

## **CHIP 48**

20180717

Runs taken with SRU.

2 channels per run with 1000 samples.

Runs added together to make the plots.

500 events per run.

### **Plot 1: pedestals with nominal vref 0.25,0.75,1.25**

Plot 1: gain 0 shaper 0 decay=0.5V

### **Plot 2-8: pedestals with vref = 0.25,0.80,1.35**

(should have been 0.2,0.75,1.30)

Plot 2: gain 0 shaper 0

Plot 3: gain 1 shaper 0

Plot 4: gain 2 shaper 0

Plot 5: gain 3 shaper 0

Plot 6: gain 0 shaper 0 preampmode

Plot 7: gain 1 shaper 0 preampmode

Plot 8: gain 2 shaper 0 preampmode

Plot 9: gain 3 shaper 0 preampmode

### **Plot 10-15: study of effect of decay setting and pulse shape**

pulser and with vref = 0.25,0.80,1.35

Plot 10: Max pulse height, gain 3 shaper 0 preampmode decay=0.1V

Plot 11: Max pulse height, gain 3 shaper 0 preampmode decay=0.5V

Plot 12: Max pulse height, gain 3 shaper 0 preampmode decay=0.9V

Plot 13: Pulse width: gain 3 shaper 0 preampmode decay=0.1V

Plot 14: Pulse width: gain 3 shaper 0 preampmode decay=0.5V

Plot 15: Pulse width: gain 3 shaper 0 preampmode decay=0.9V

Plots for study of effect of shaper, should be shorter pulse length for shorter shaper time.

### **Plot 16:**

Max pulse height for shaper=0, gain=0, decay=0.5

### **Plot 17:**

Max pulse height for shaper=1, gain=0, decay=0.5

### **Plot 18:**

Max pulse height for shaper=3, gain=0, decay=0.5

### **Plot 19:**

Max pulse height for shaper=7, gain=0, decay=0.5

### **Plot 20:**

pulse length for shaper=0, gain=0, decay=0.5

**Plot 21:**

pulse length for shaper=1, gain=0, decay=0.5

**Plot 22:**

pulse length for shaper=3, gain=0, decay=0.5

**Plot 23:**

pulse length for shaper=7, gain=0, decay=0.5

**Page 24: Study that clustering works in zerosuppression**

Max pulse height for clusters with  $ph > 100$ , when zerosuppression

**Plot 25-26: Study that clustering works in zerosuppression**

The length of each cluster when zerosuppression, calculated and cluster length.

**Plot 27-30: Pulse height for different gains**

**Plot 31: study if any bit problem**

Used pedestal memory as data, the data is ramp 0,1,....

The plot show ADC value distribution for 500 events.

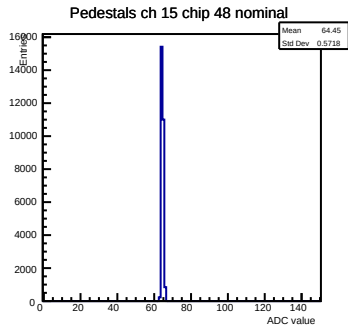
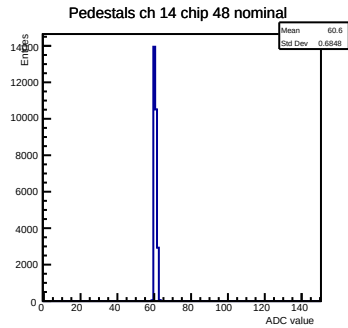
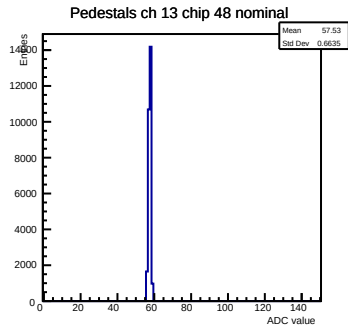
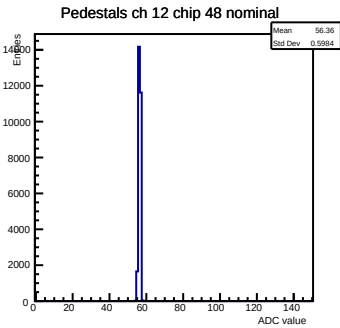
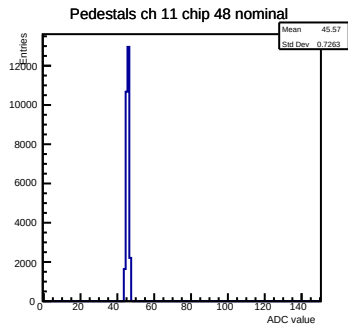
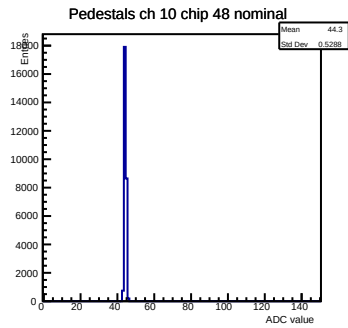
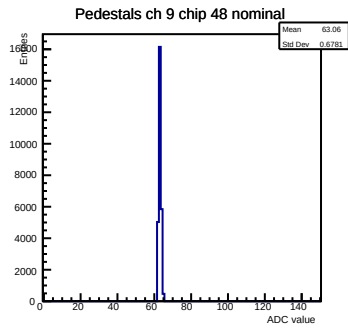
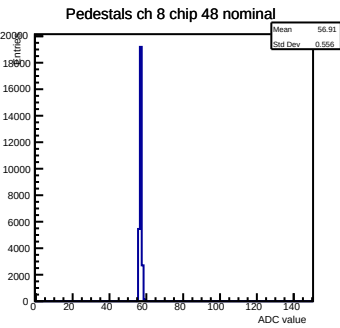
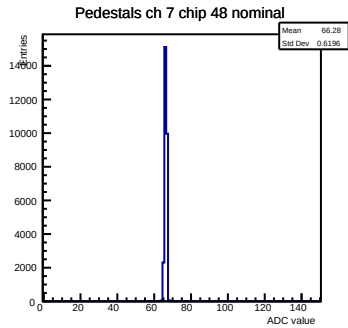
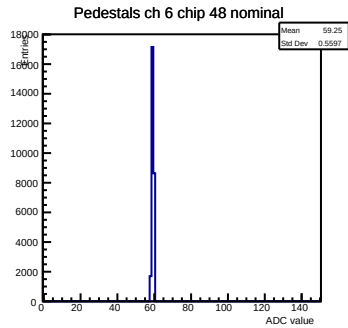
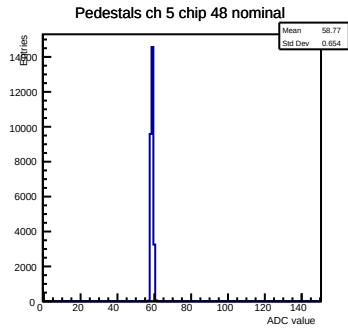
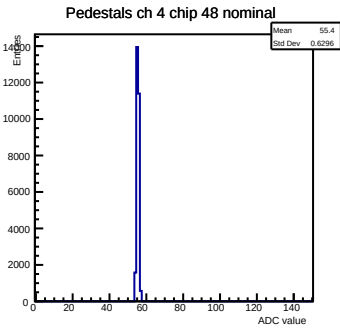
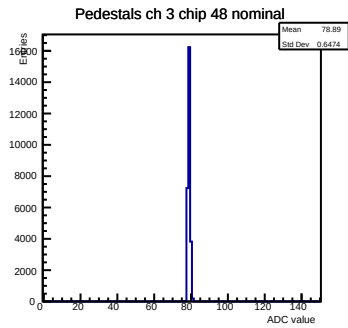
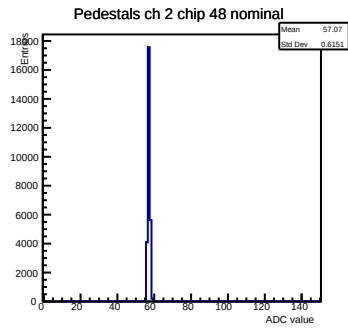
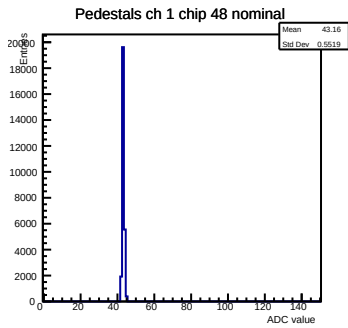
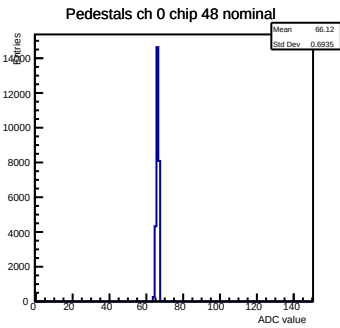
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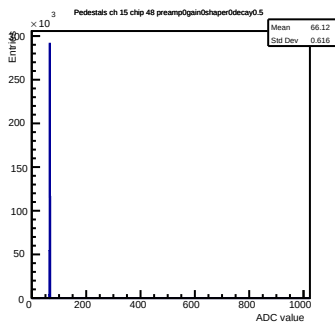
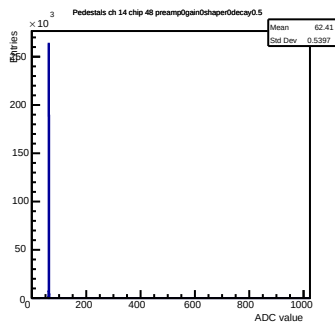
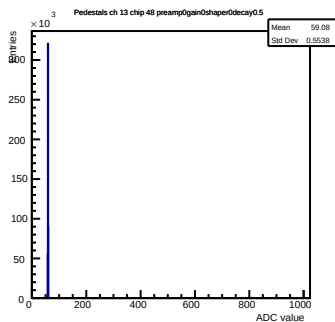
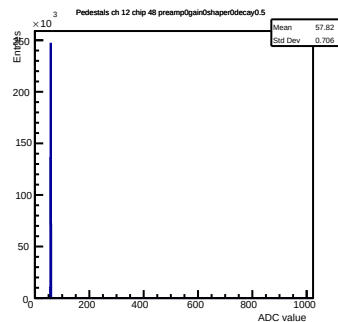
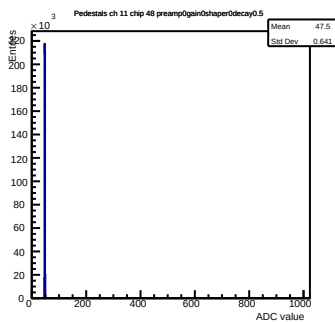
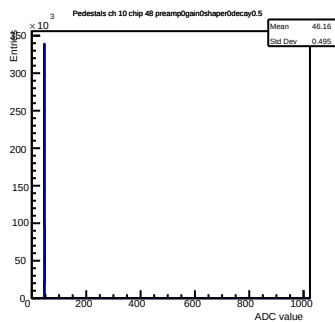
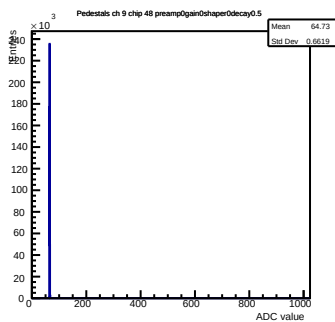
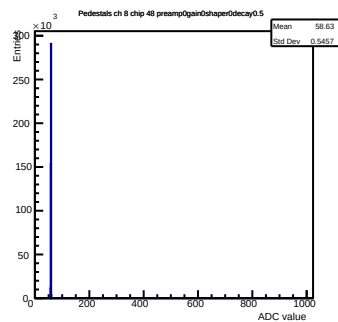
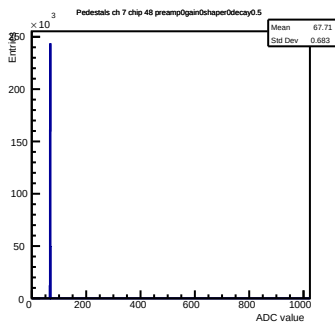
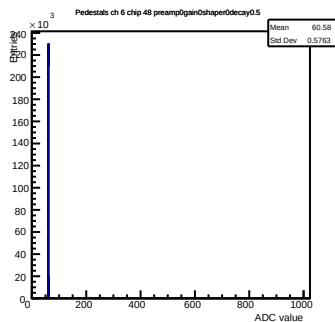
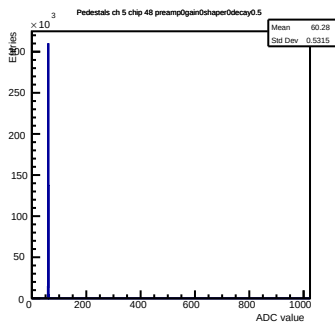
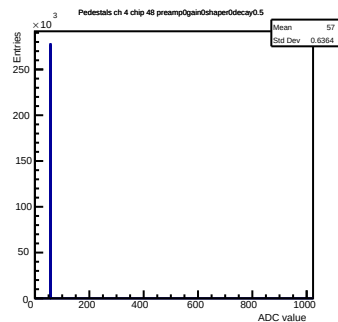
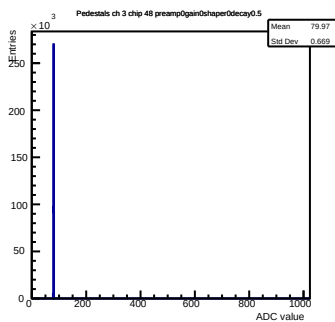
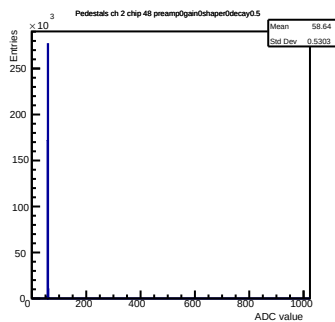
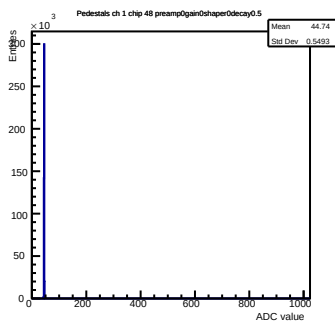
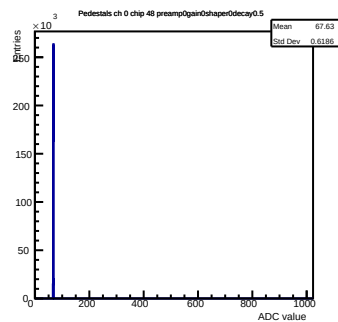
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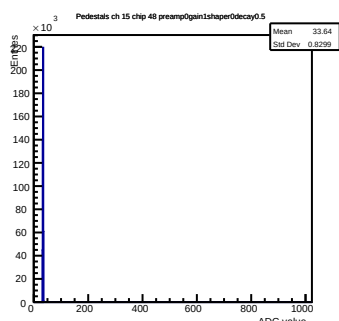
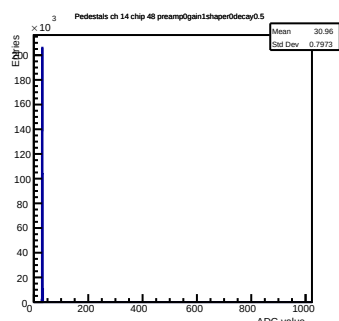
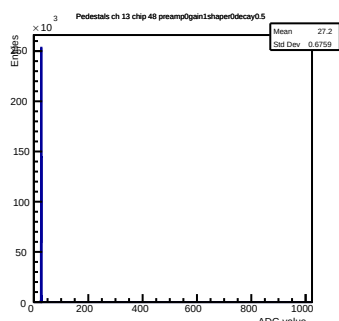
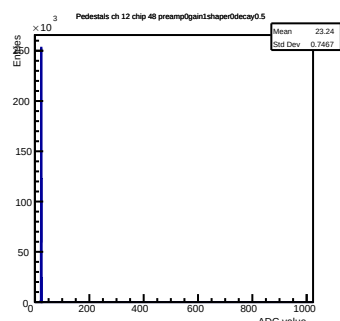
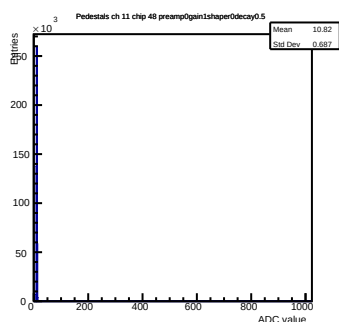
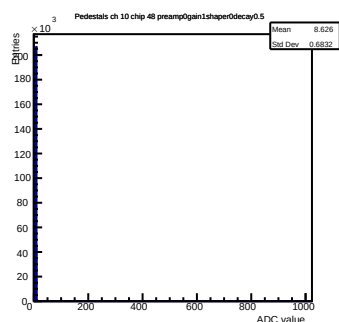
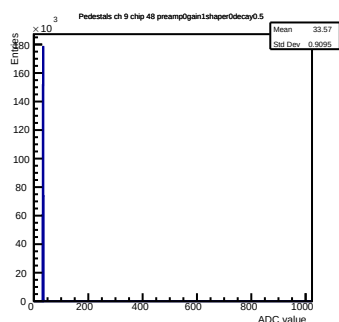
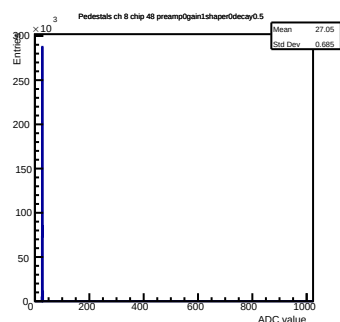
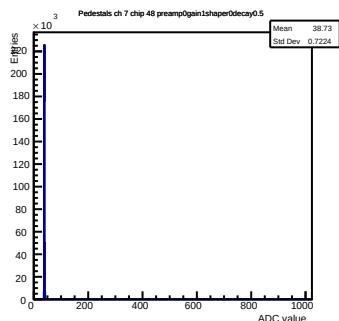
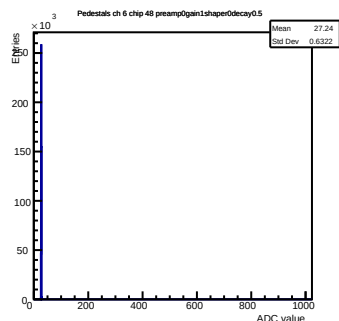
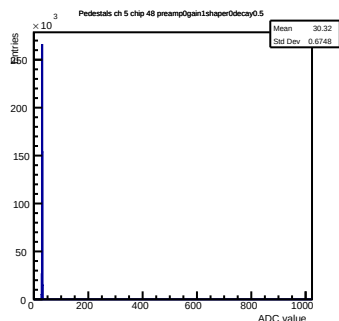
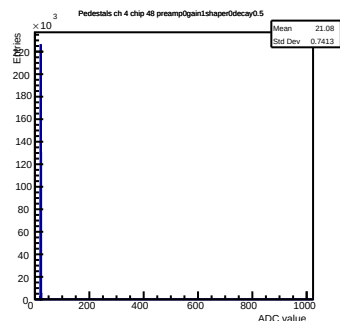
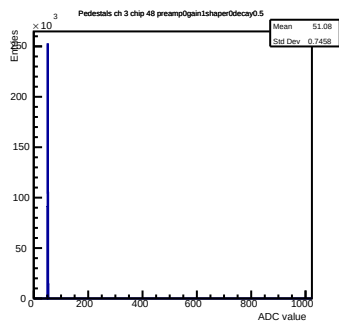
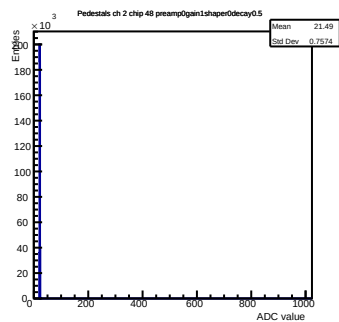
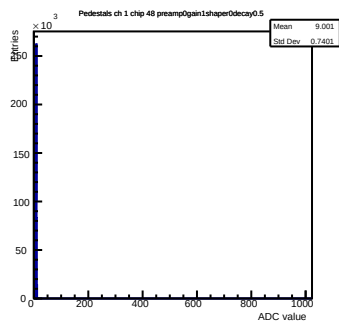
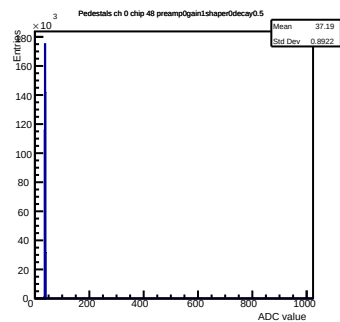
Pedestals

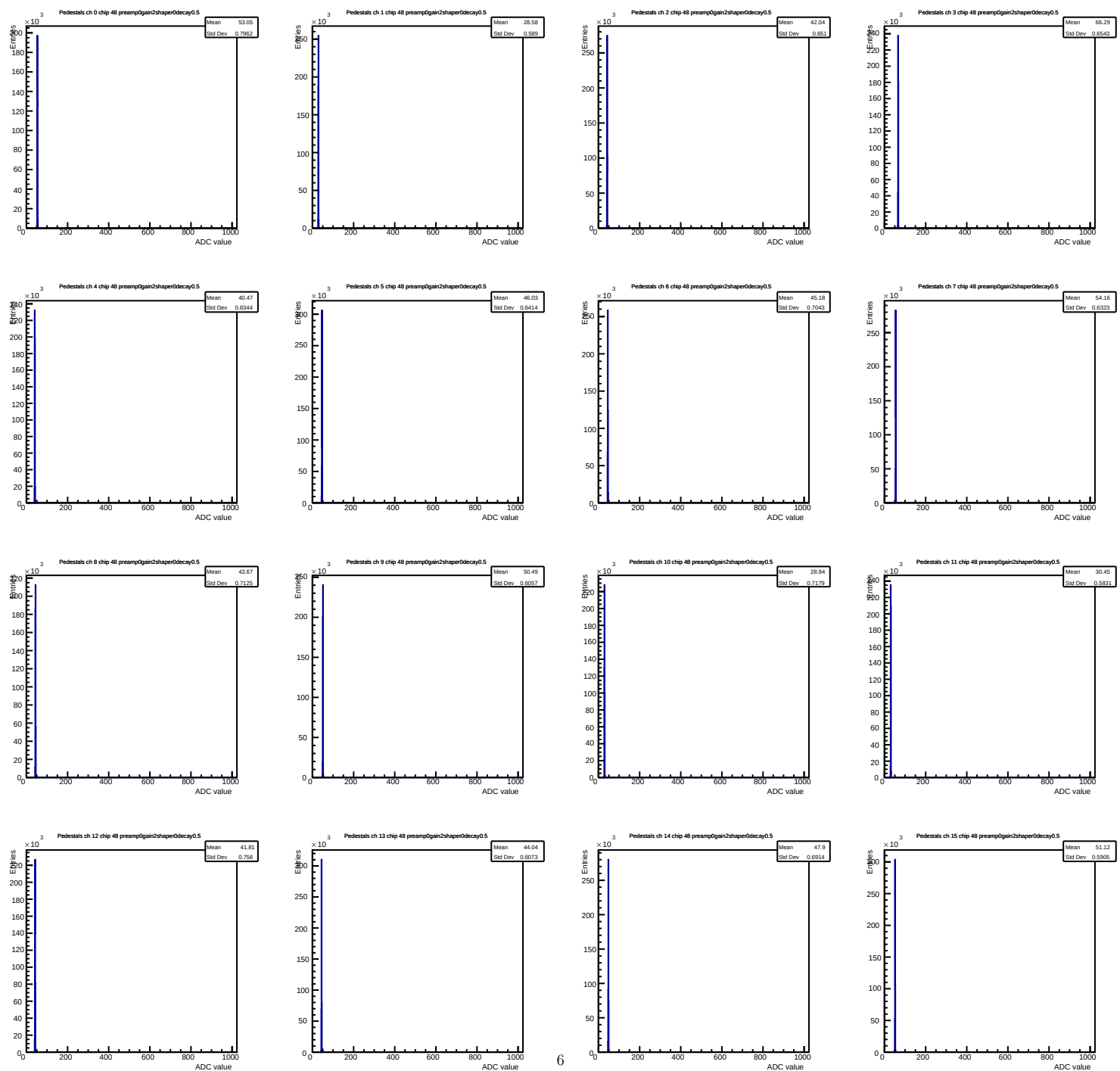
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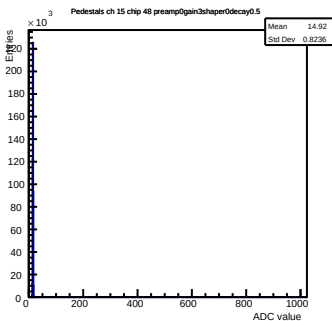
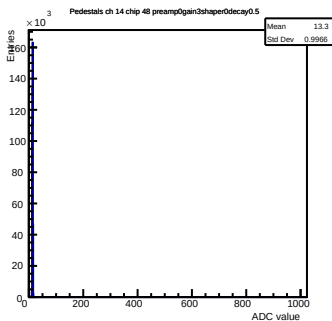
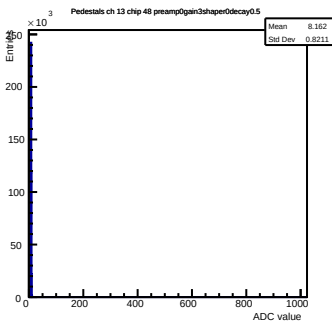
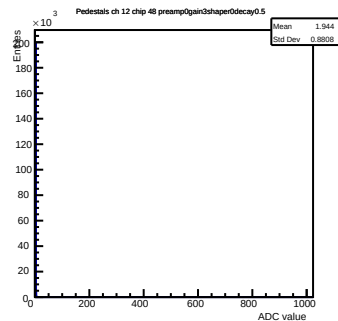
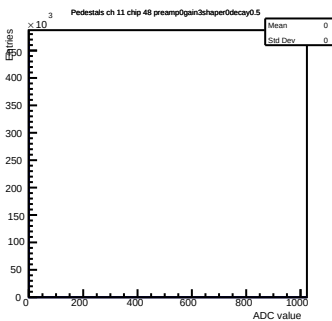
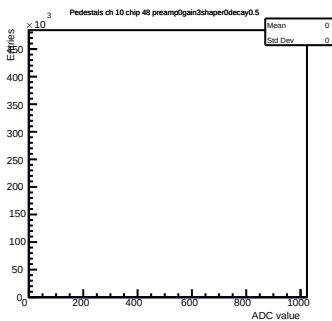
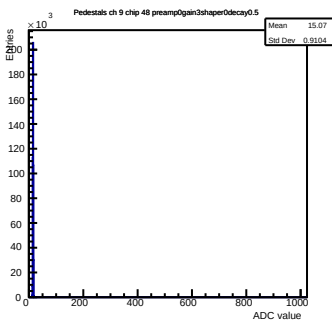
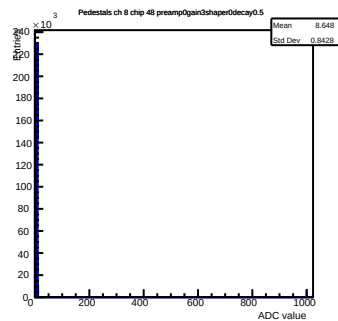
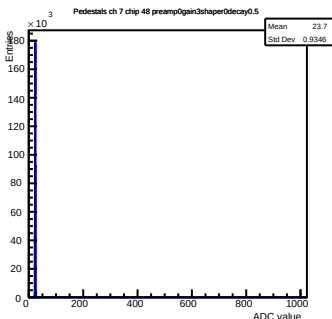
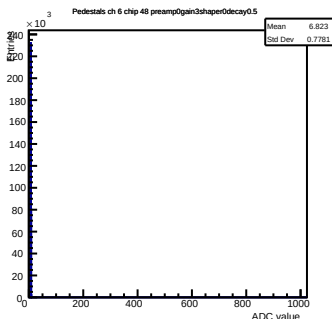
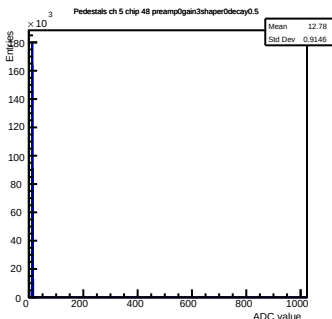
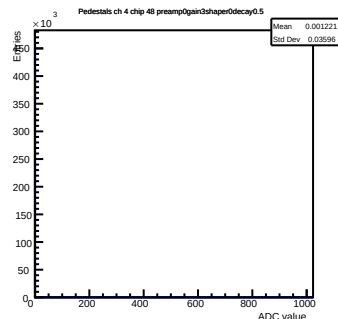
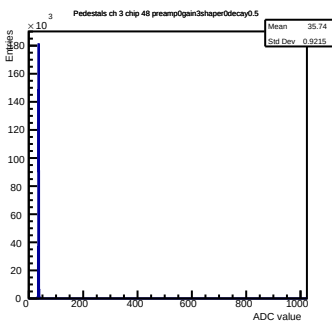
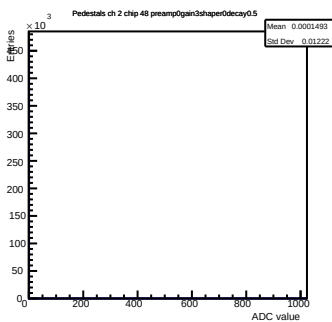
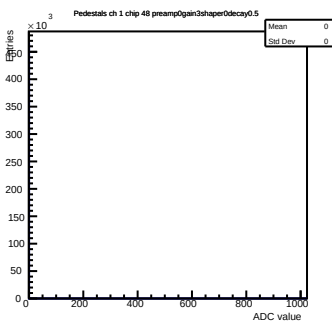
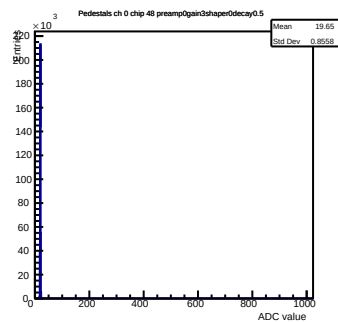
test of register for chip address = 0,4,6,7

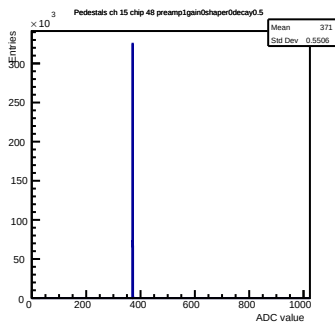
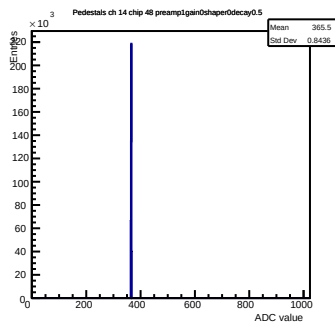
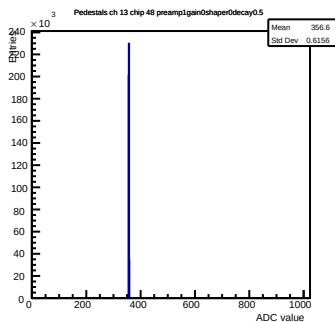
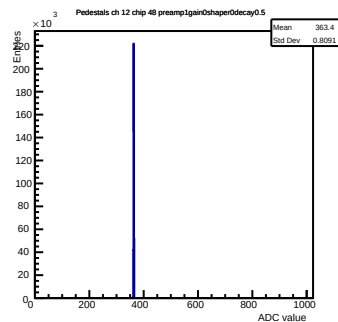
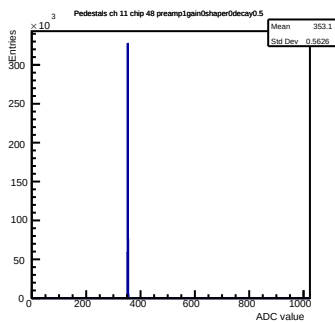
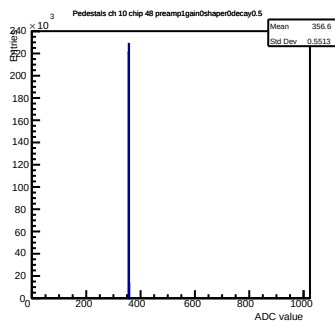
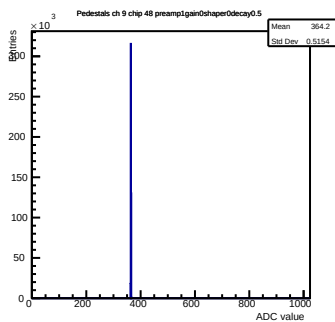
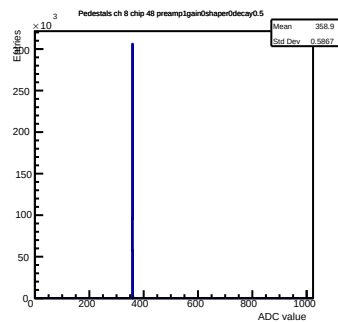
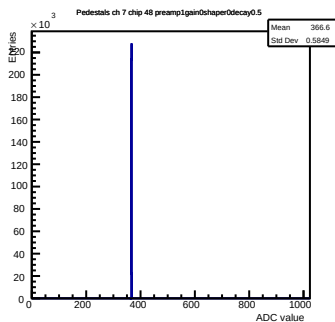
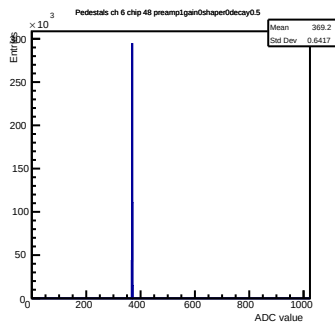
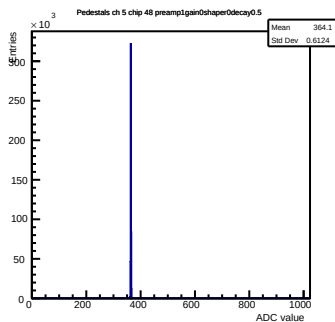
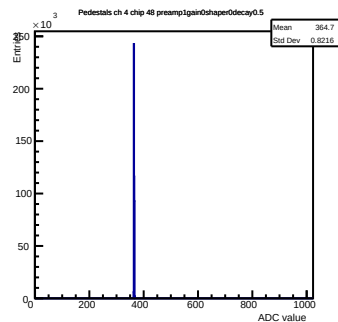
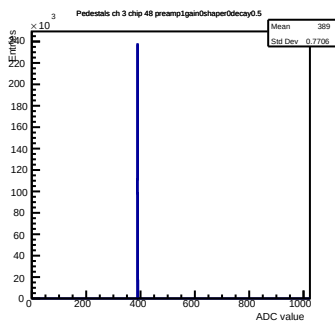
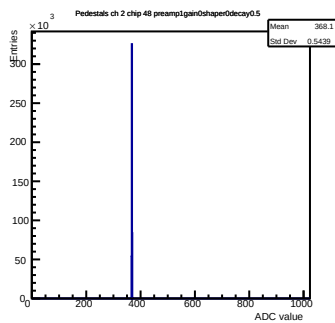
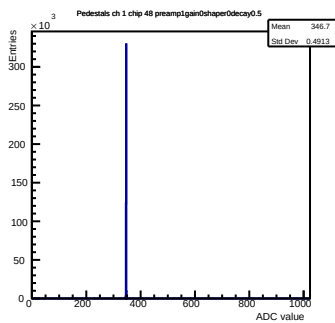
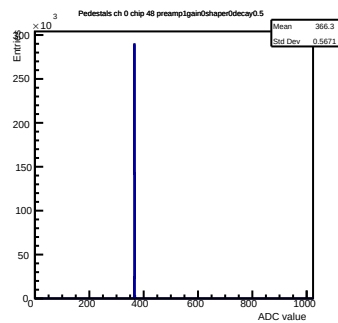


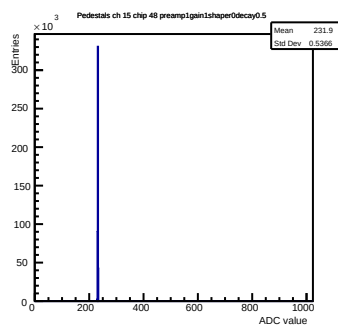
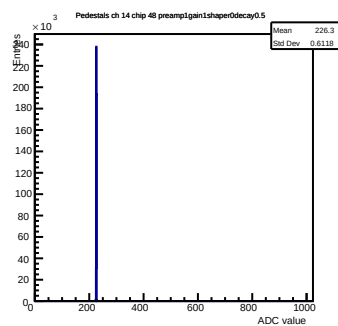
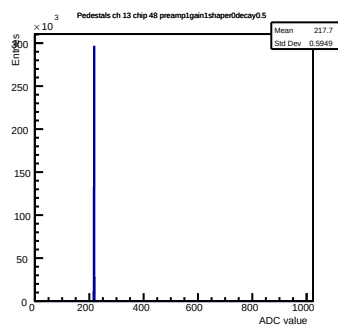
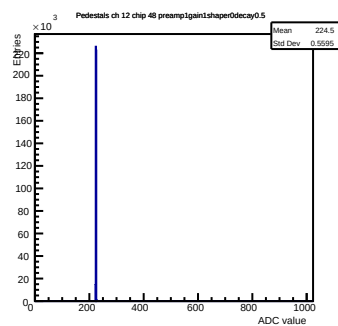
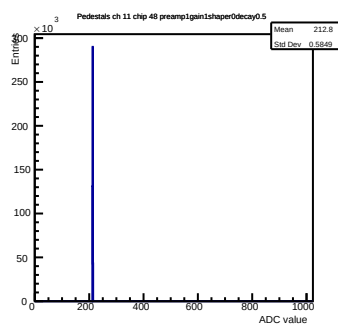
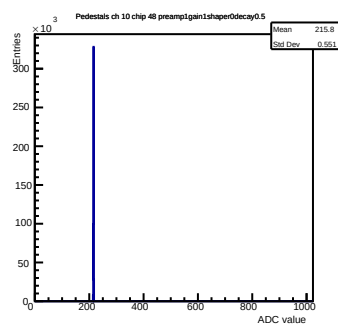
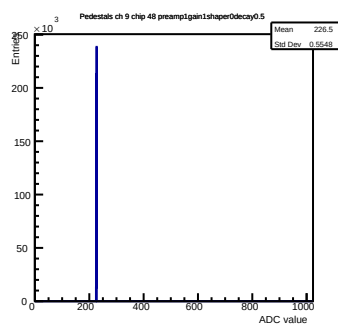
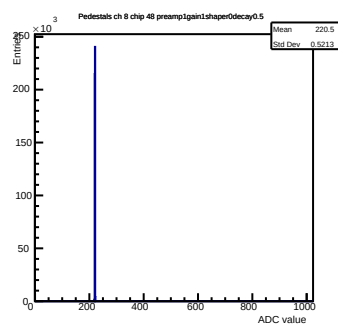
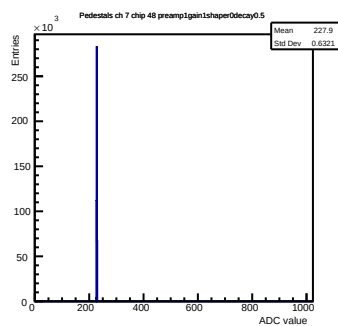
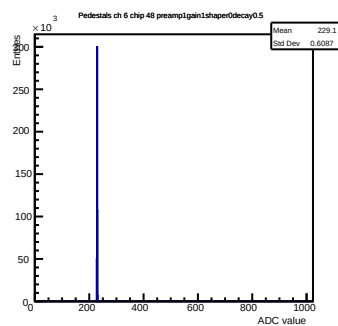
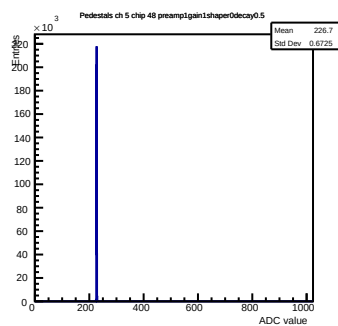
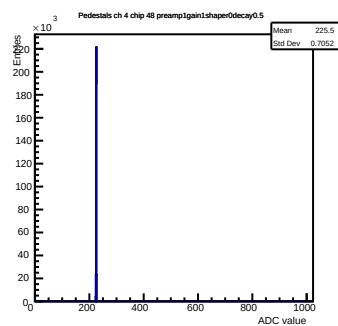
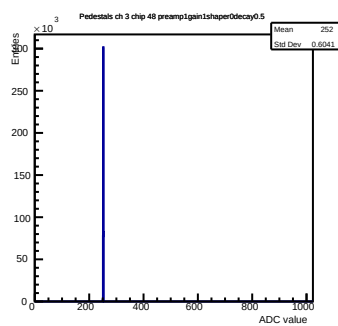
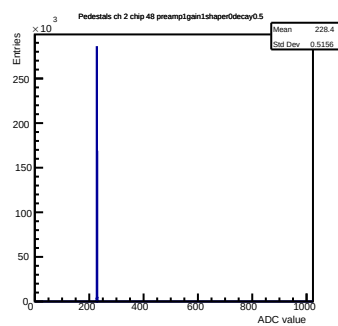
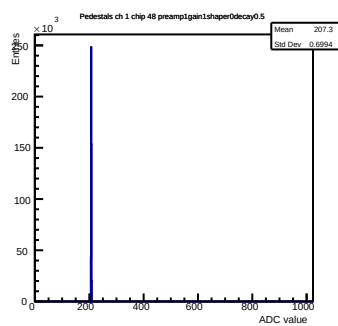
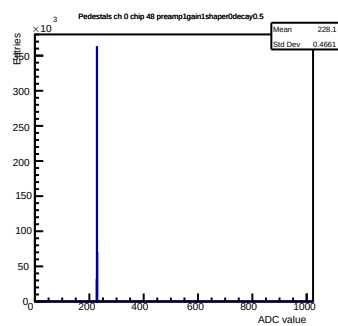


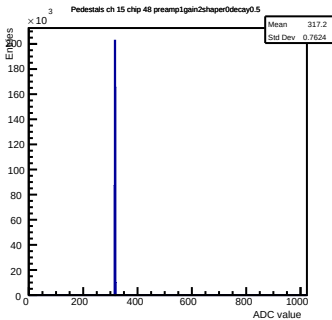
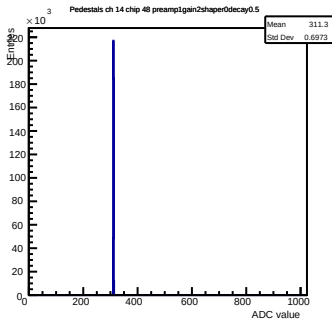
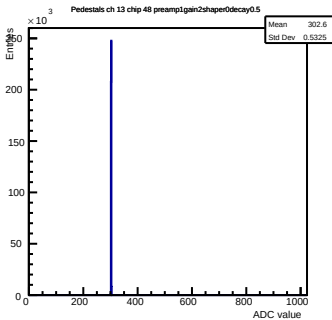
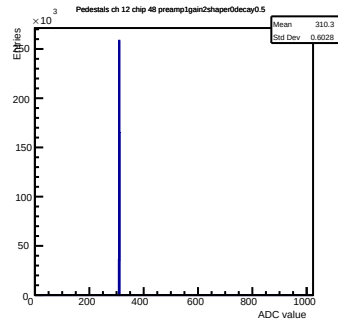
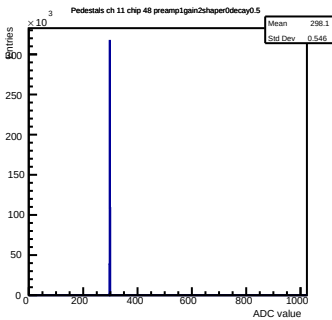
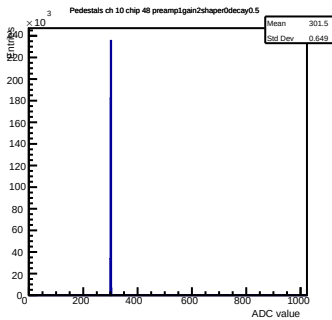
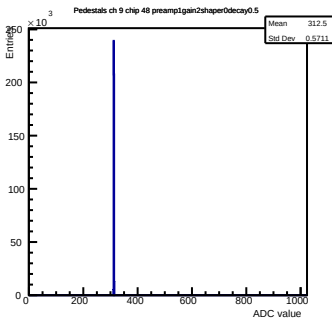
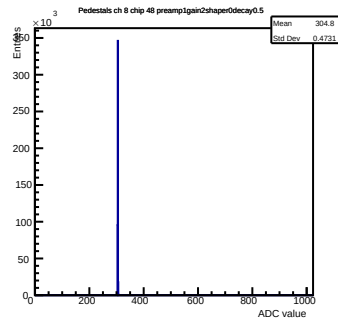
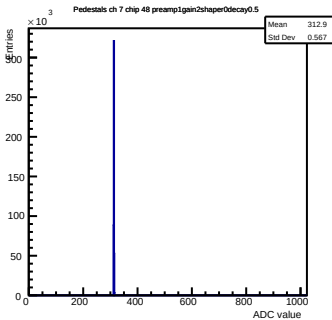
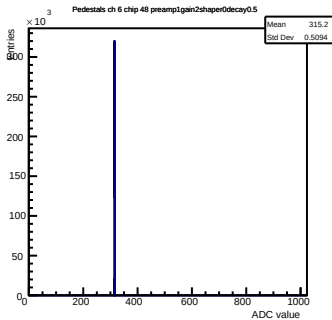
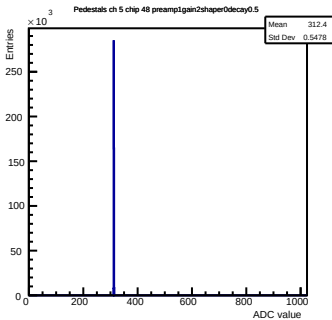
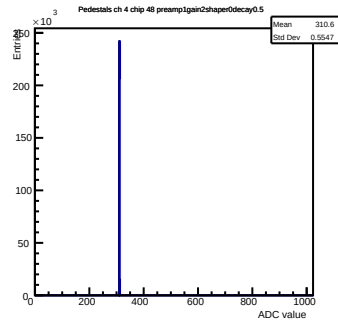
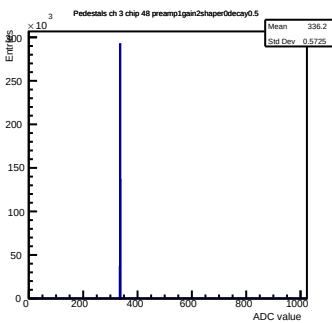
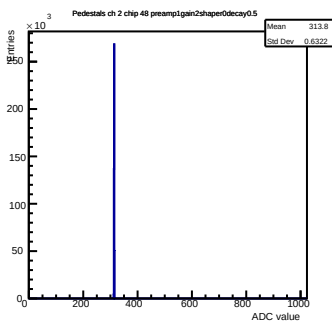
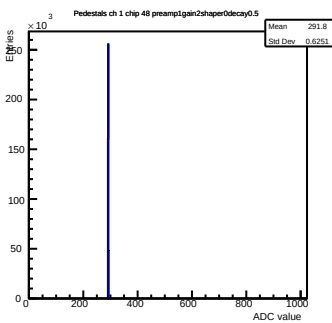
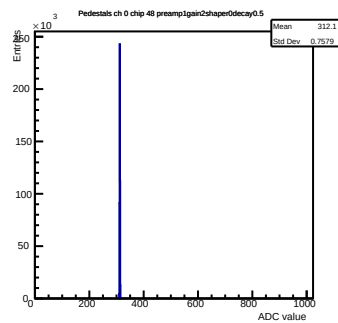


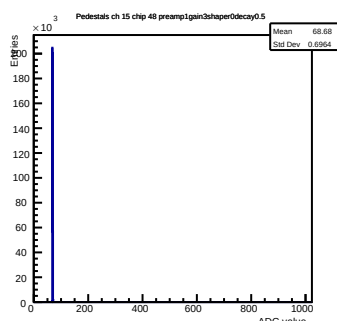
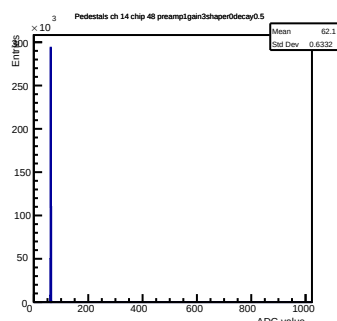
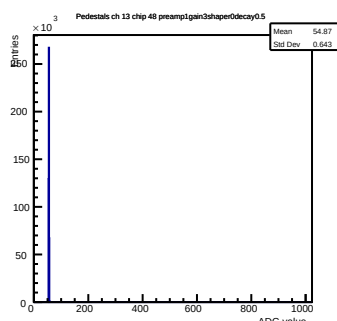
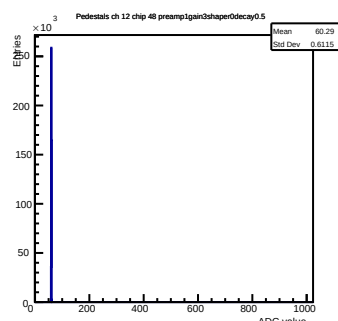
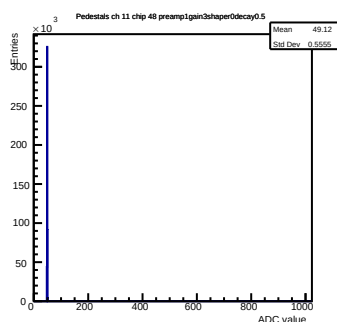
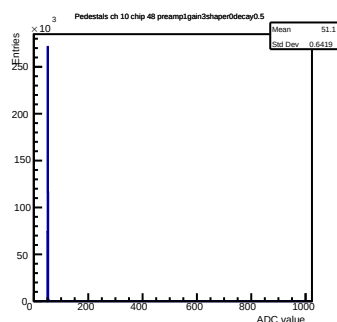
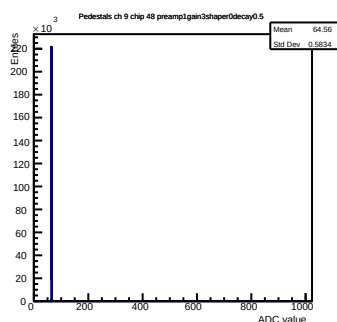
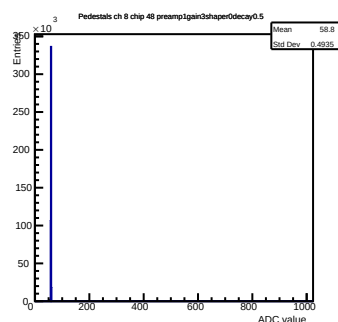
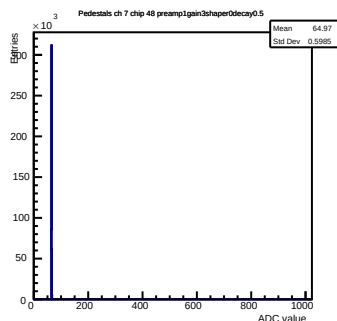
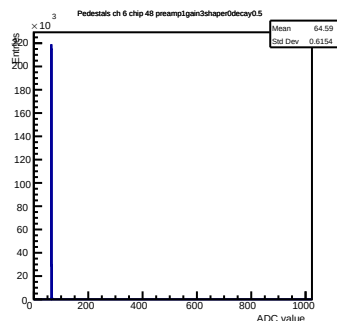
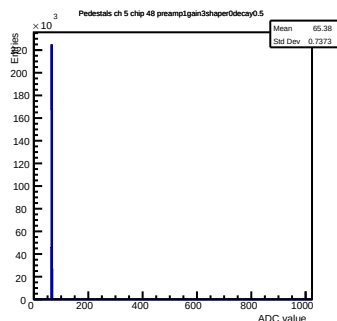
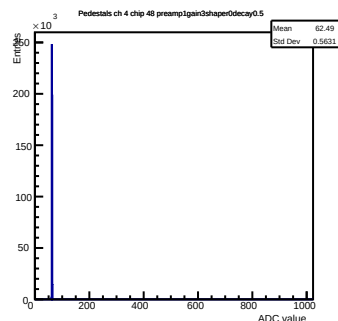
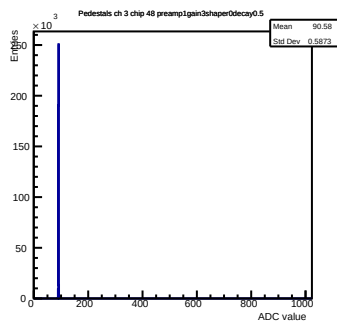
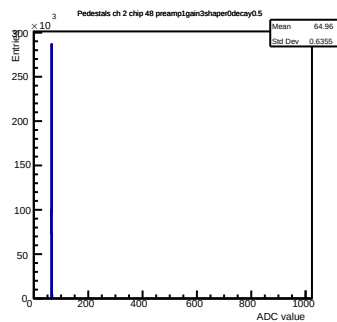
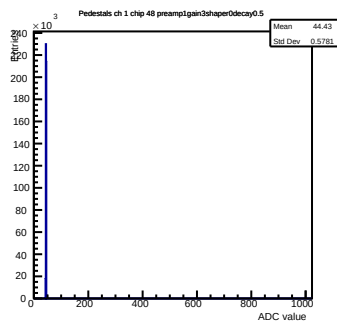
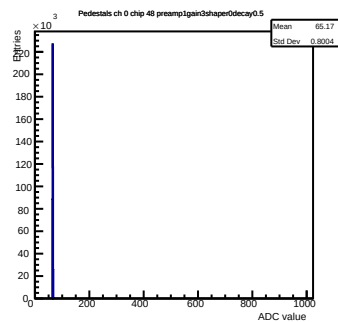


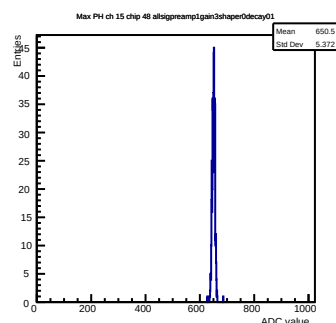
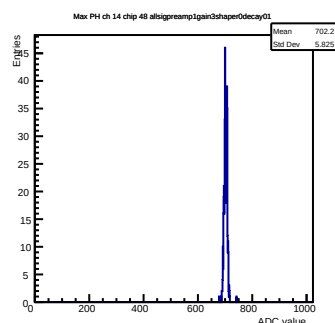
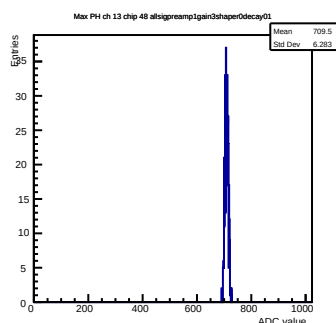
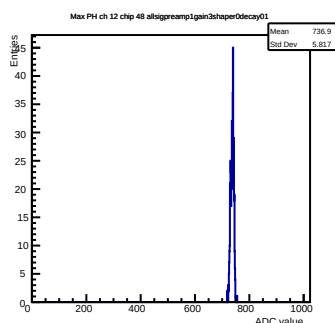
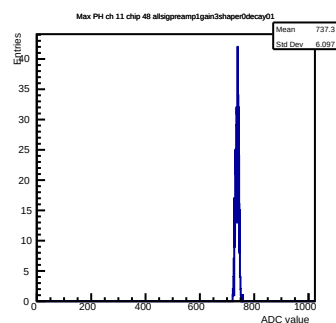
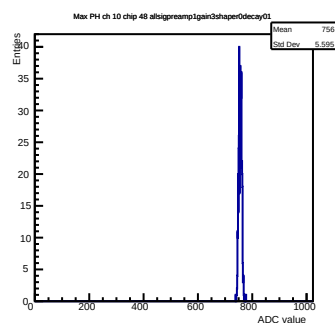
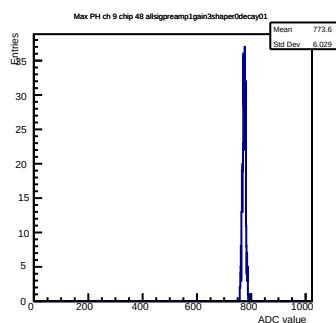
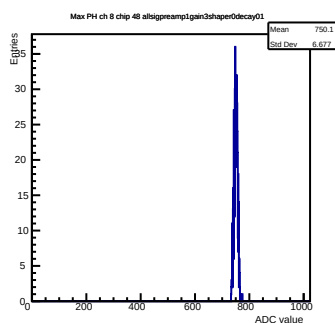
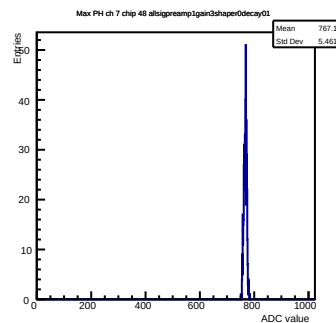
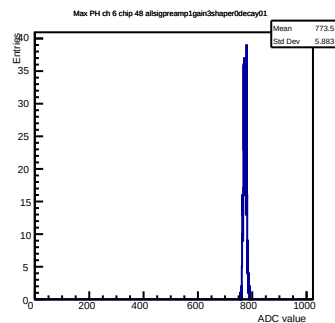
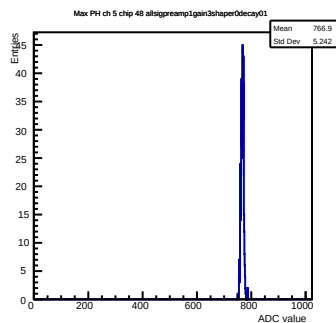
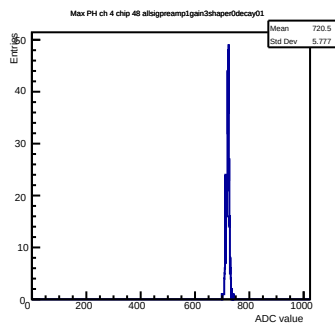
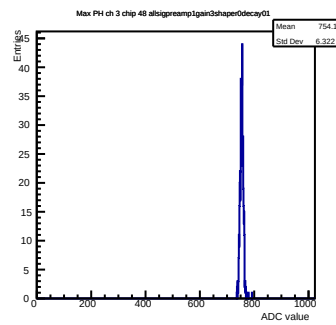
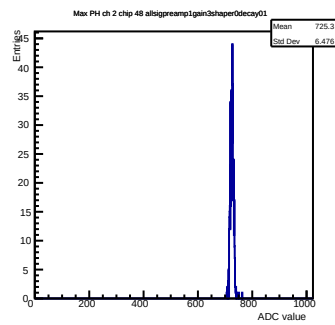
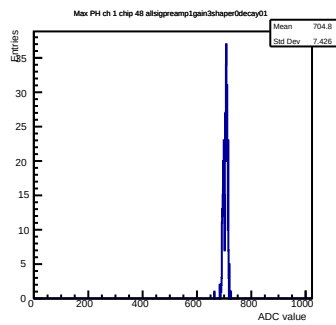
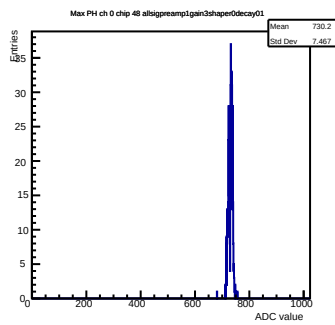


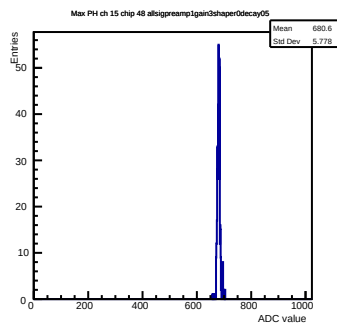
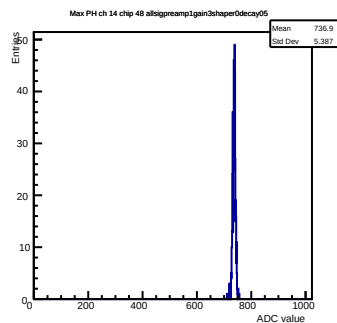
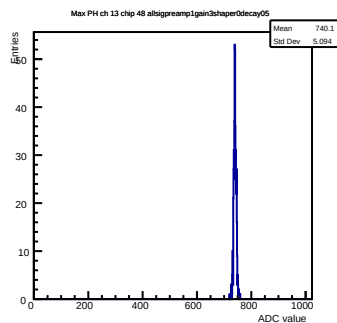
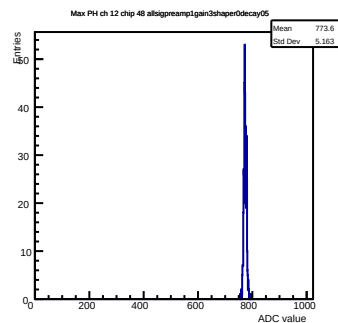
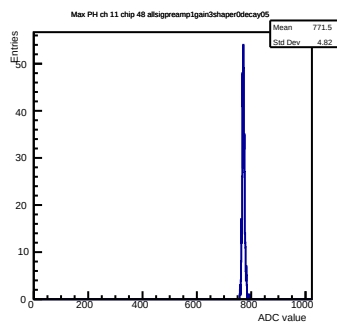
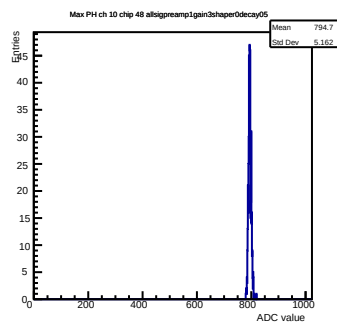
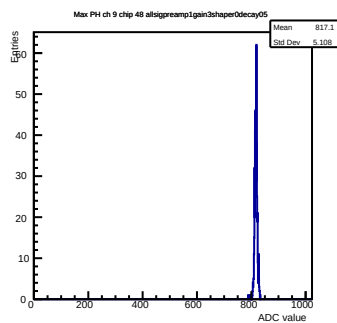
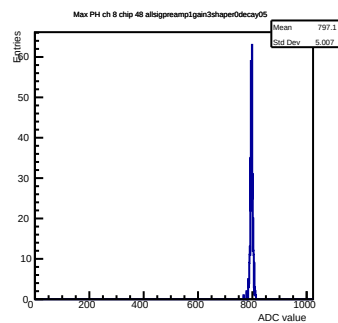
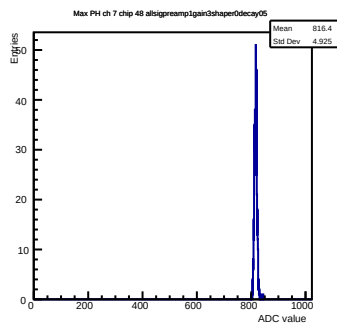
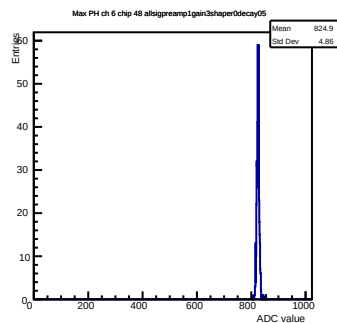
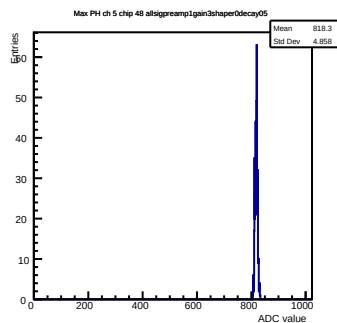
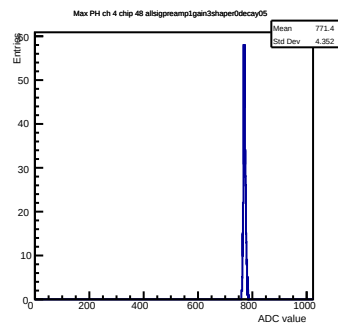
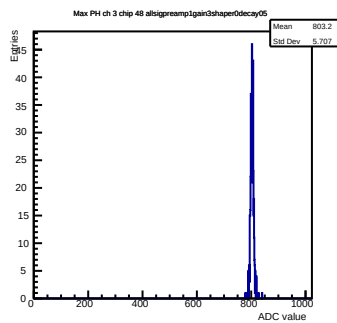
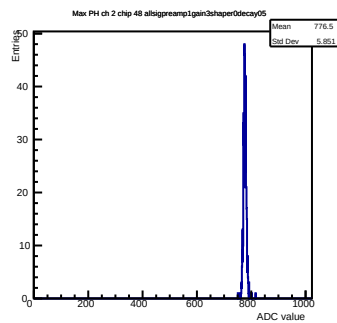
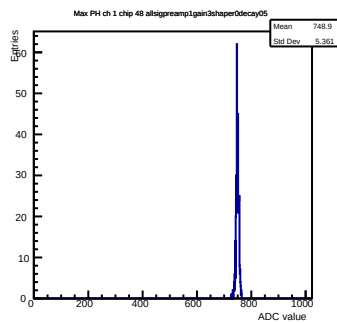
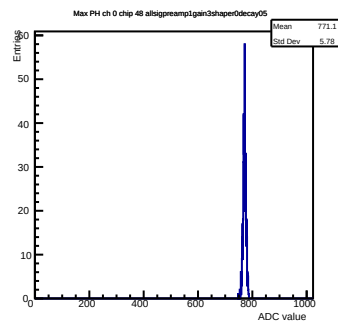


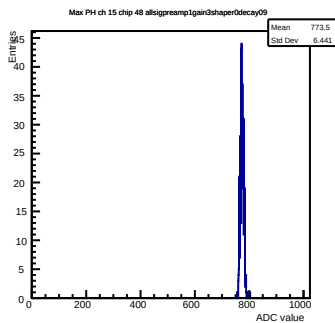
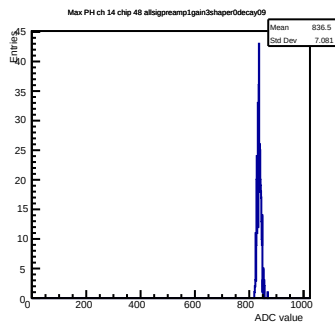
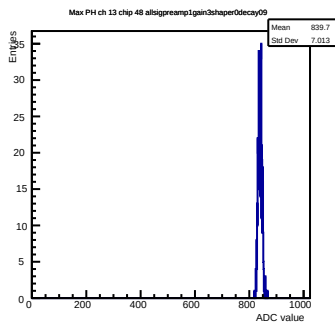
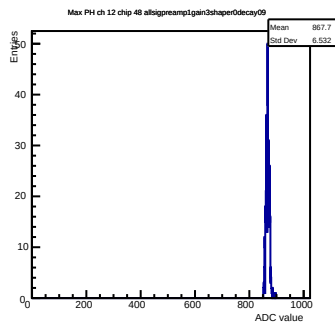
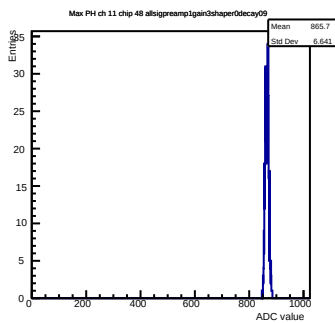
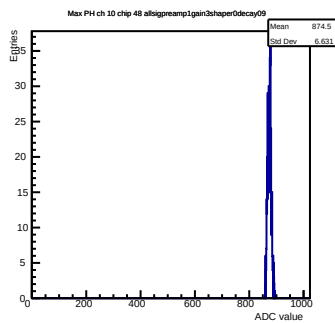
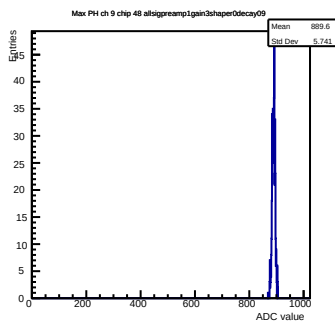
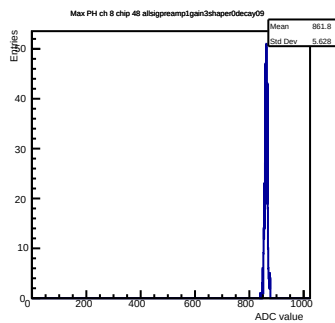
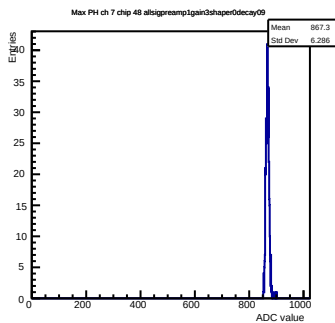
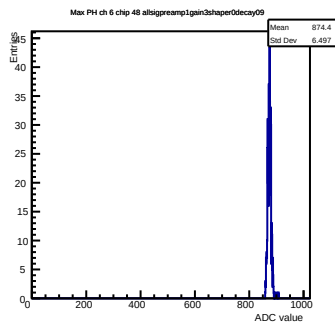
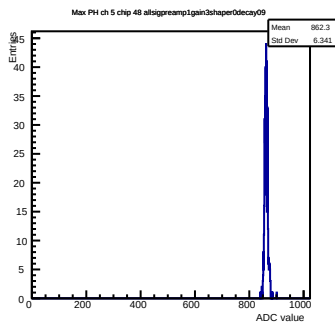
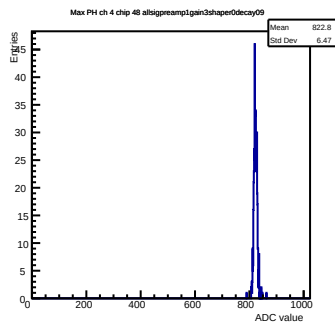
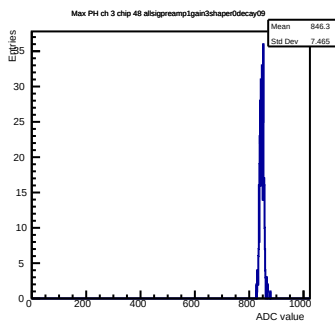
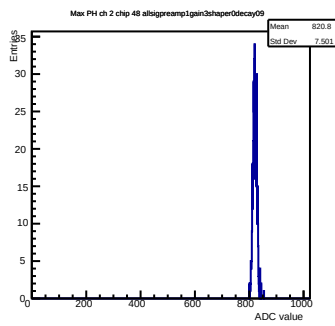
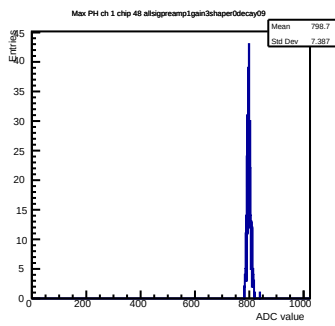
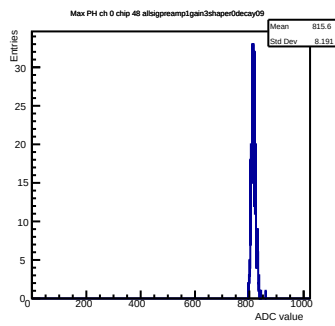


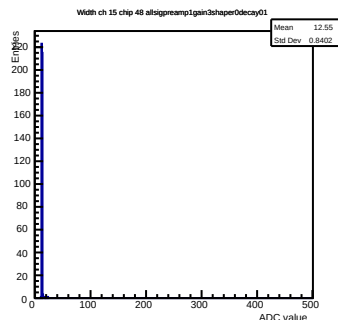
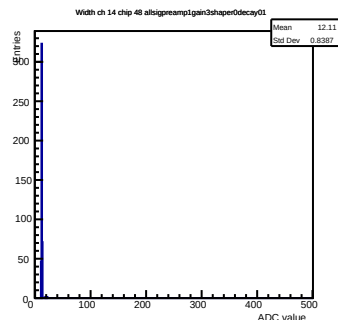
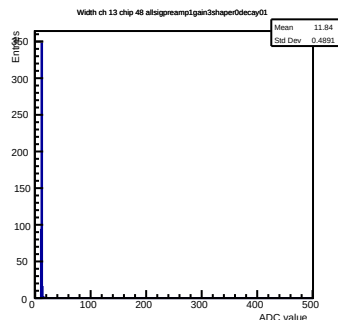
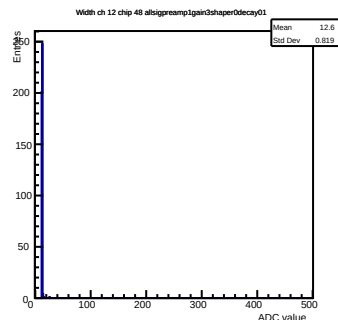
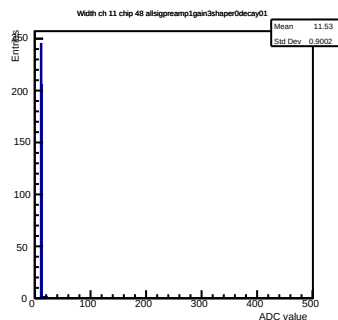
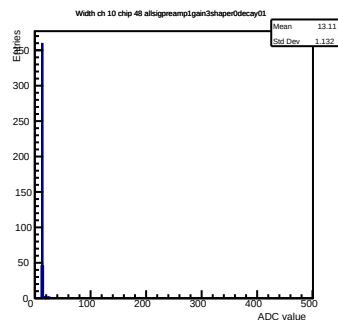
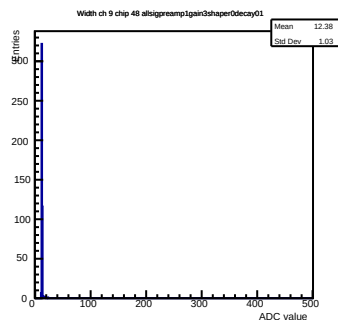
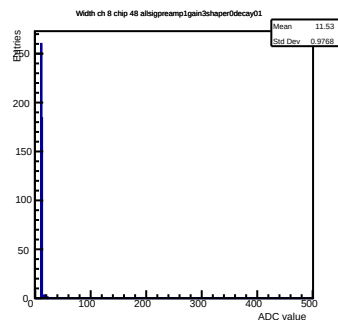
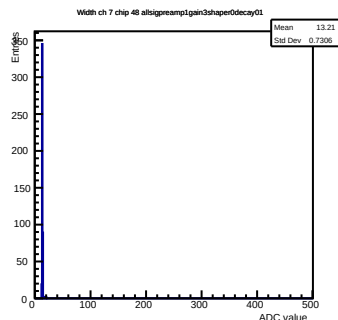
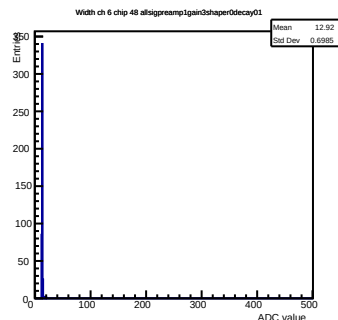
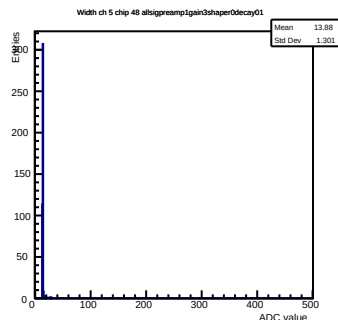
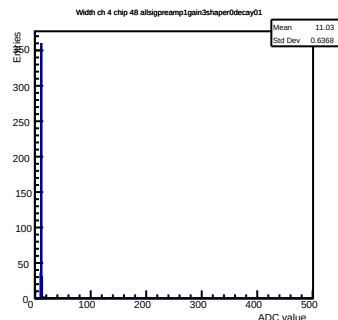
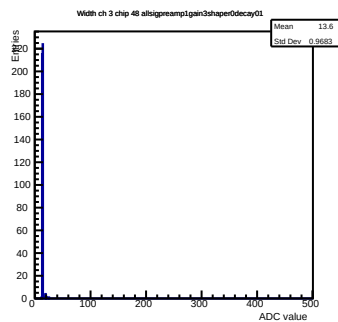
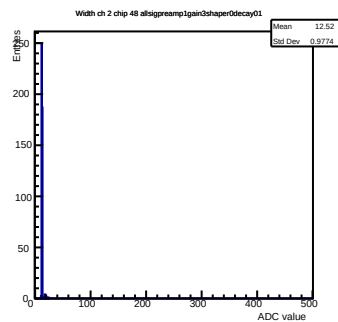
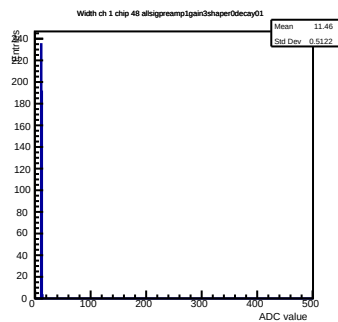
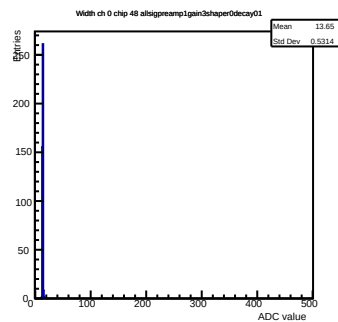


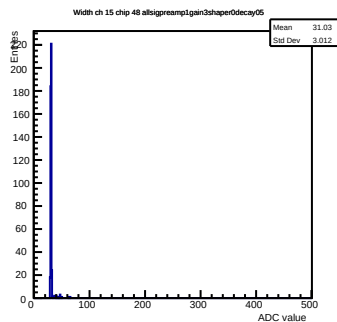
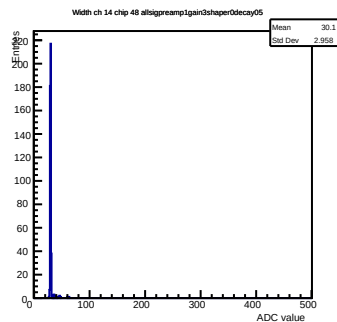
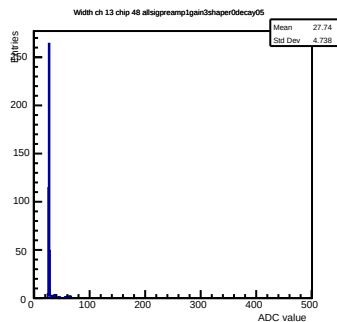
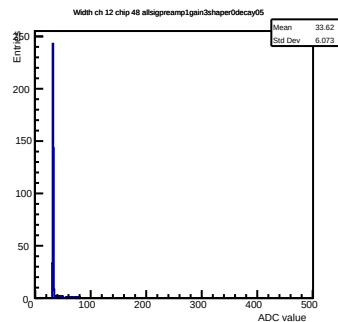
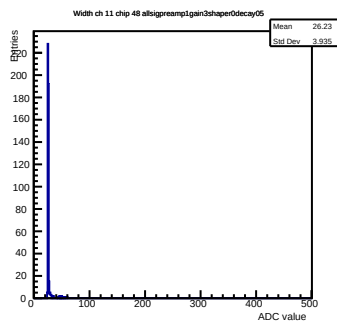
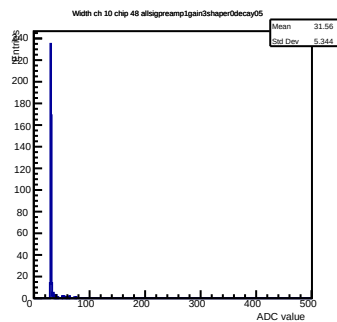
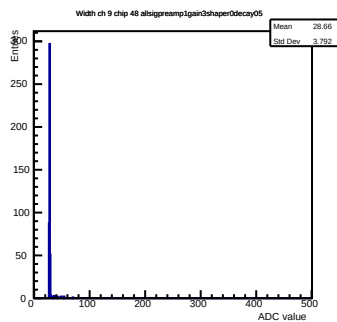
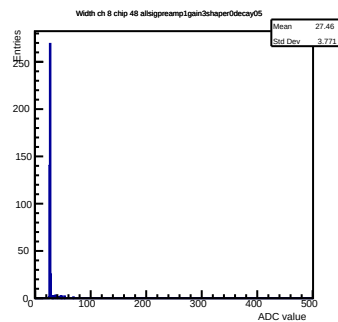
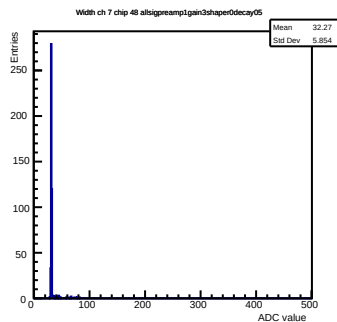
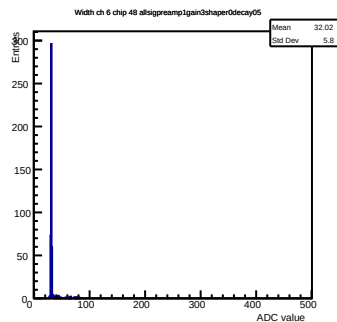
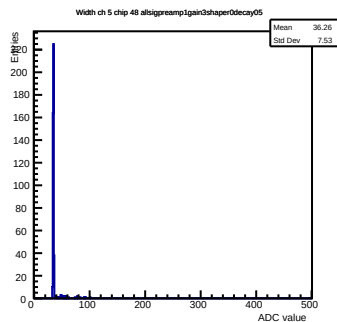
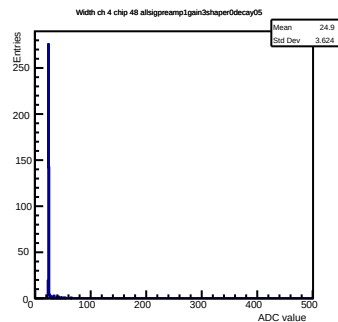
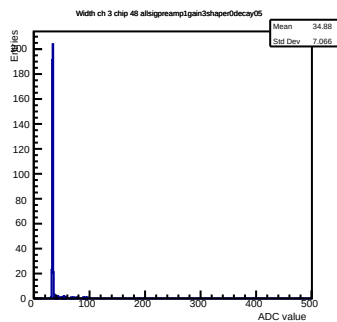
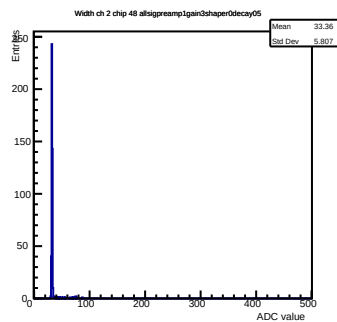
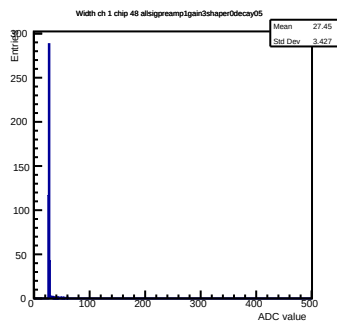
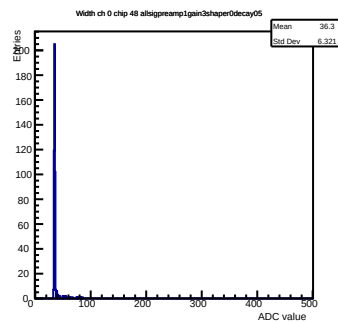


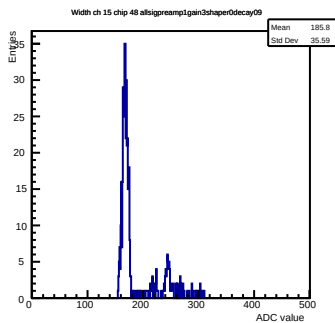
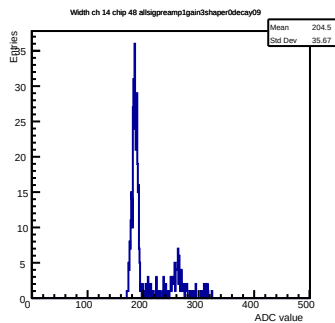
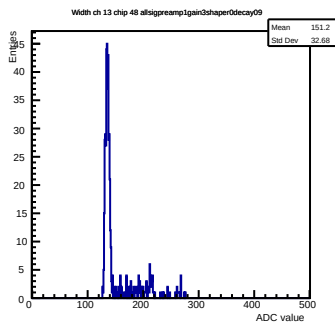
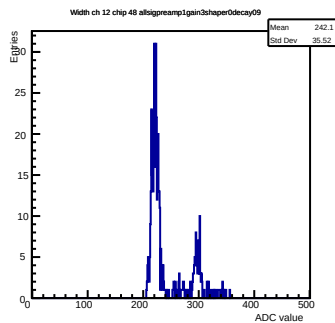
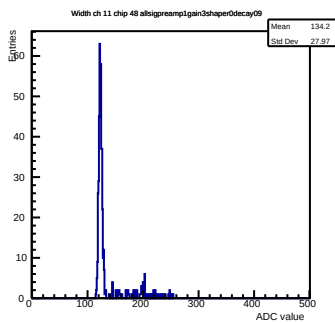
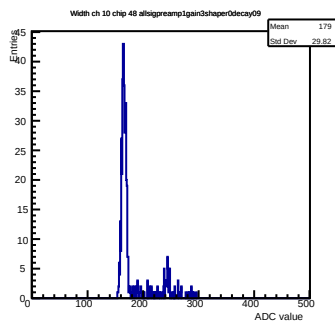
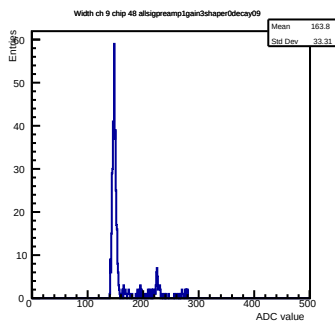
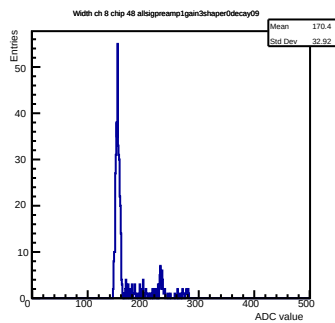
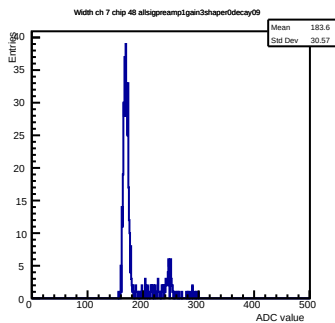
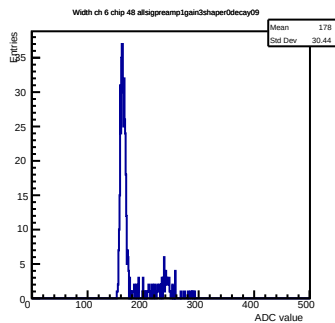
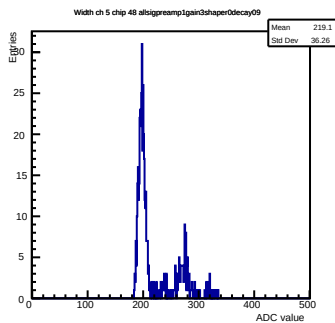
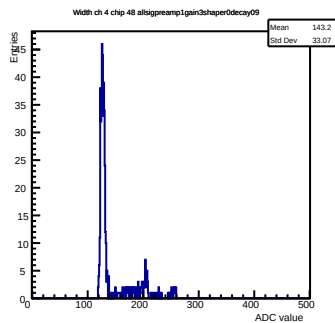
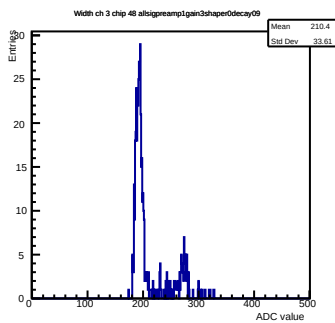
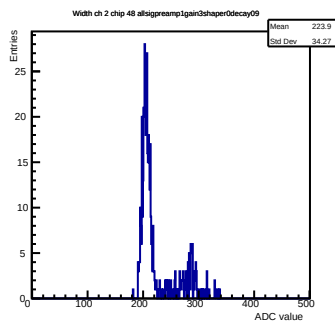
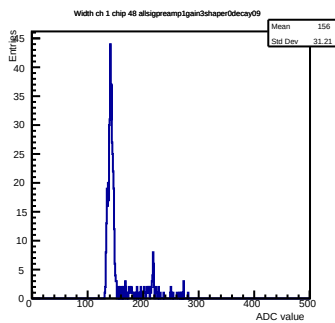
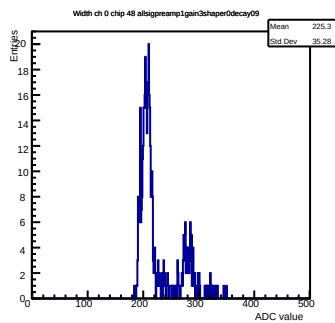


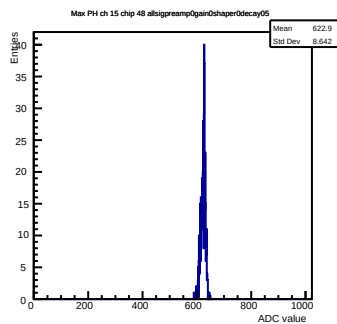
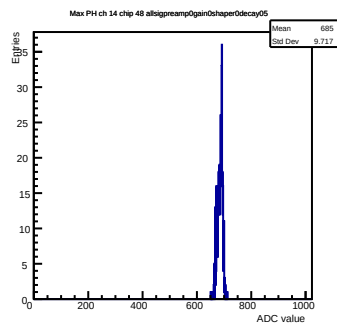
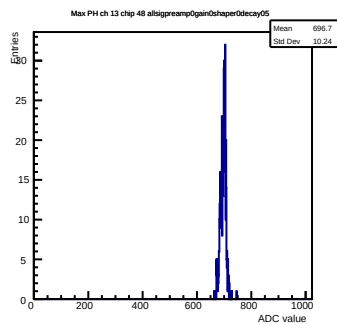
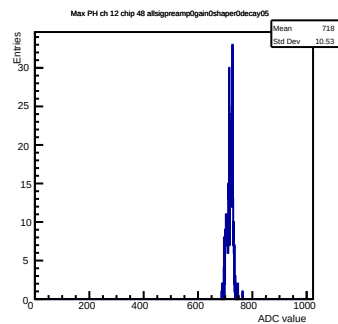
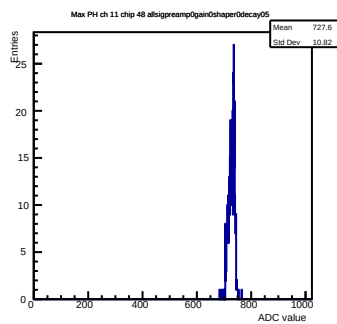
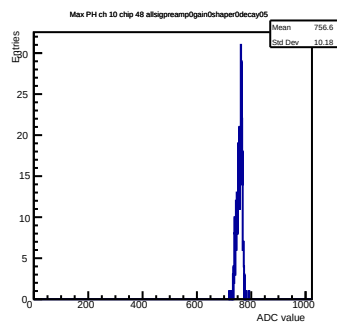
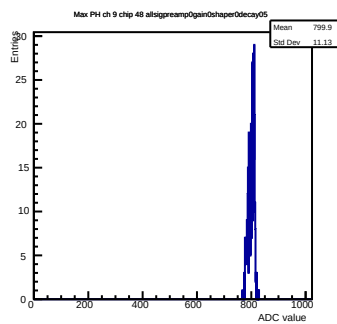
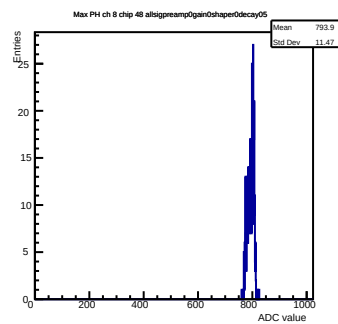
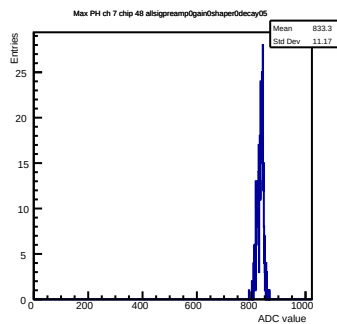
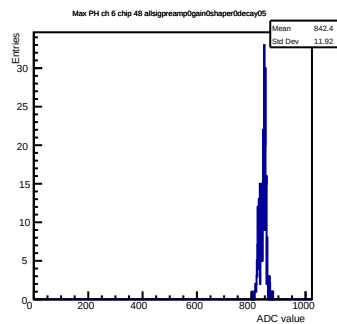
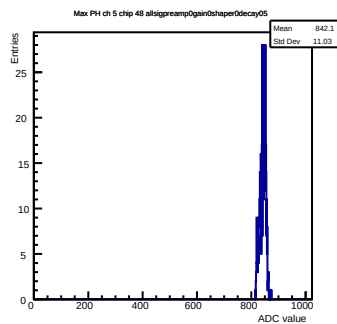
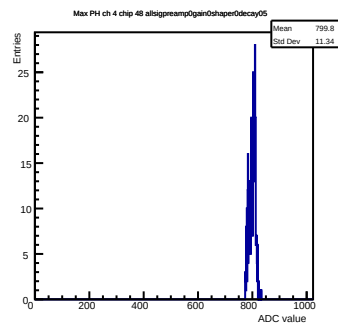
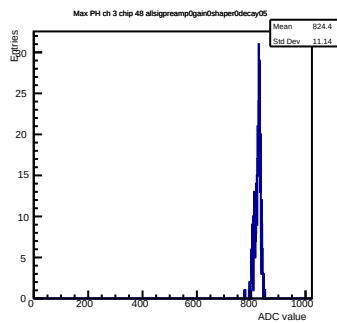
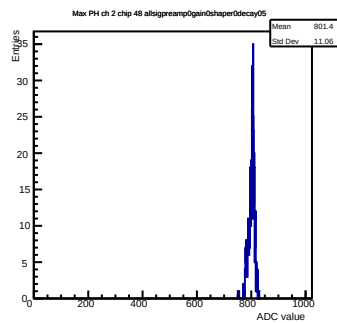
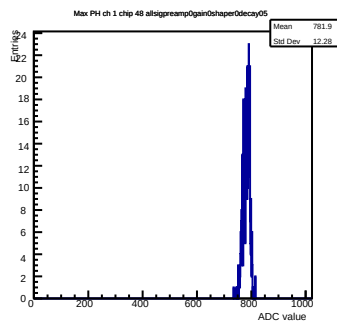
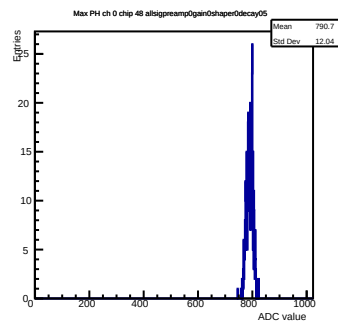


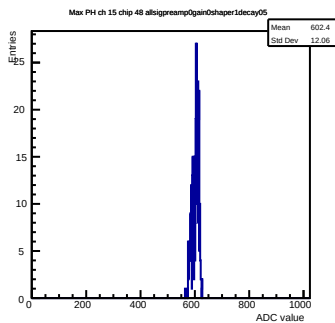
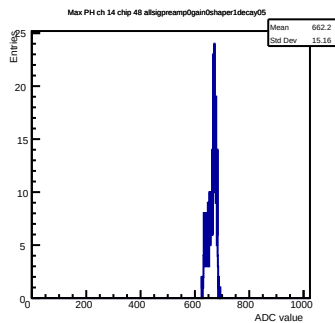
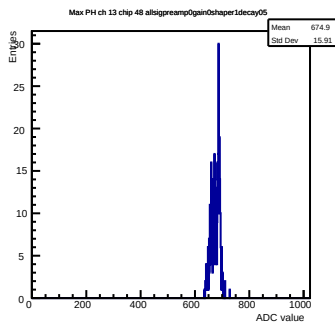
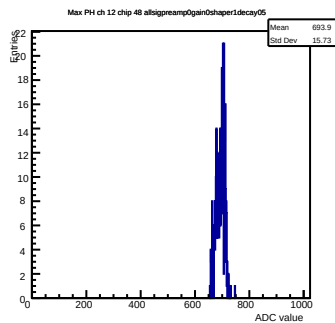
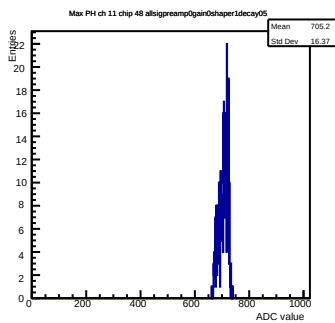
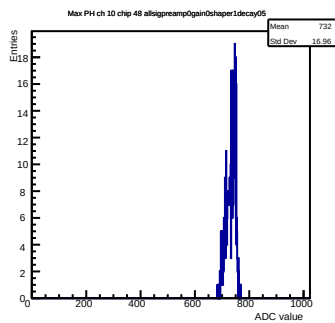
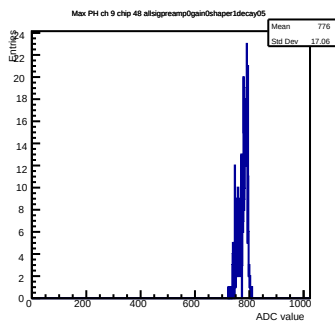
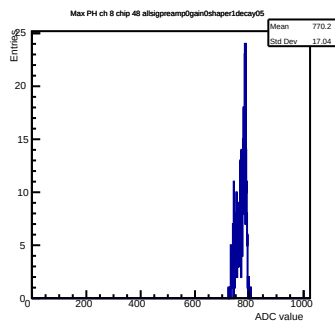
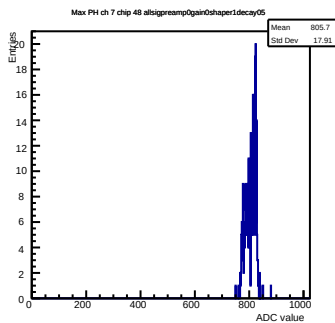
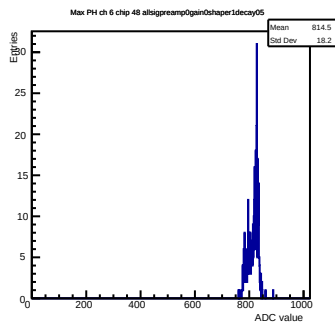
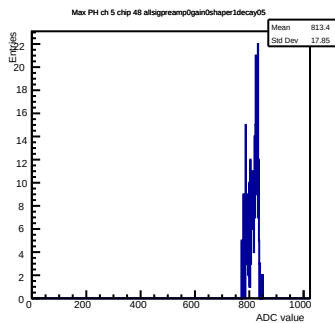
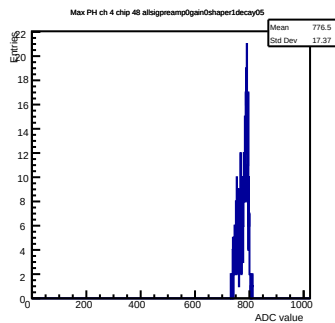
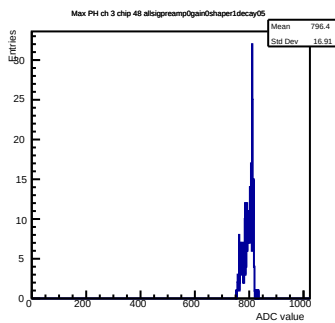
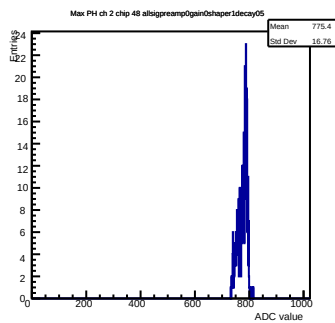
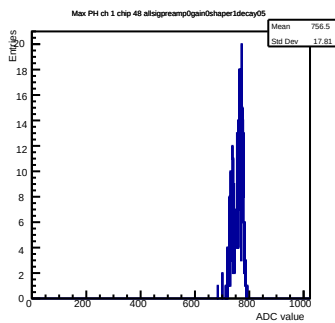
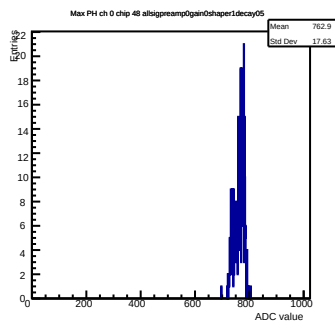


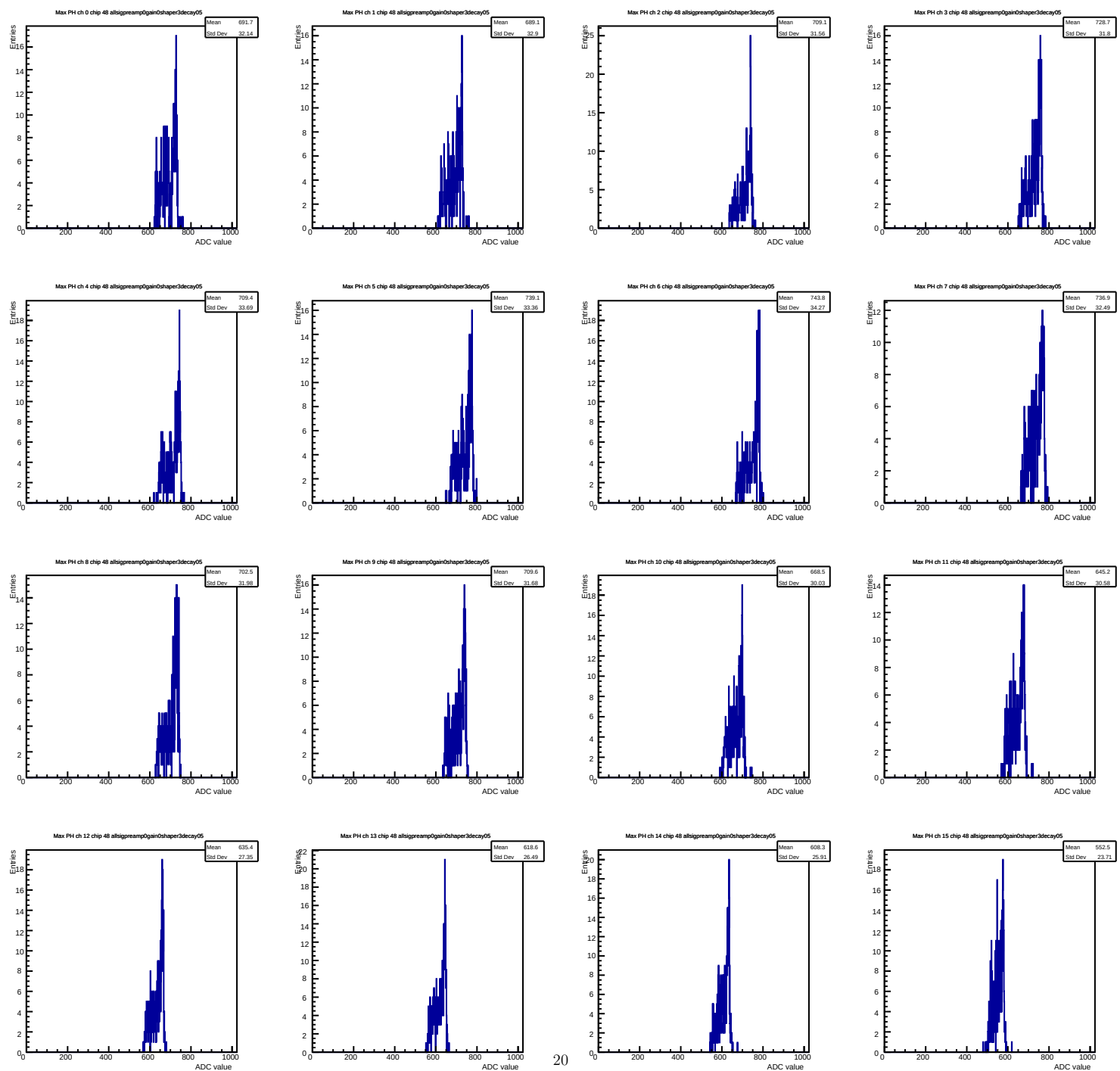


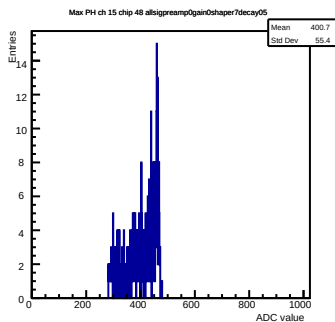
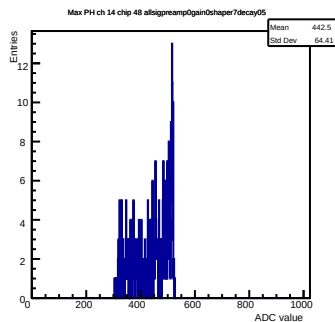
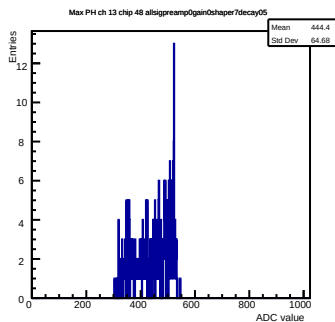
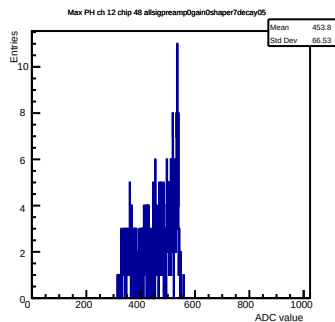
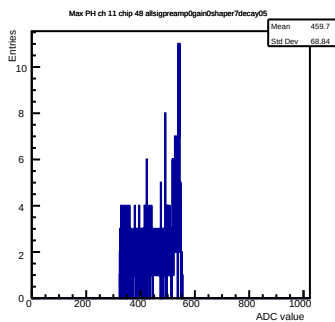
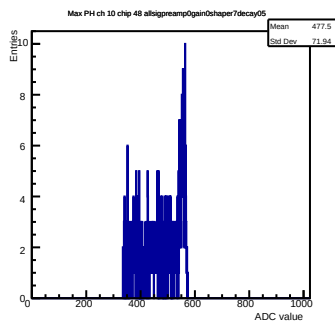
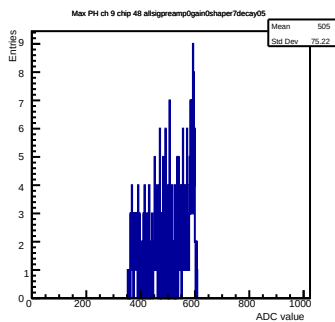
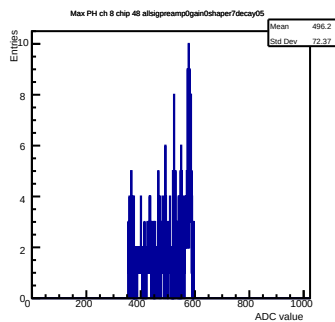
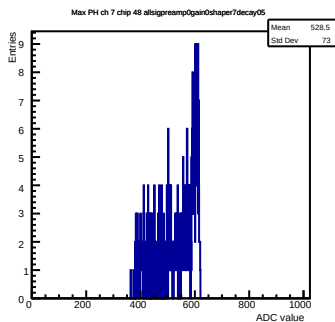
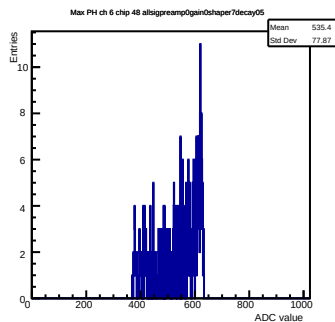
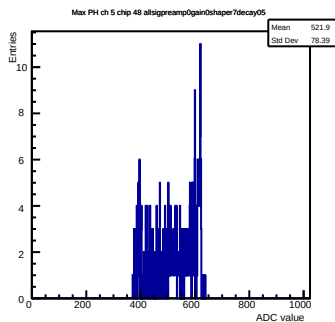
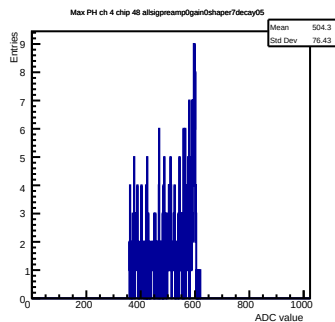
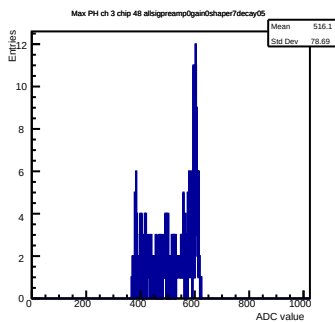
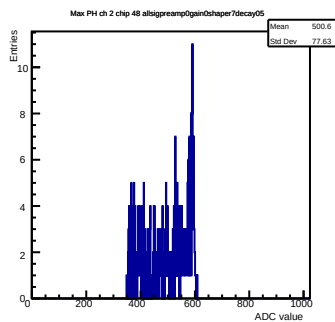
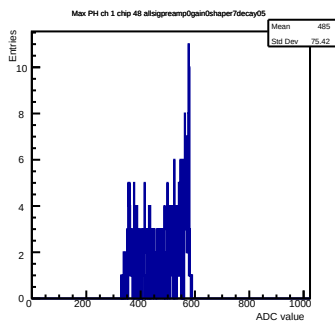
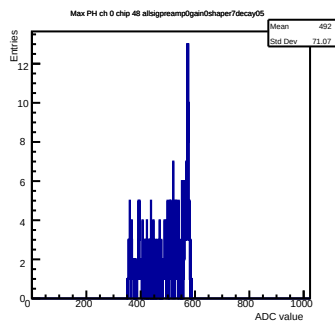


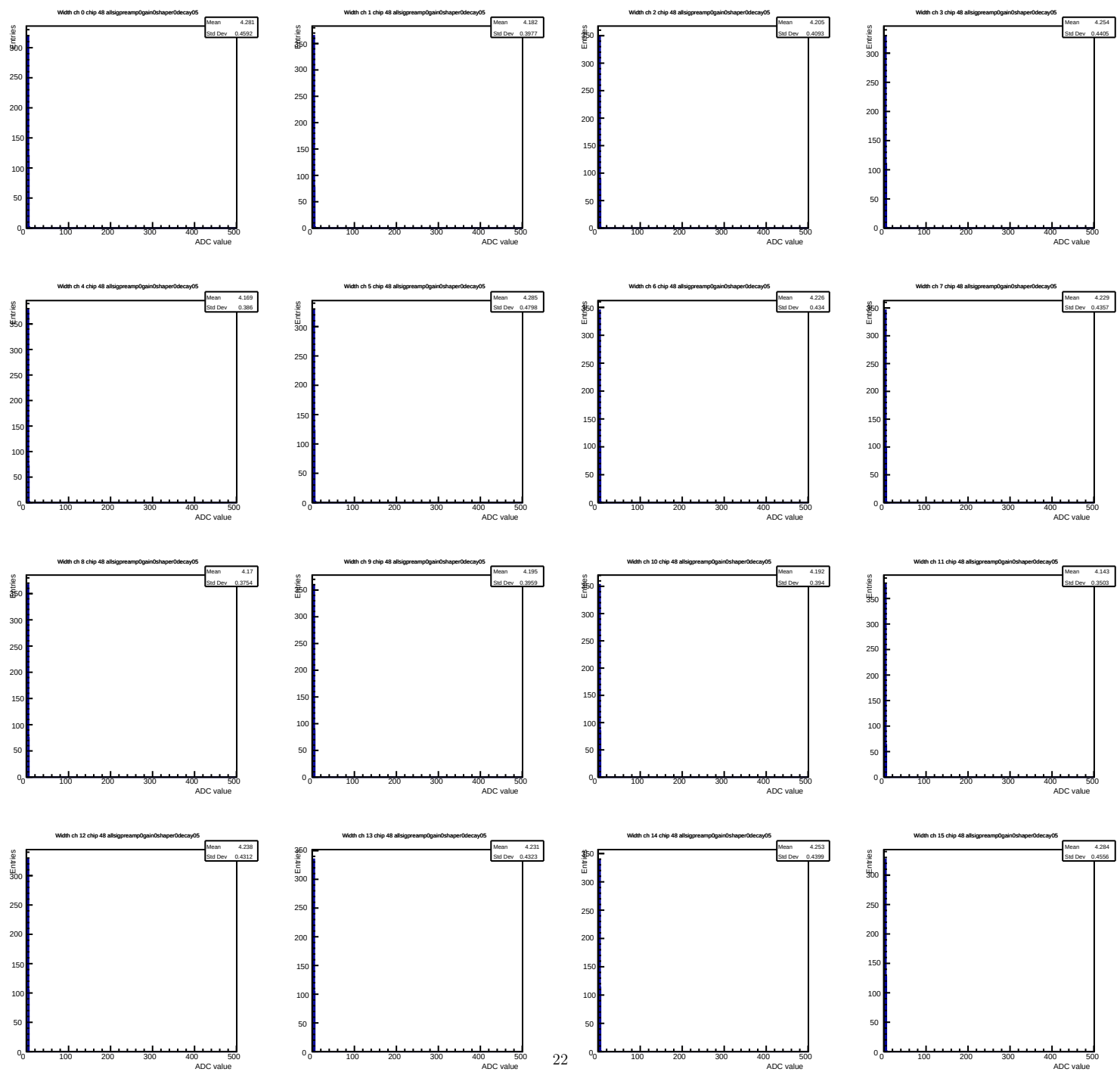


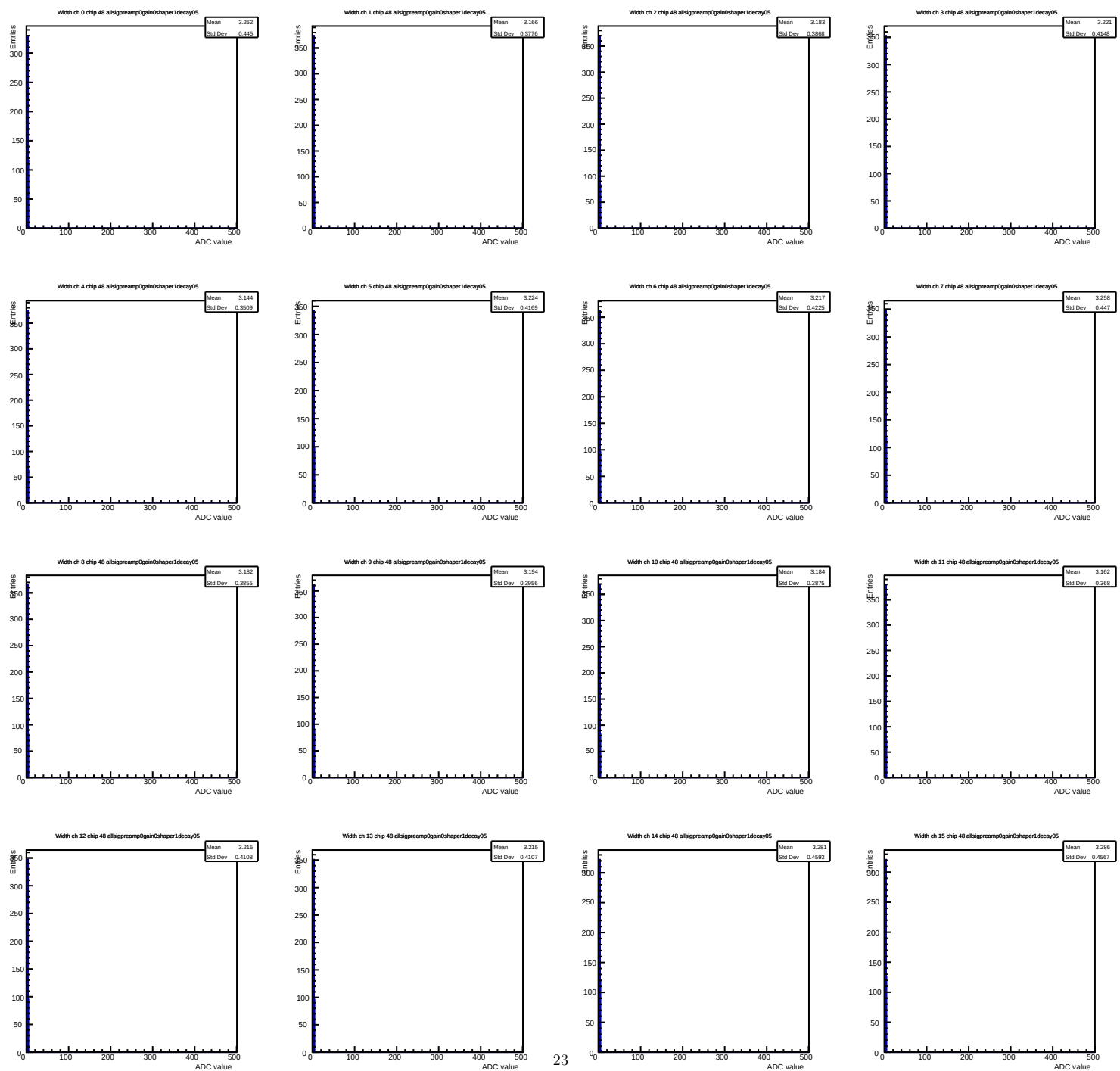


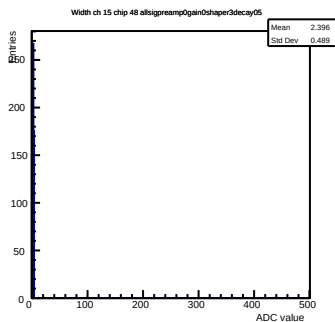
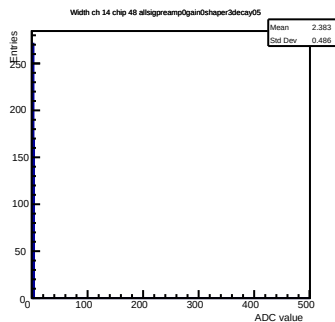
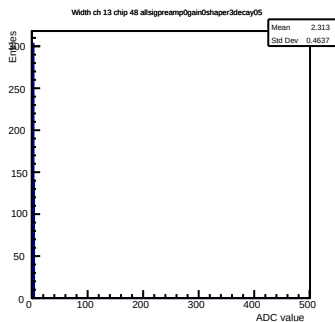
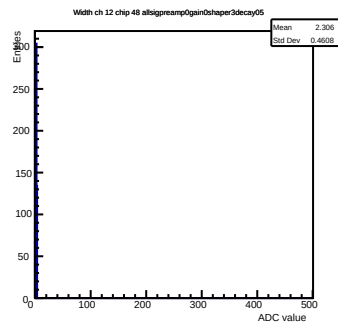
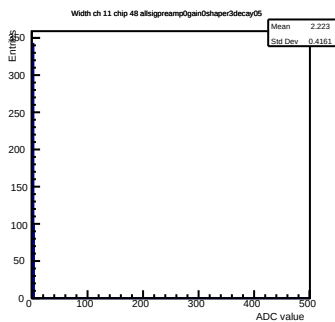
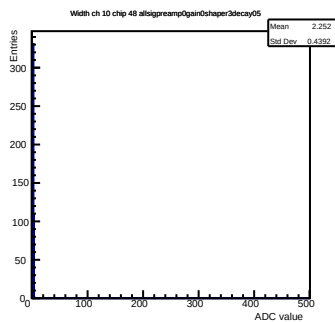
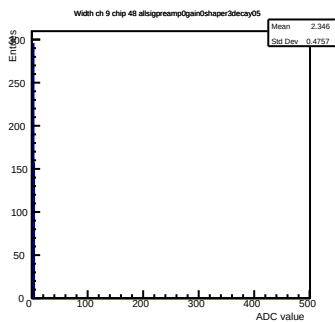
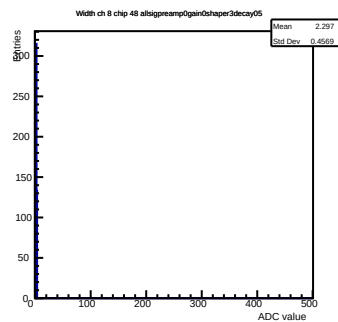
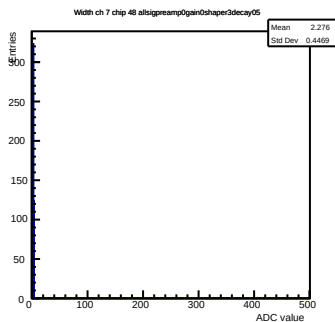
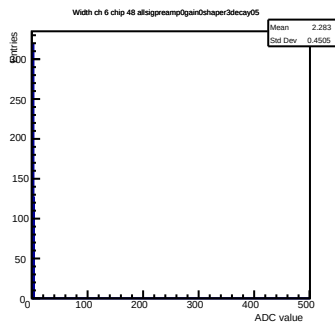
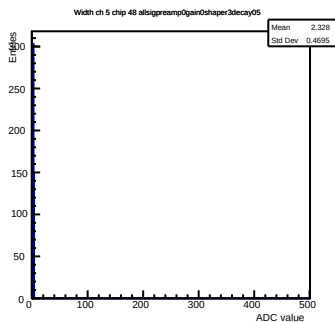
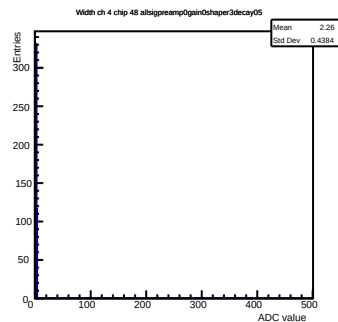
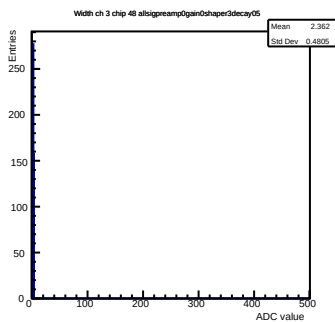
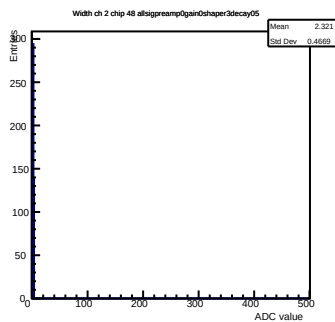
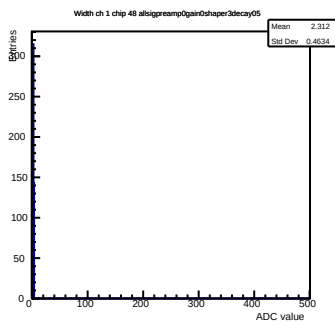
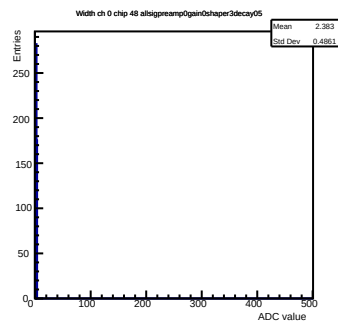


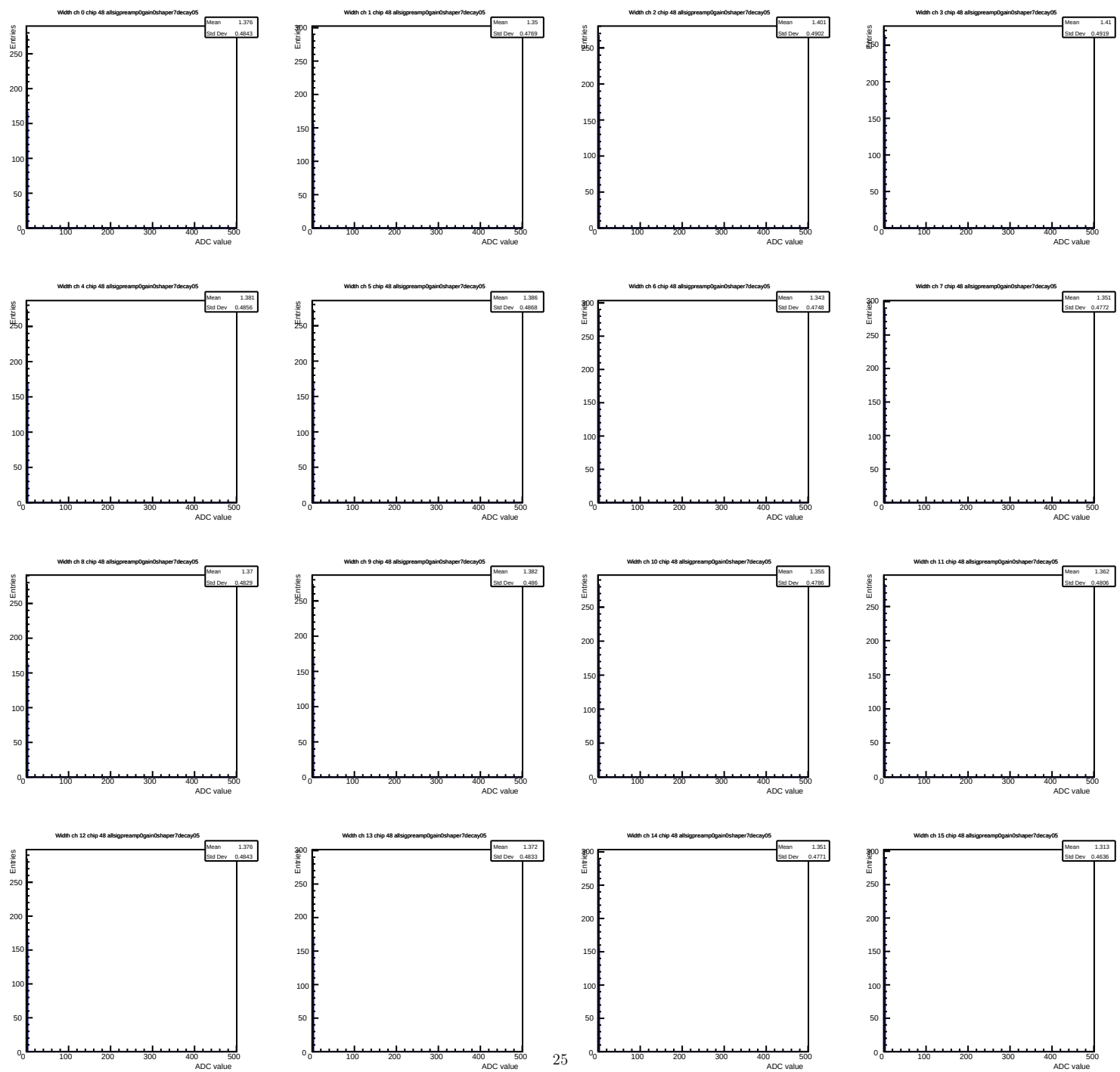


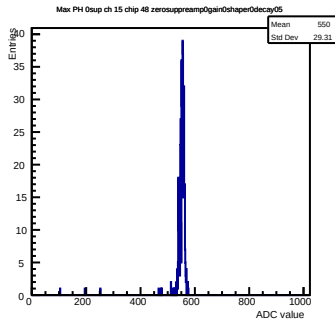
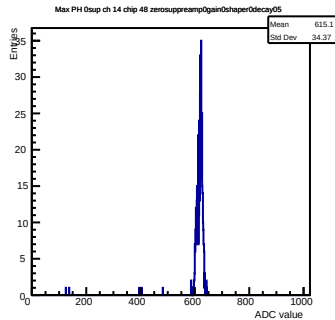
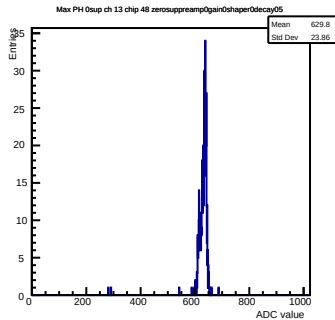
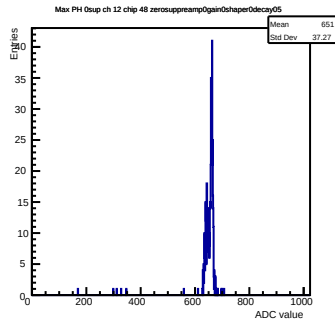
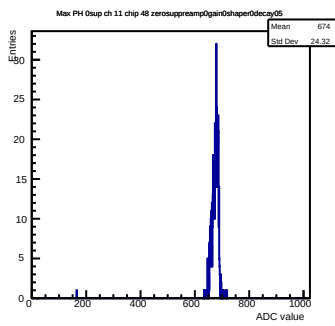
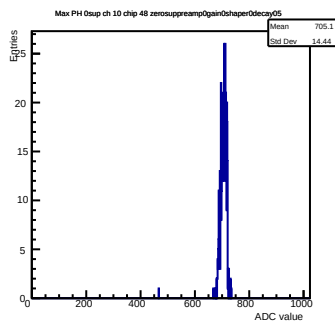
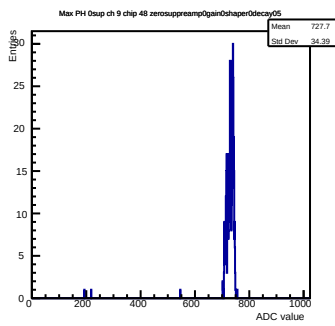
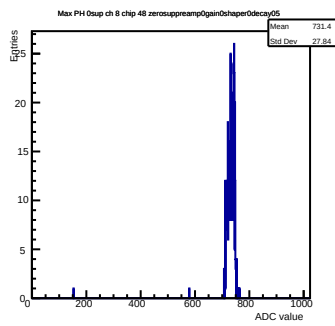
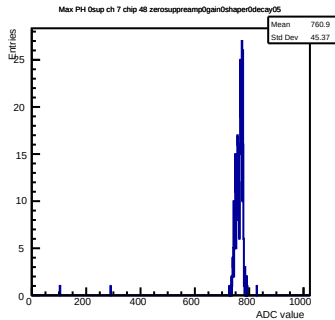
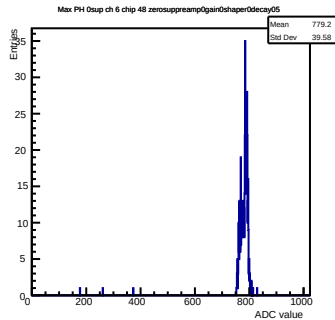
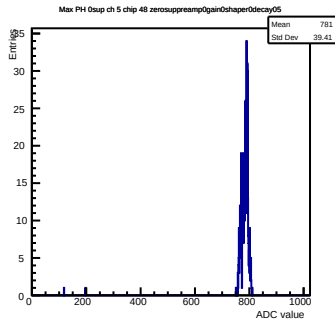
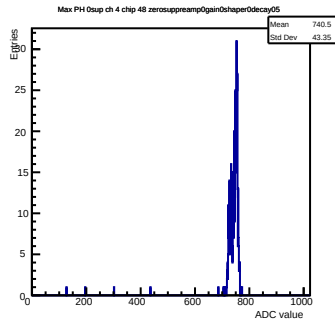
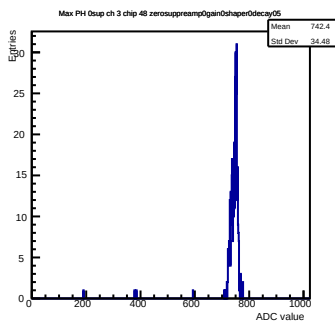
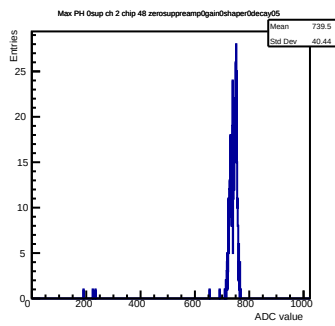
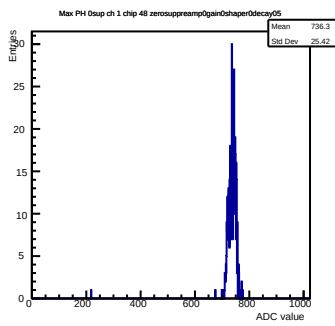
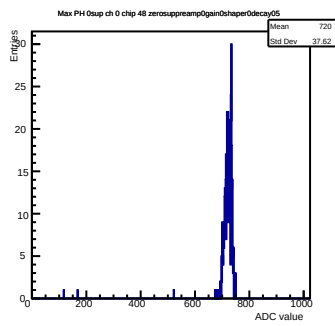


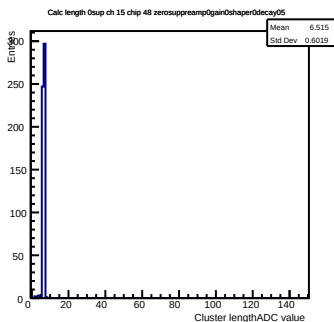
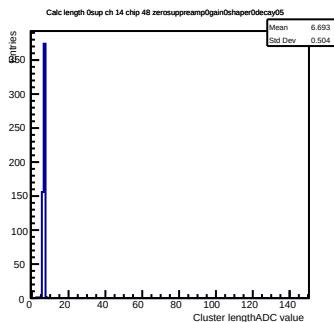
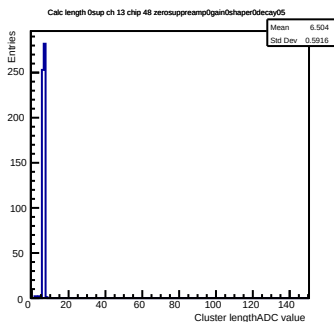
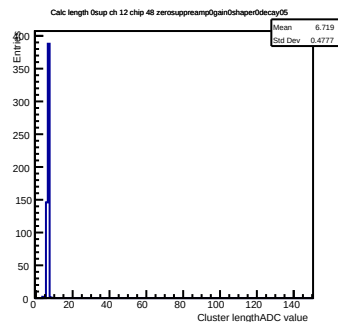
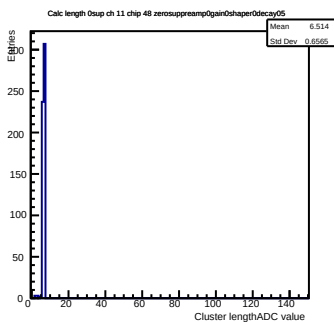
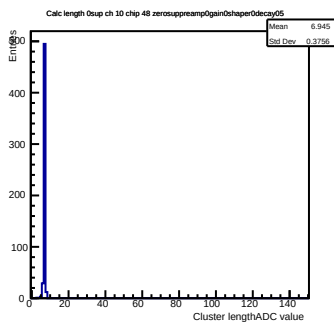
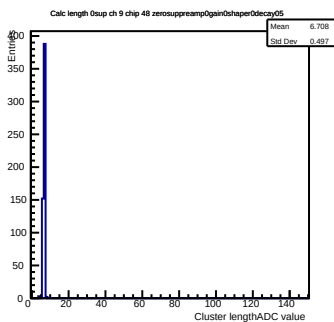
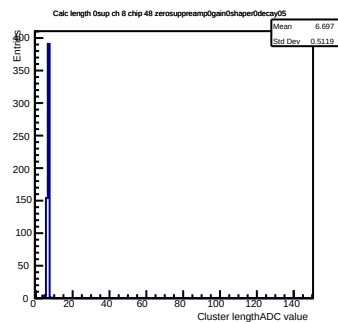
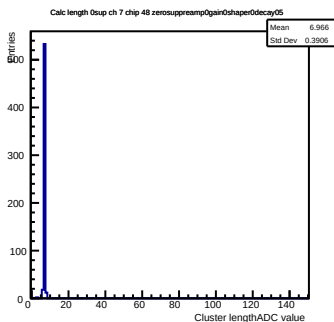
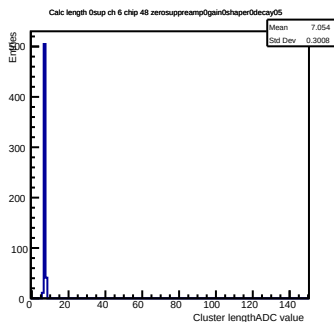
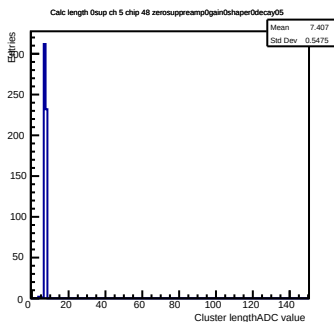
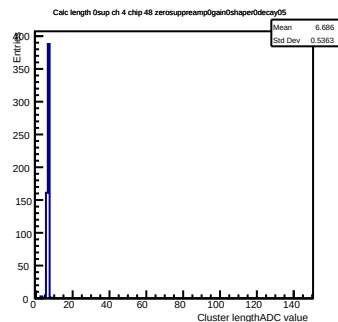
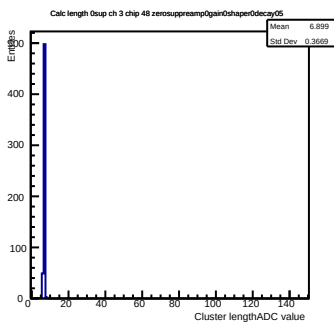
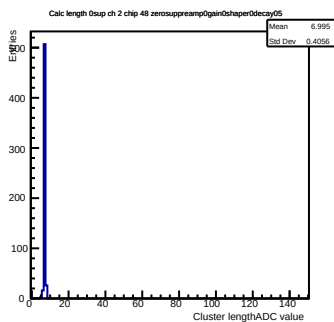
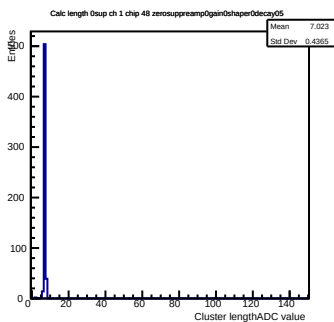
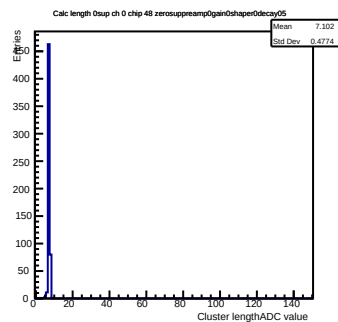


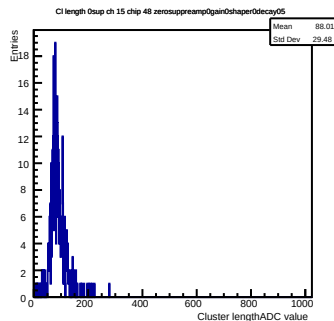
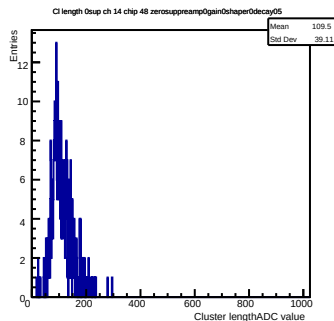
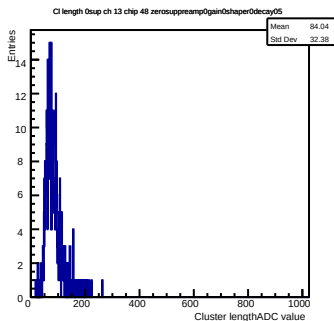
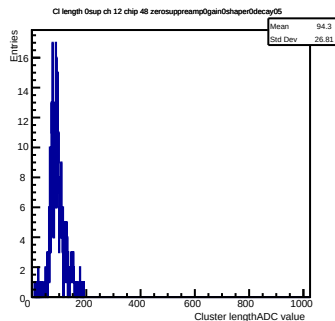
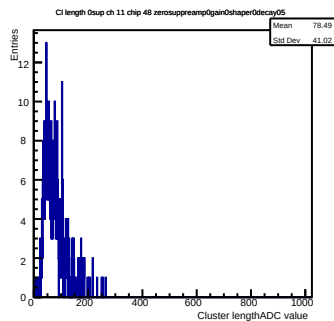
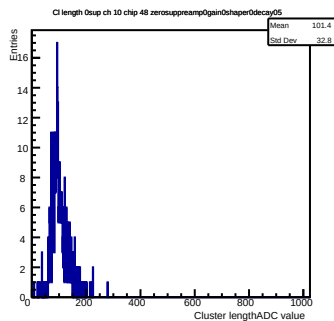
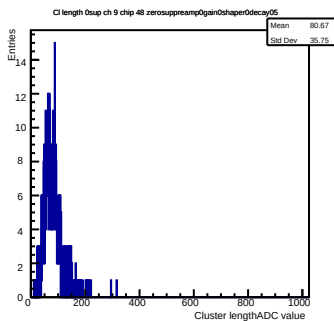
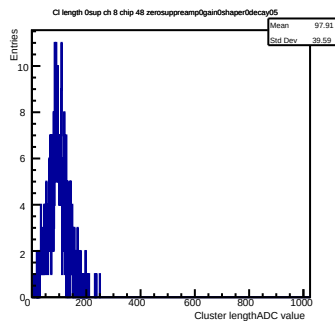
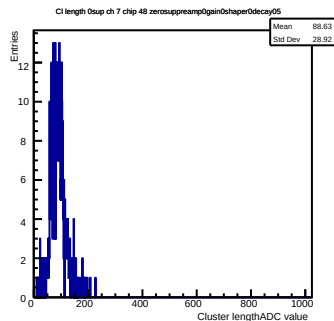
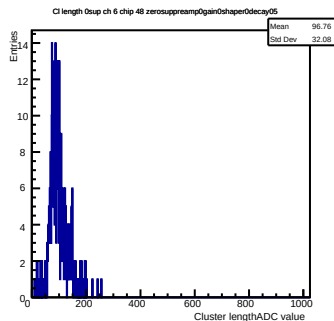
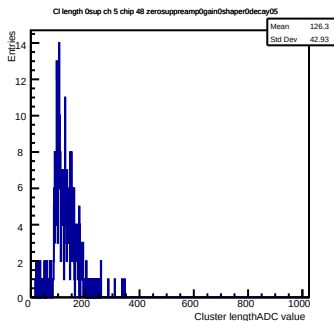
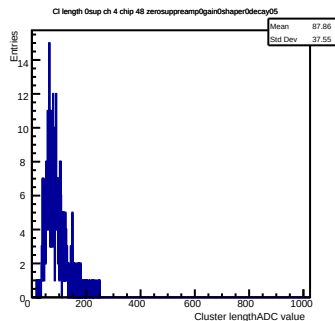
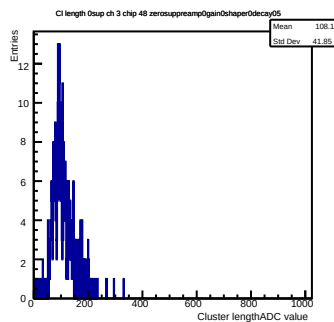
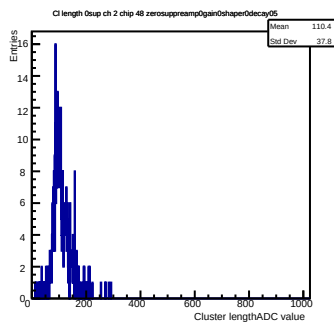
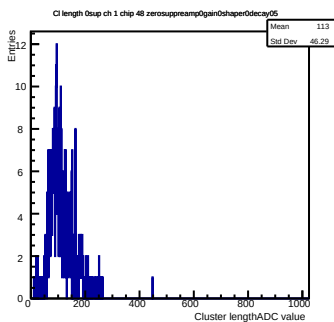
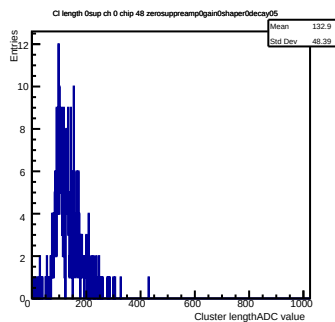


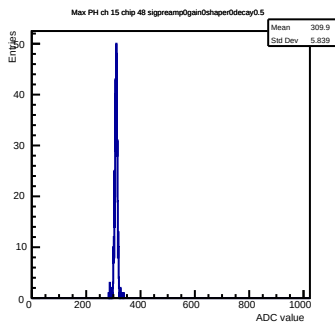
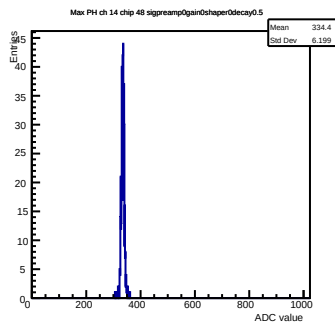
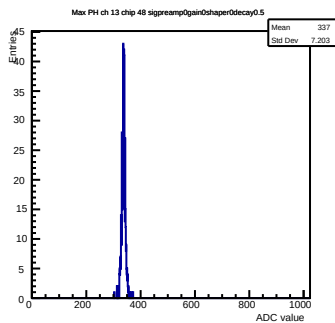
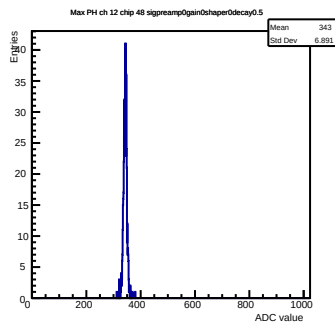
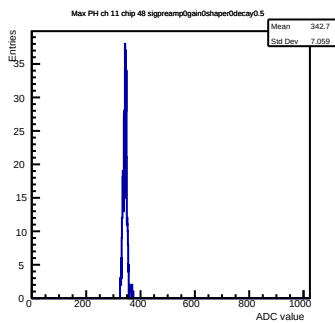
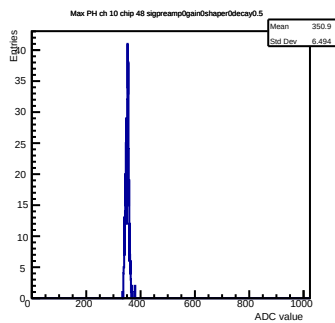
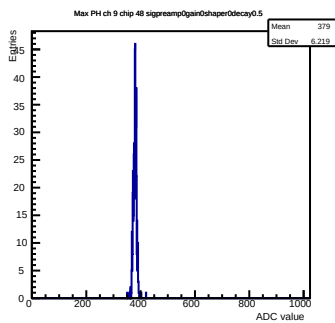
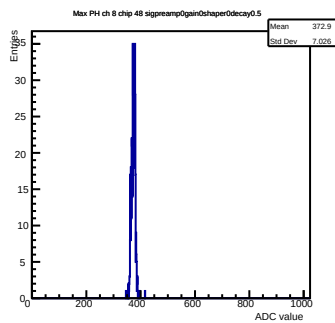
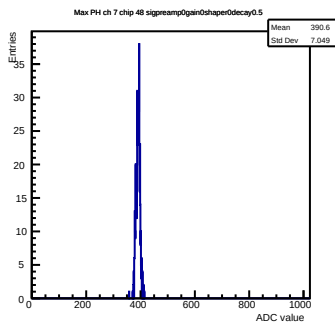
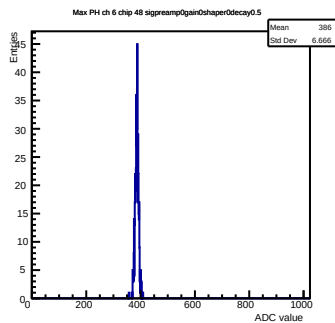
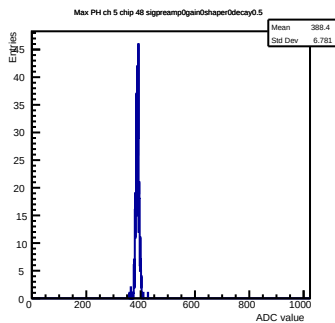
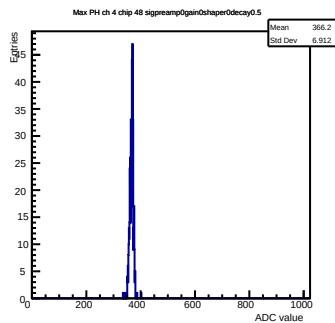
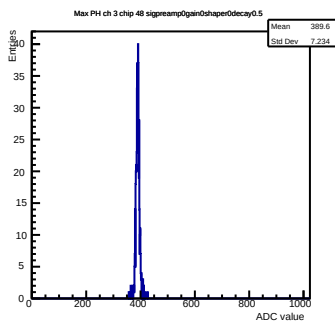
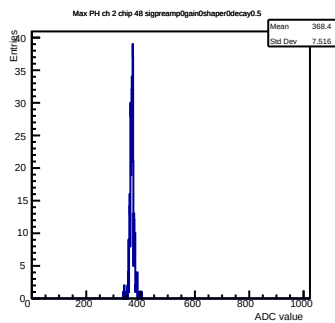
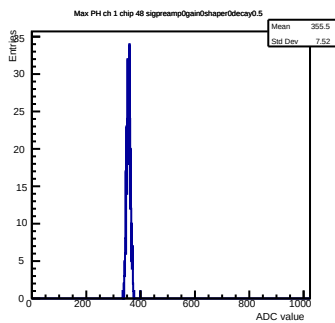
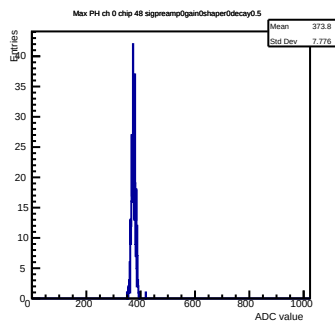


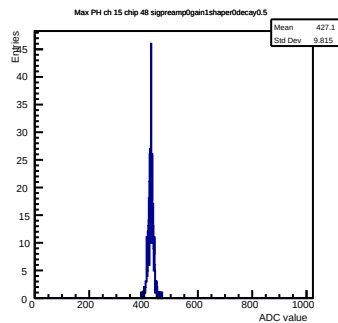
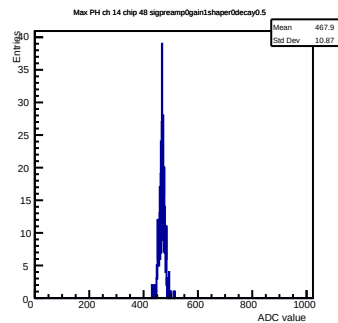
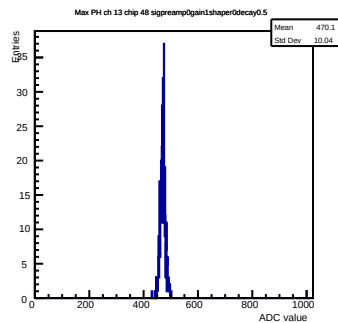
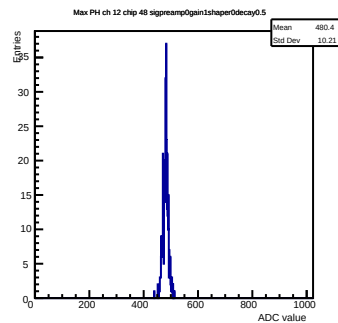
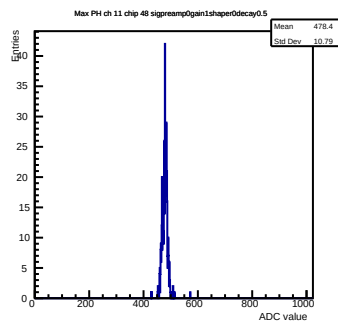
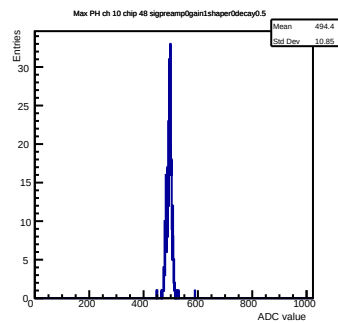
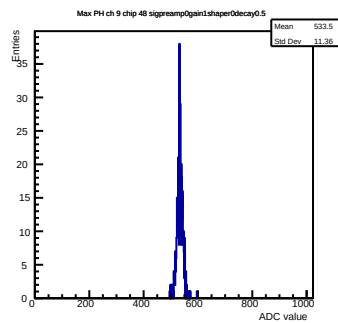
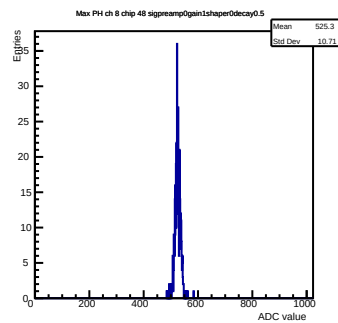
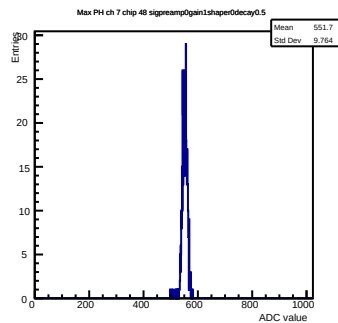
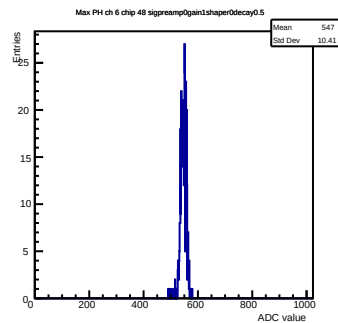
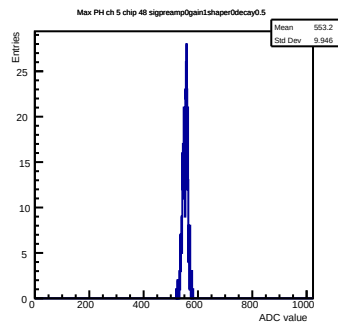
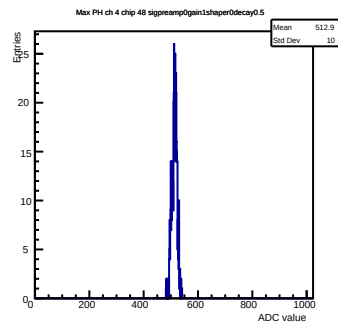
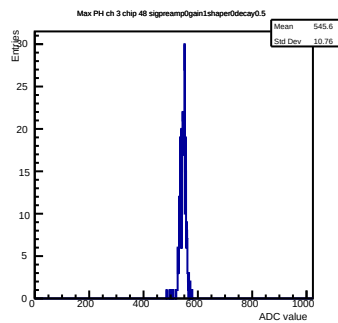
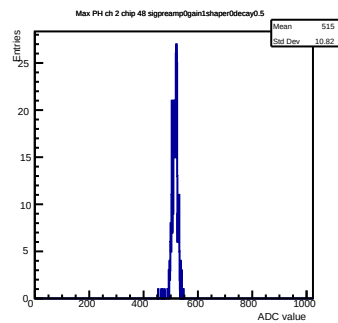
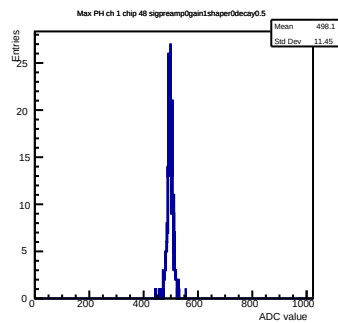
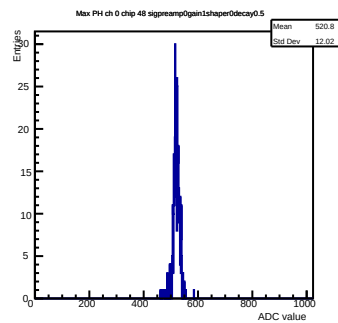


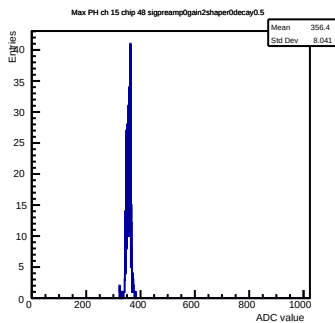
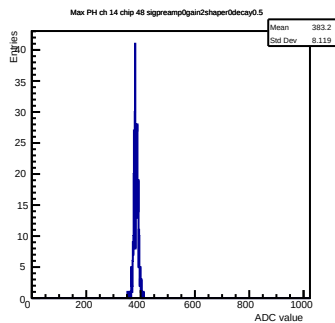
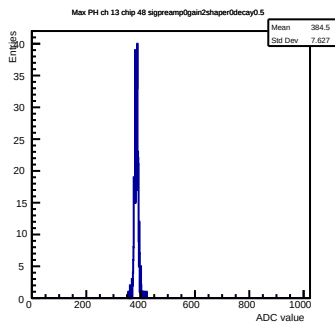
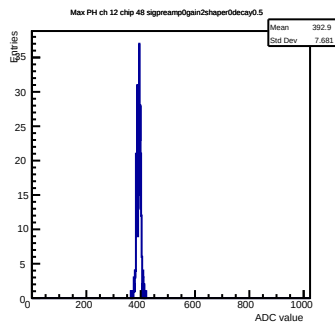
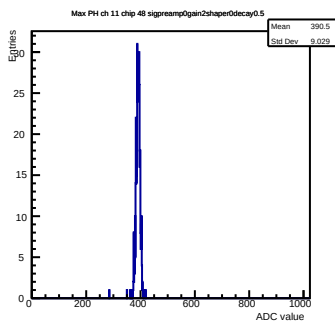
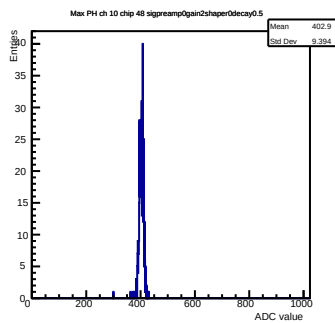
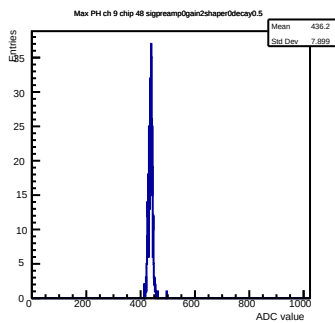
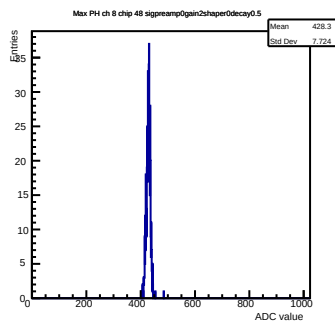
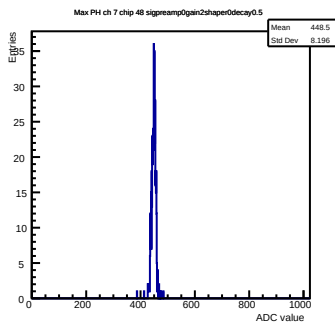
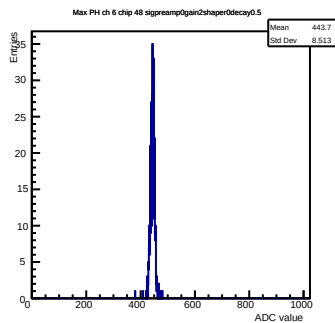
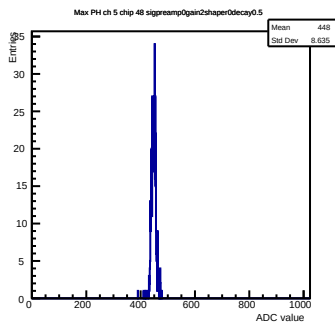
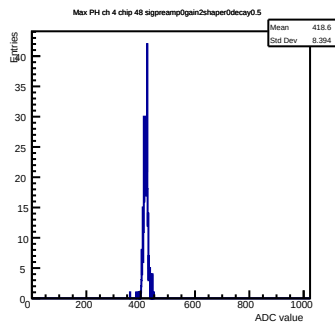
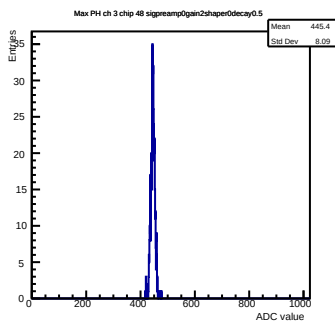
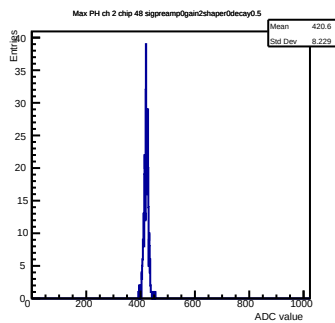
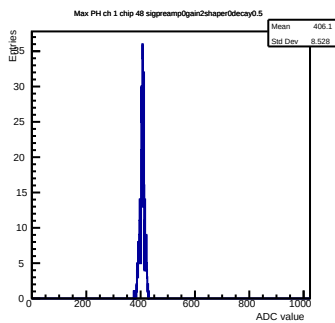
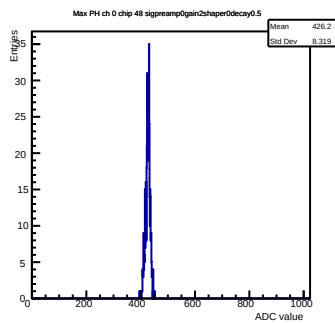


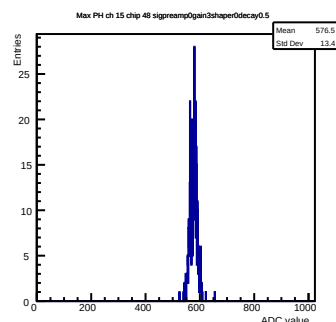
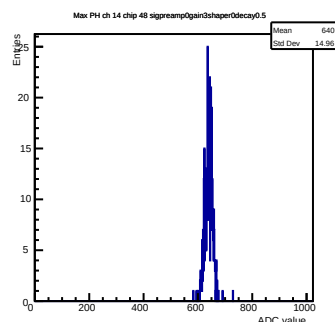
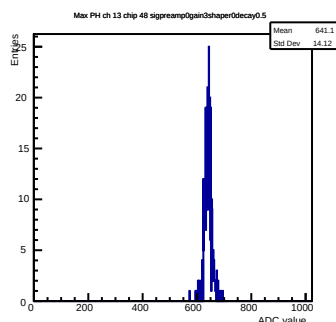
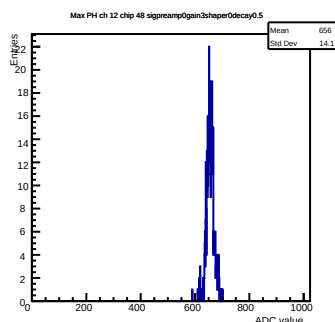
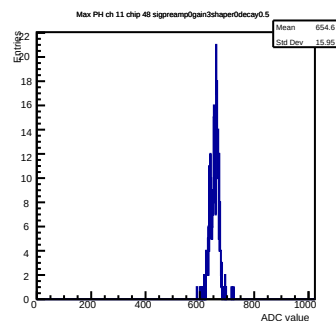
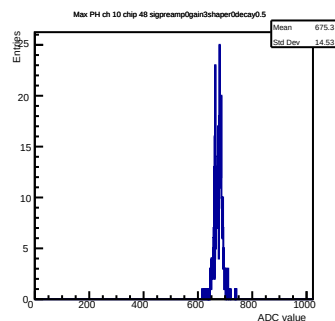
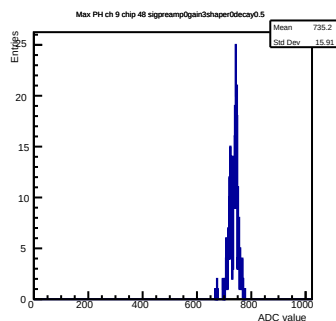
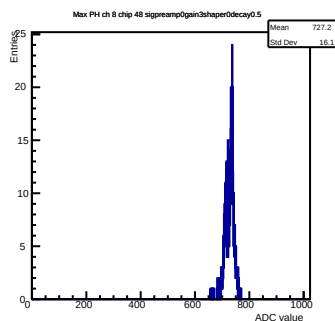
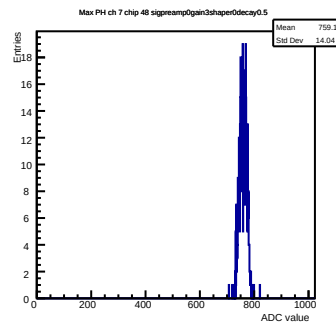
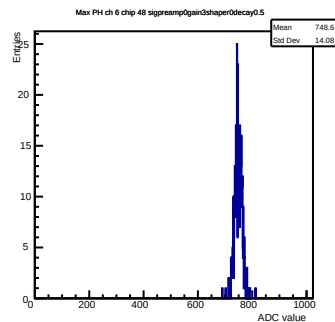
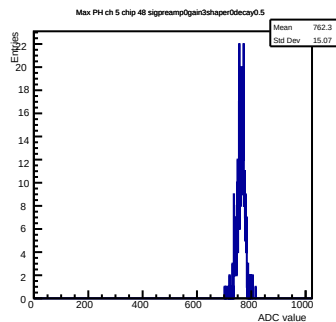
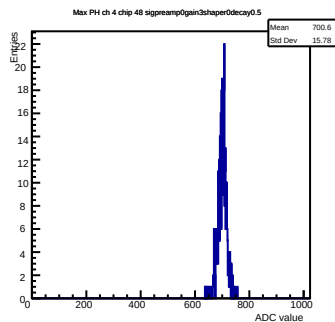
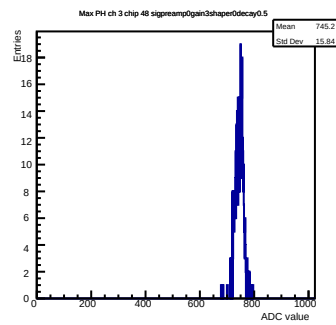
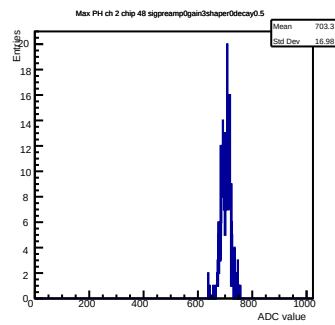
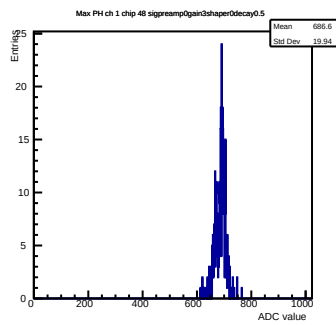
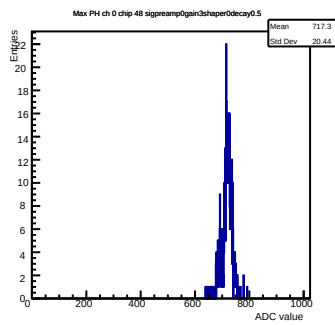




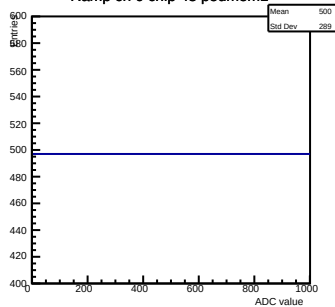




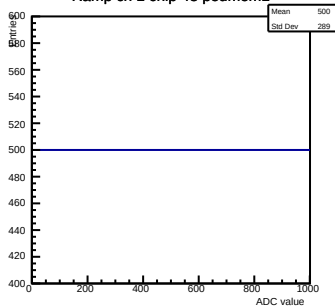




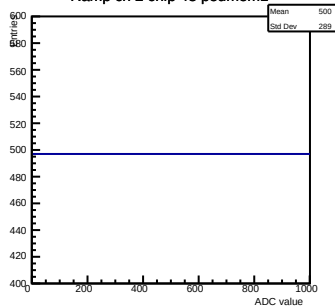
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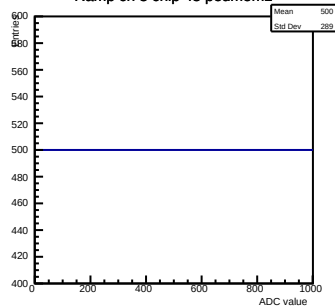
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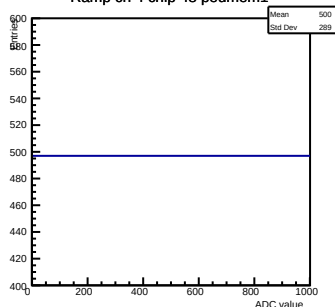
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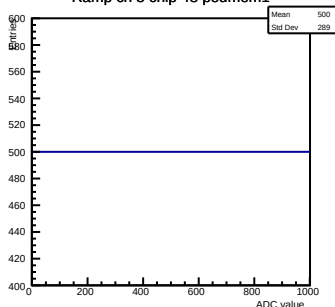
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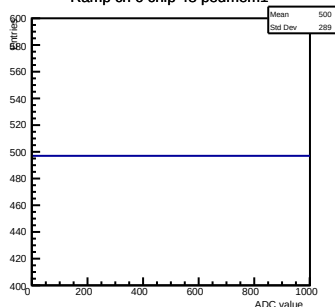
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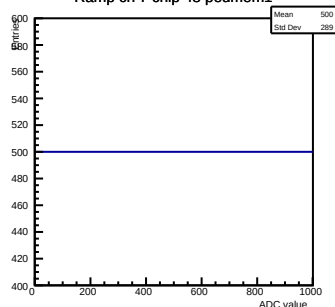
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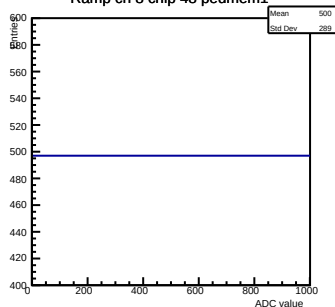
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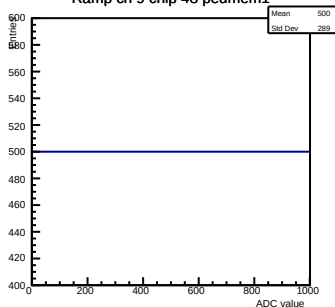
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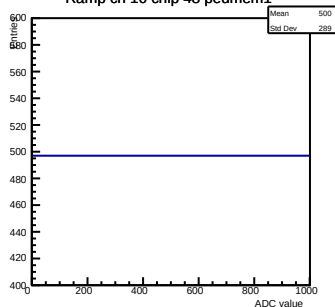
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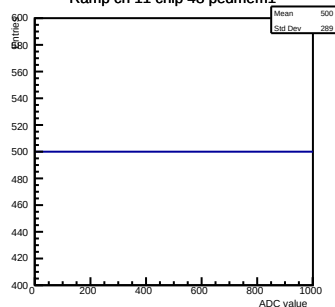
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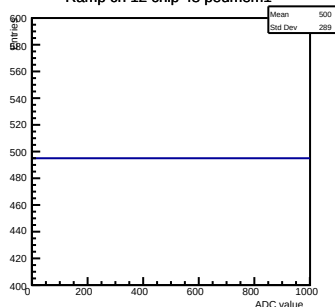
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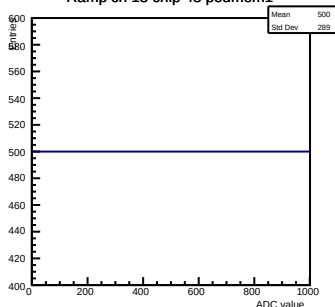
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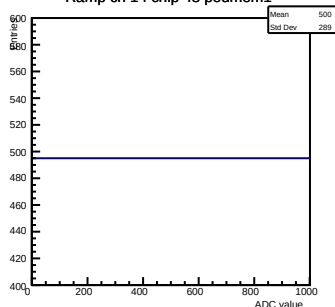
Ramp ch 12 chip 48 pedmem1



Ramp ch 13 chip 48 pedmem1



Ramp ch 14 chip 48 pedmem1



Ramp ch 15 chip 48 pedmem.

