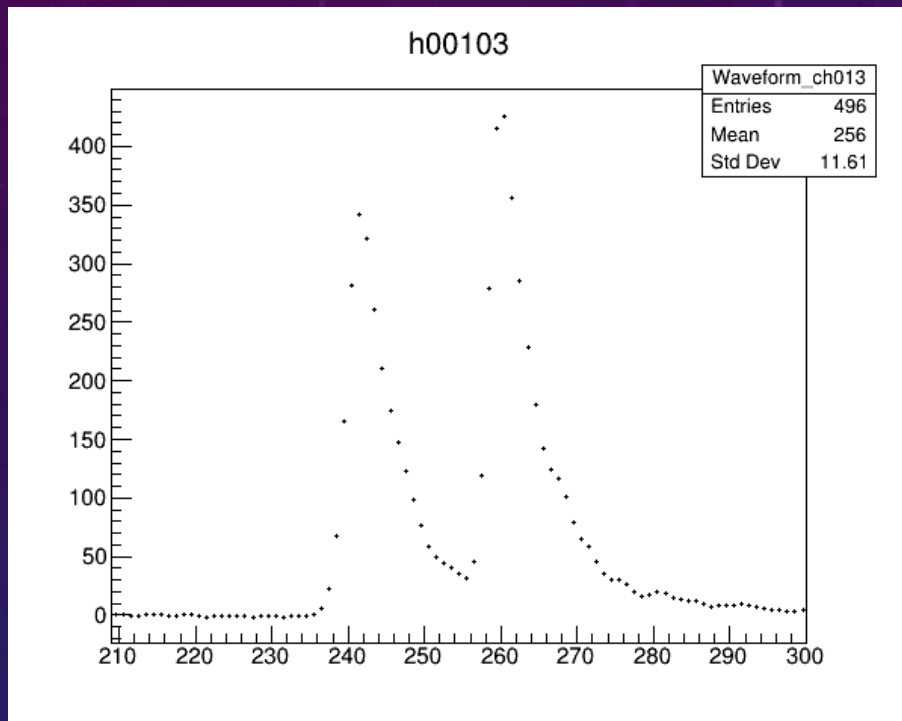


h014









- 10 cosmic ray muons per 1sec
- Coincidence width = 200ns
- Probability of simultaneous hit = $10 \times 100\text{ns} / 1\text{s} = 10^{-6}$

- DATA) FADCT_000746
- Event Number : 86,580
- 24Bars, 48 Channels
- Count the number of bars in each event, where the maximum pulse height > 100count at both PMT
- Total Entry : $2 \times 641,399$

	0	>20	101
Entries	106	61	37
Ratio (/total entry)	0.005%	0.008%	0.003%

CONFIGURATION

```
TCB
PTRIG      100  # pedestal trigger [ms]
CW          200  # coincidence width
TRGON       1   # normal 1, pedestal 2, ext 8
GATEWIDTH  10
MTHRF        2  # multiplicity
# DTF        1000 # deadtime[ns]
PSCF         1 #prescale
# GATEWIDTH  10
GATEDLY 0
END
```