

ATLAS17LS miniature

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Non-irrad. Sample -400V

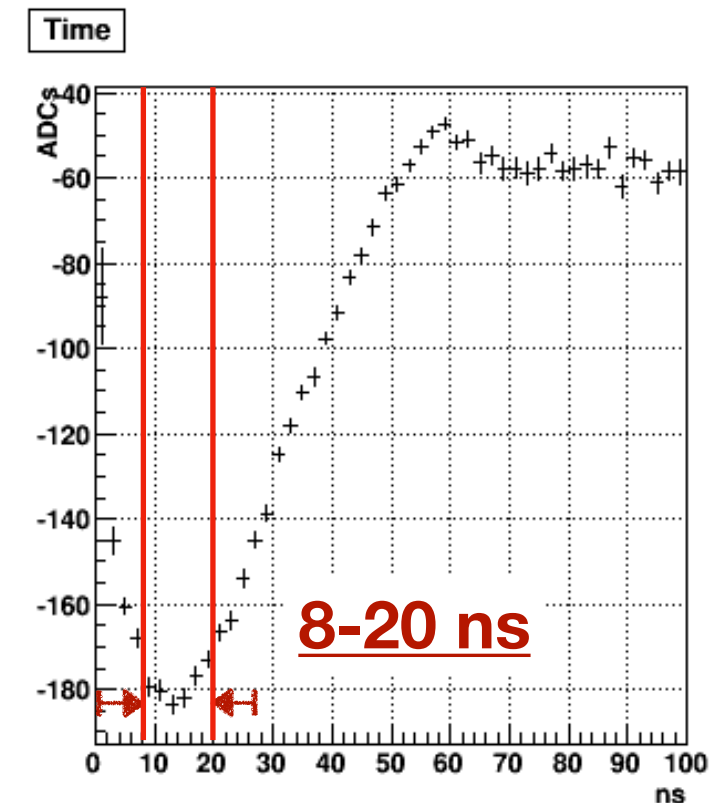
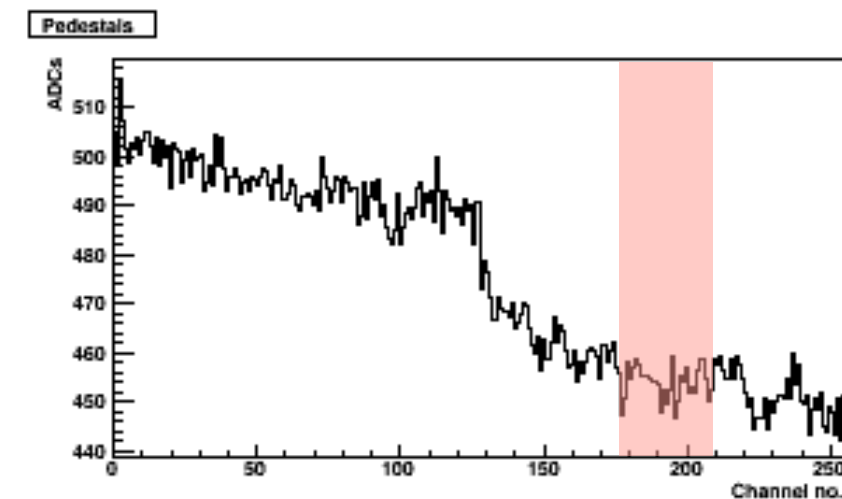
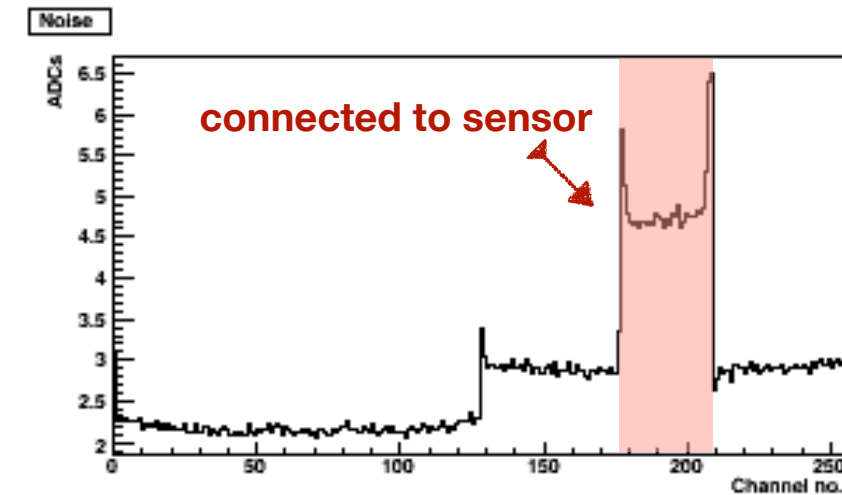
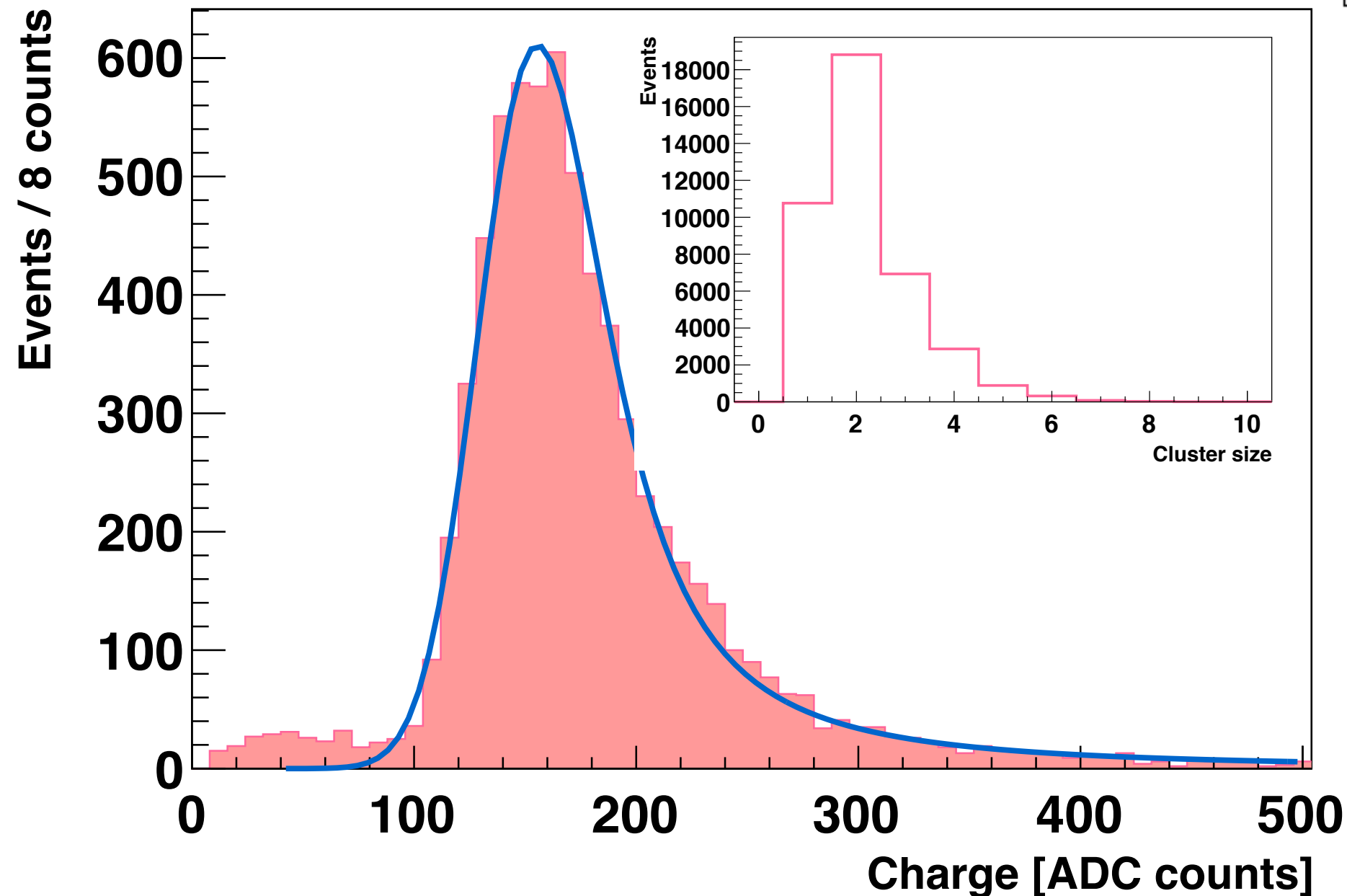
3

Time cut: 8-20 ns

Clustering: Seed $> 3.5 \sigma$, Neighbor $> 1.5 \sigma$

Convolutd Landau and Gaussian

Most Probable: 147.5 ± 0.5 ADC counts



1E15-irrad. Sample -400V

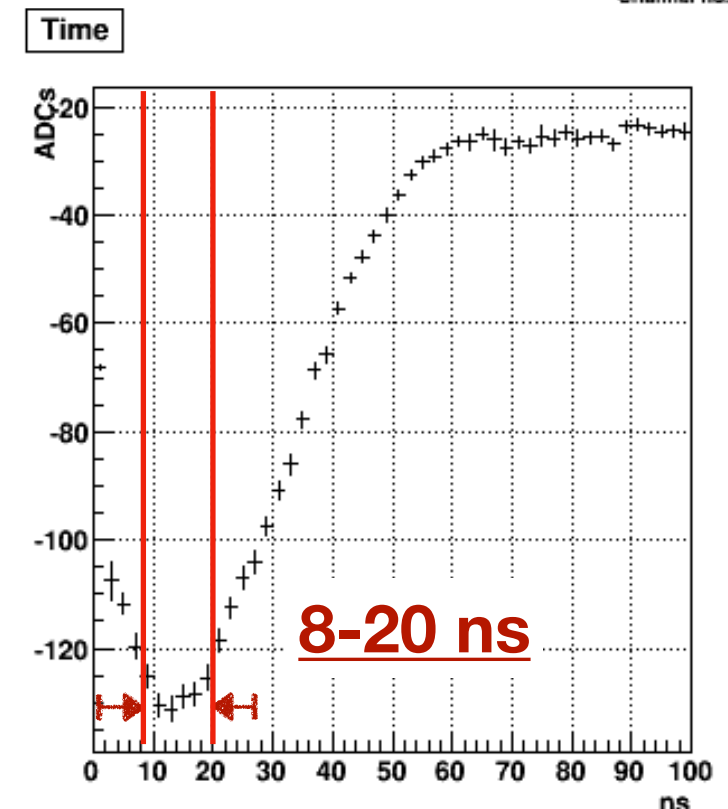
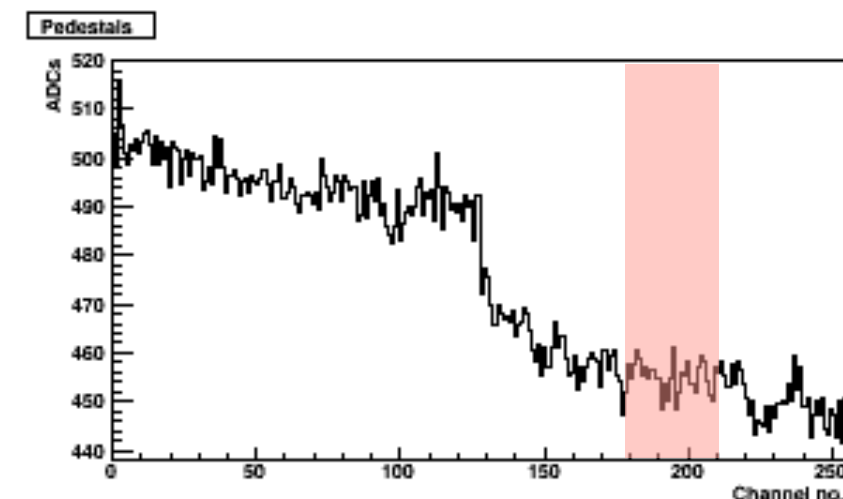
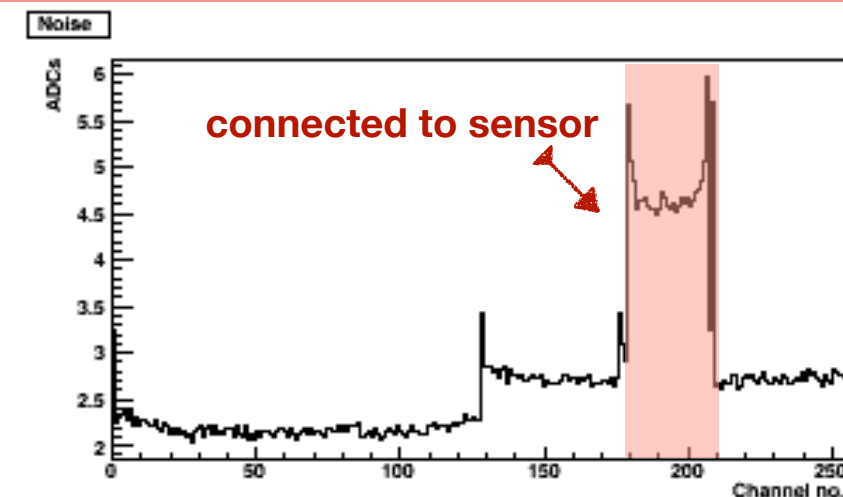
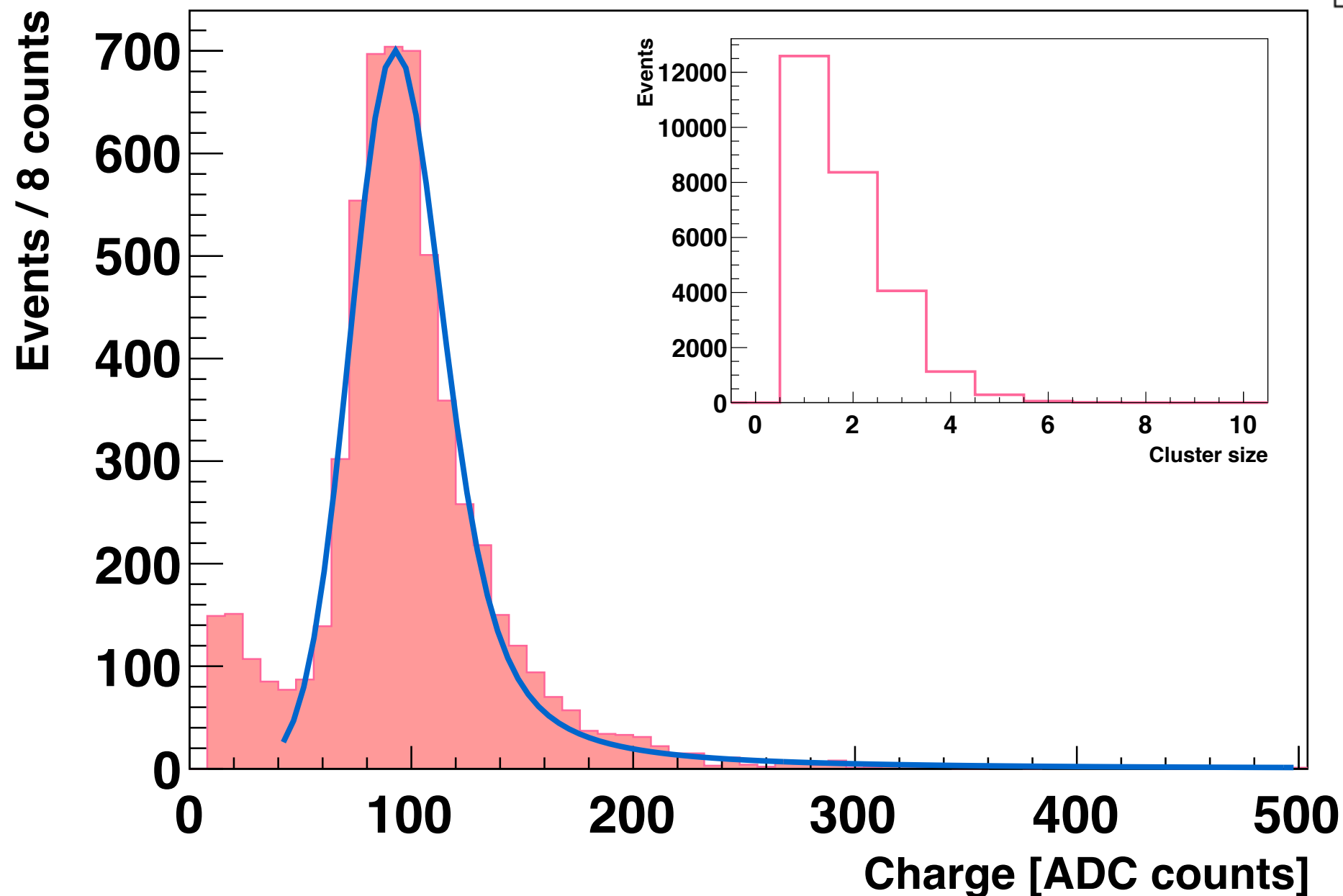
4

Time cut: 8-20 ns

Clustering: Seed $> 3.5 \sigma$, Neighbor $> 1.5 \sigma$

Convolutd Landau and Gaussian

Most Probable: 86.7 ± 0.4 ADC counts



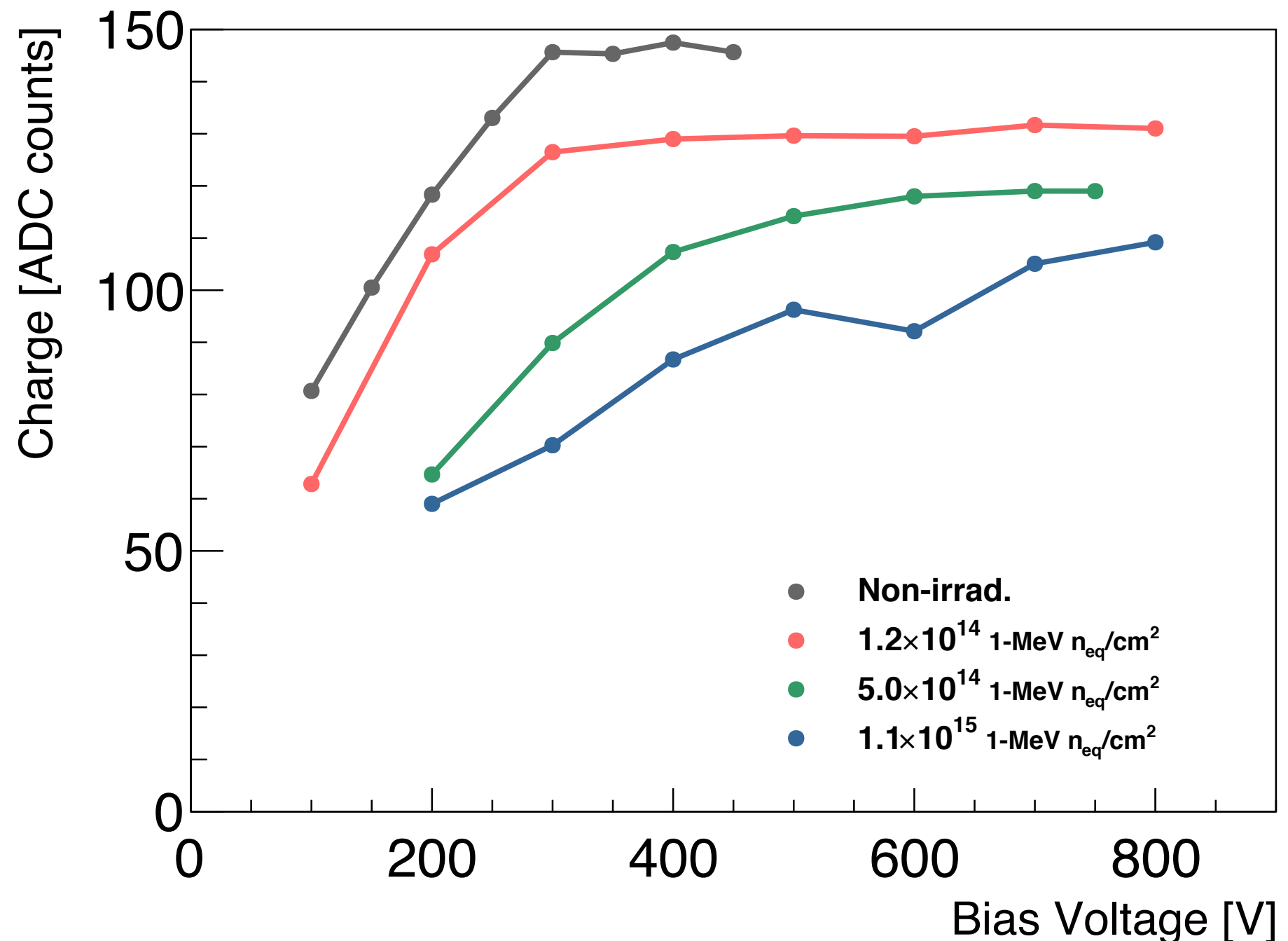
Charge Collection Results

5

Non-irrad. sample are fully depleted @ 300V

Full depletion voltage of irradiated sample ~ 700V ?

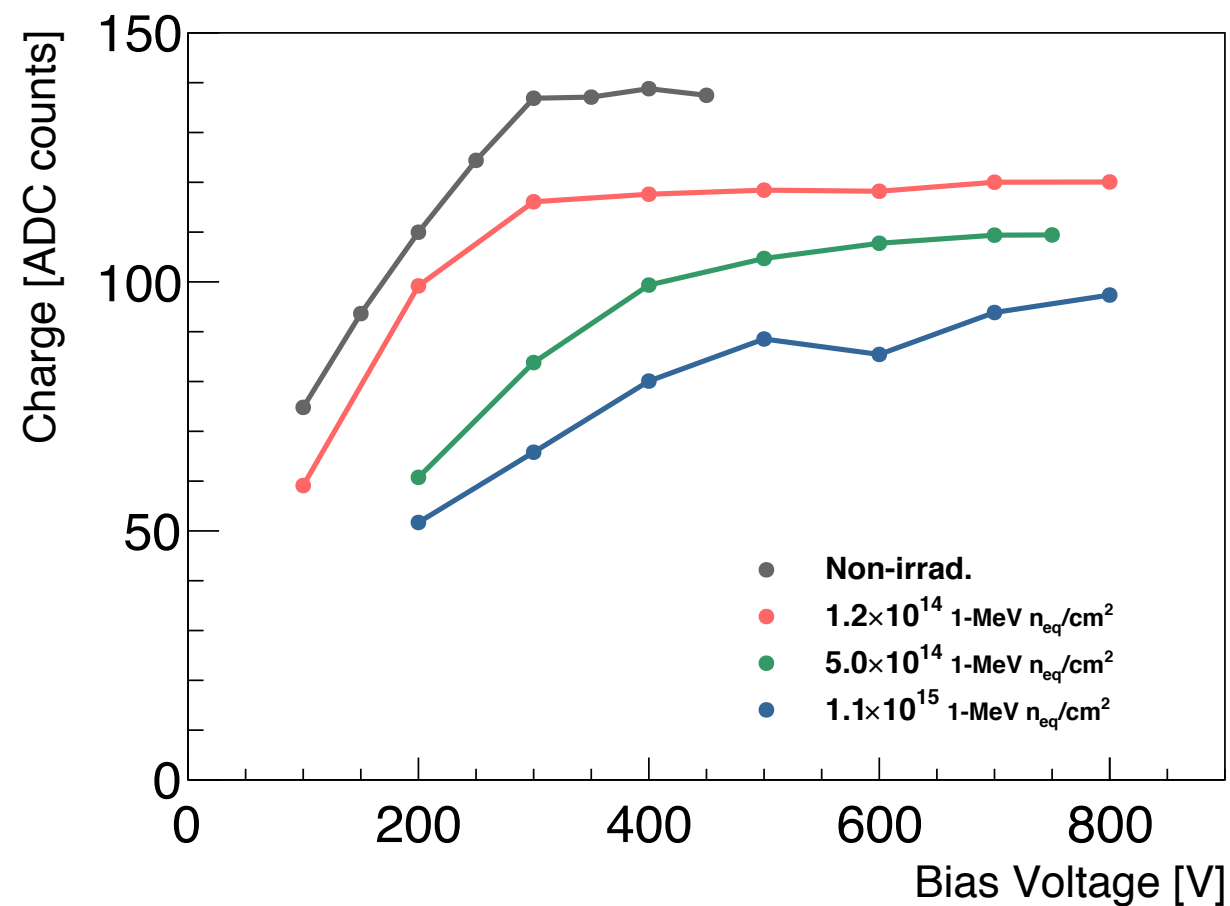
Irrad. sample: $> 1/2$ C.C. of non-irrad. @ 500V, 1.1×10^{15} 1-MeV n_{eq}/cm^2



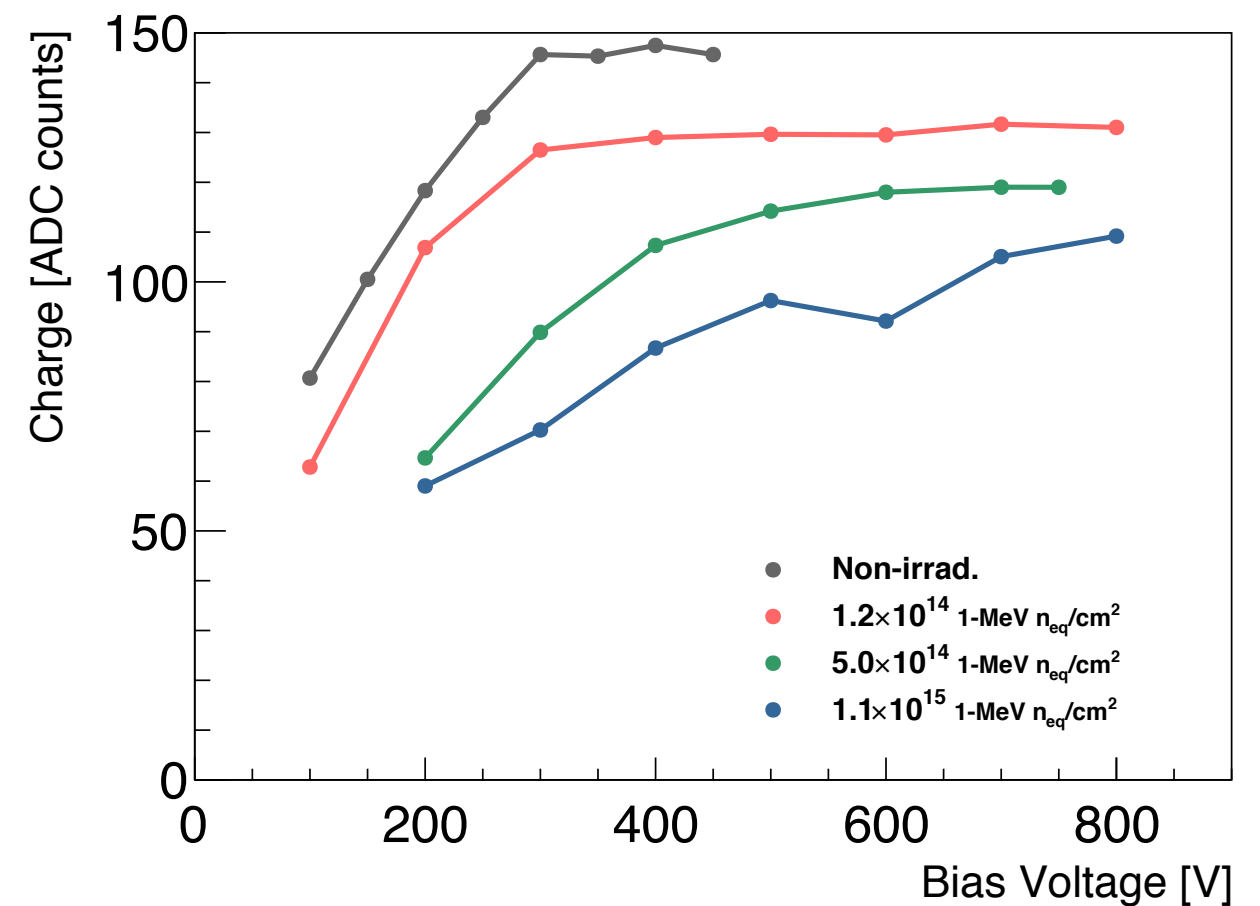
Charge Collection Comparison

6

Seed $> 5\sigma$
Neighbor $> 3\sigma$



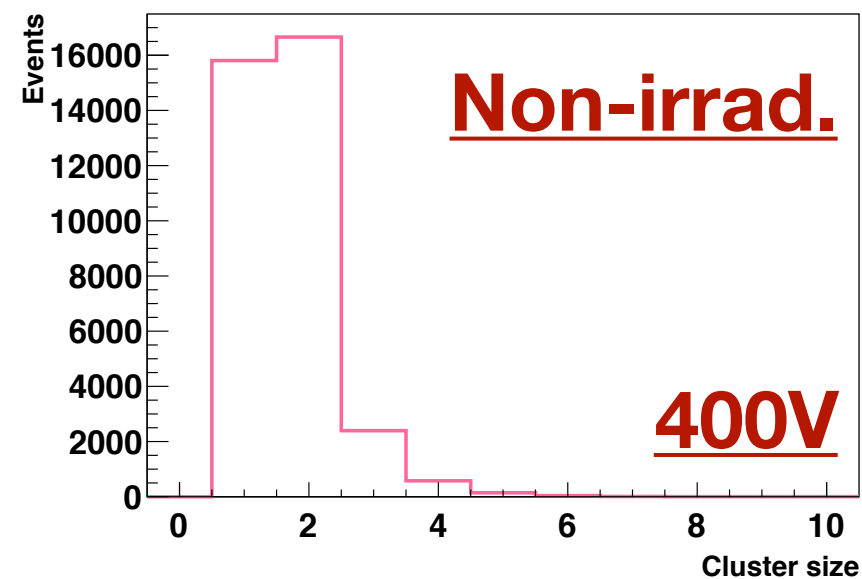
Seed $> 3.5\sigma$
Neighbor $> 1.5\sigma$



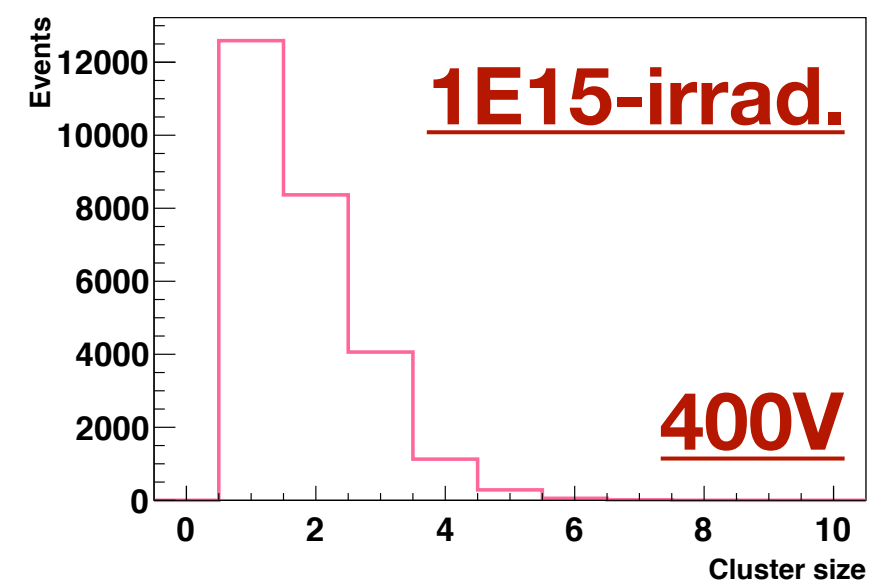
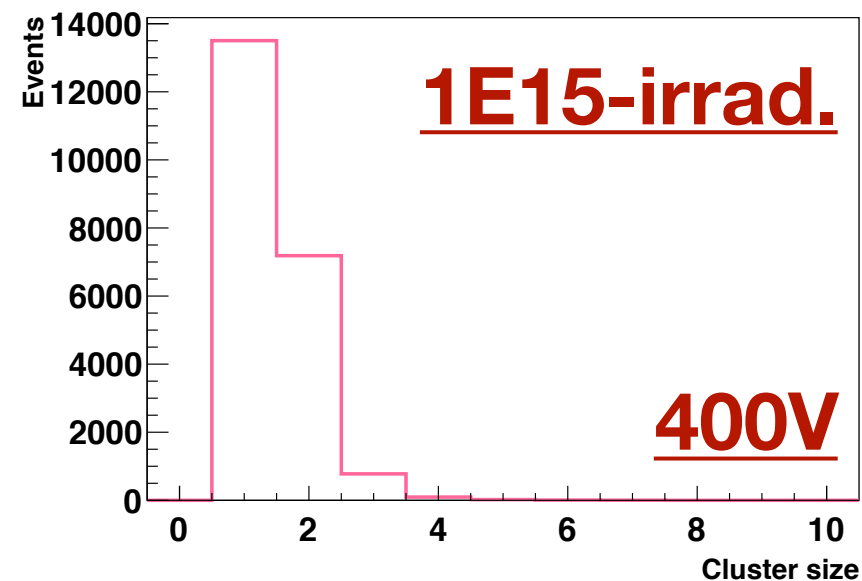
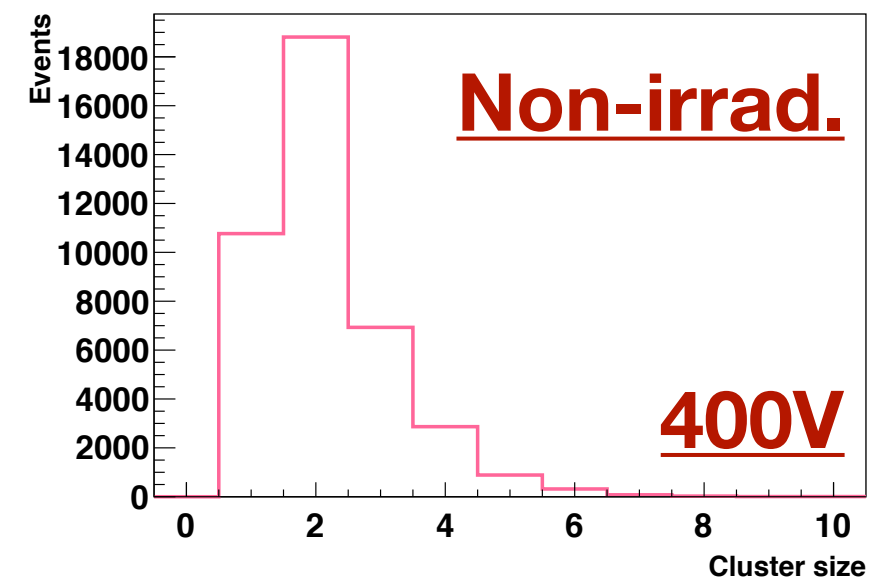
Cluster Size Comparison

7

Seed $> 5\sigma$
Neighbor $> 3\sigma$

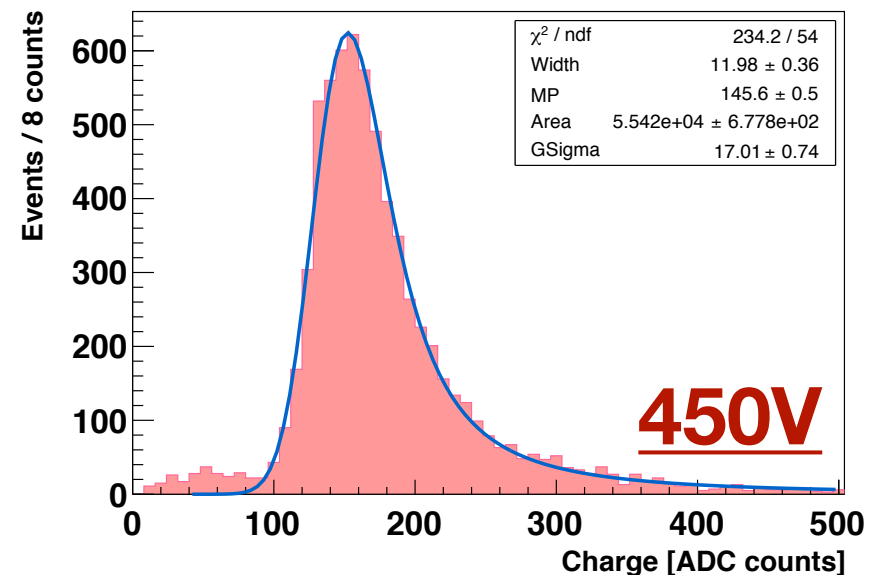
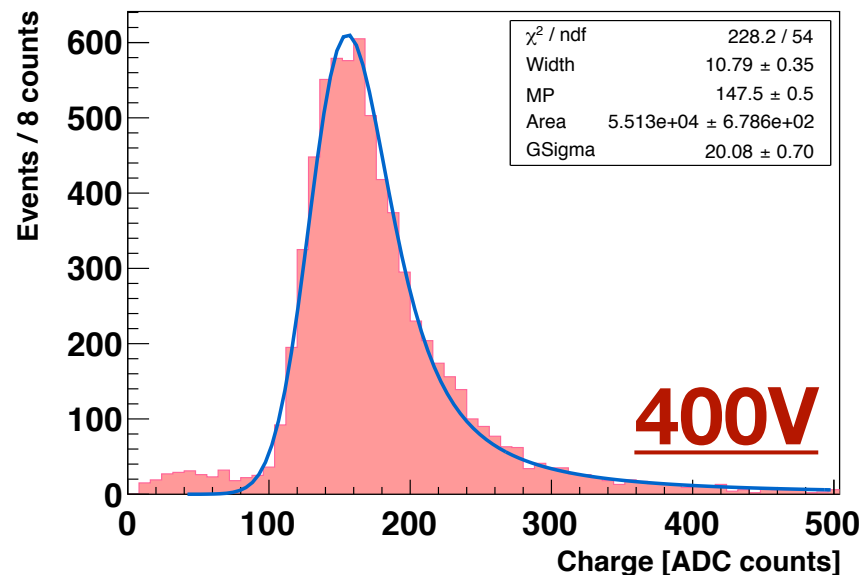
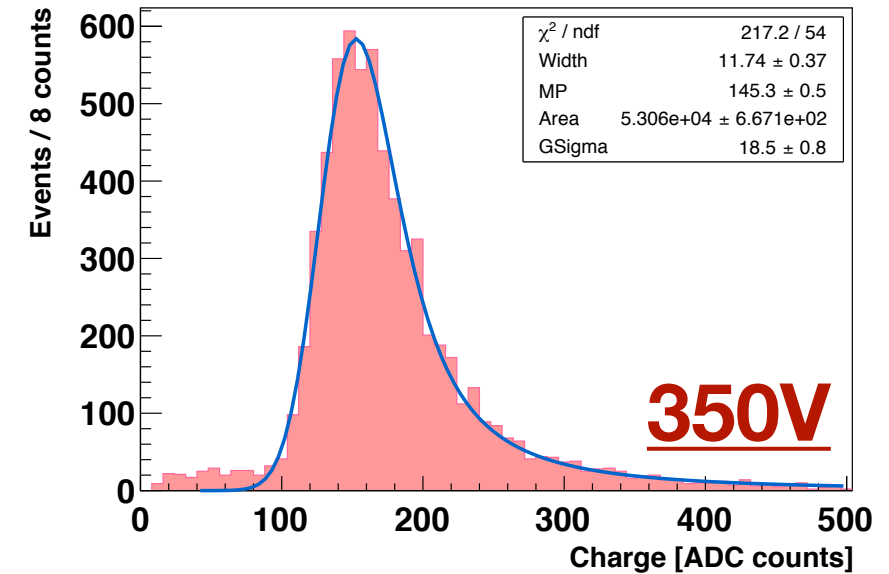
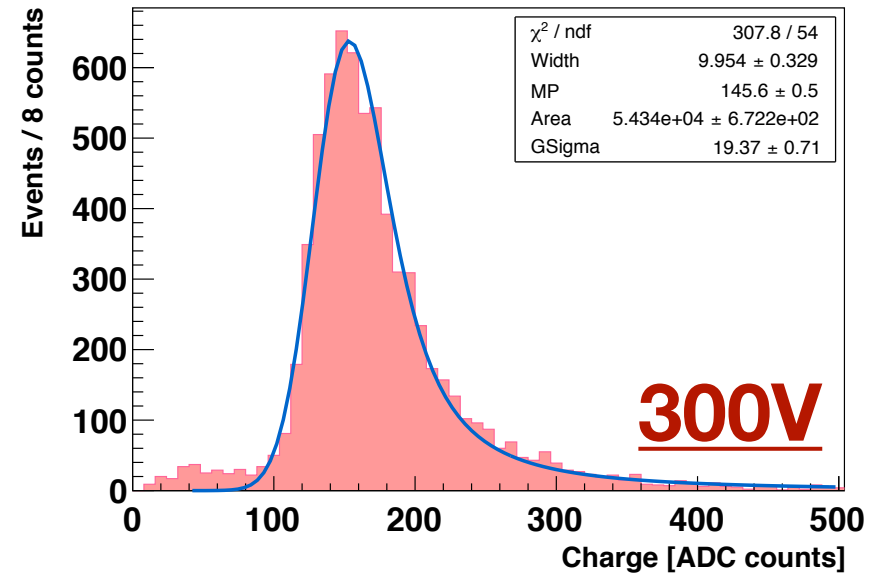
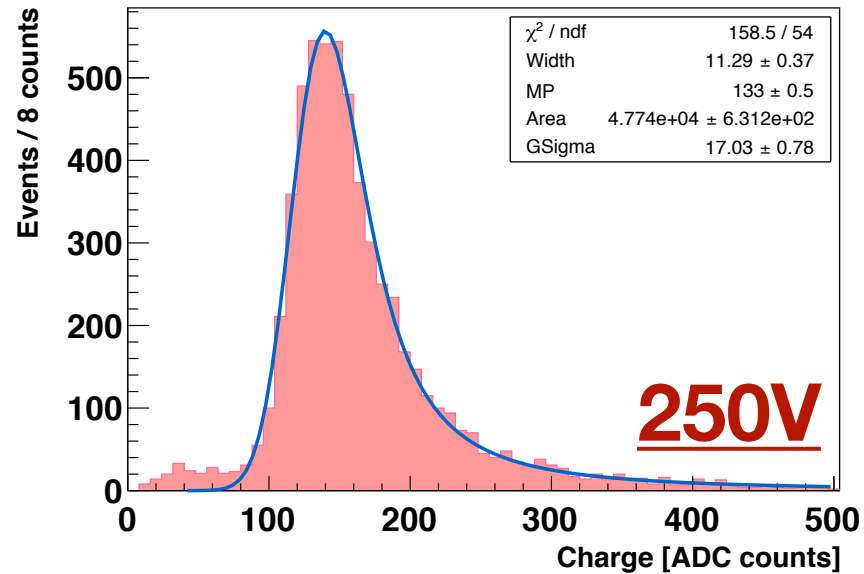
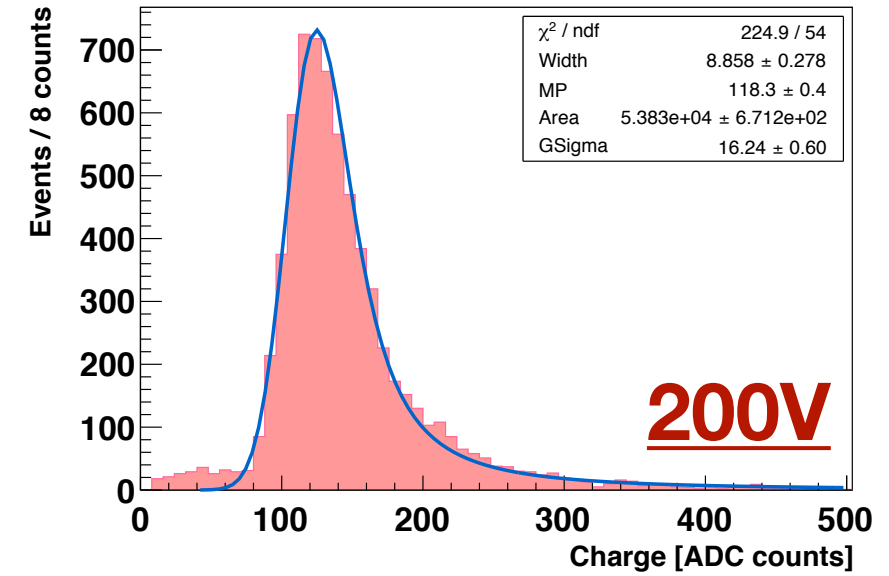
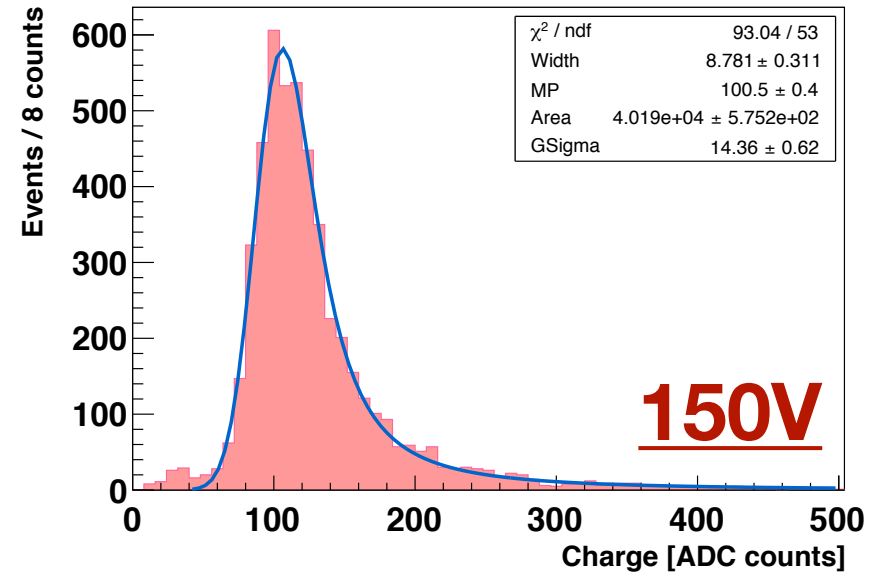
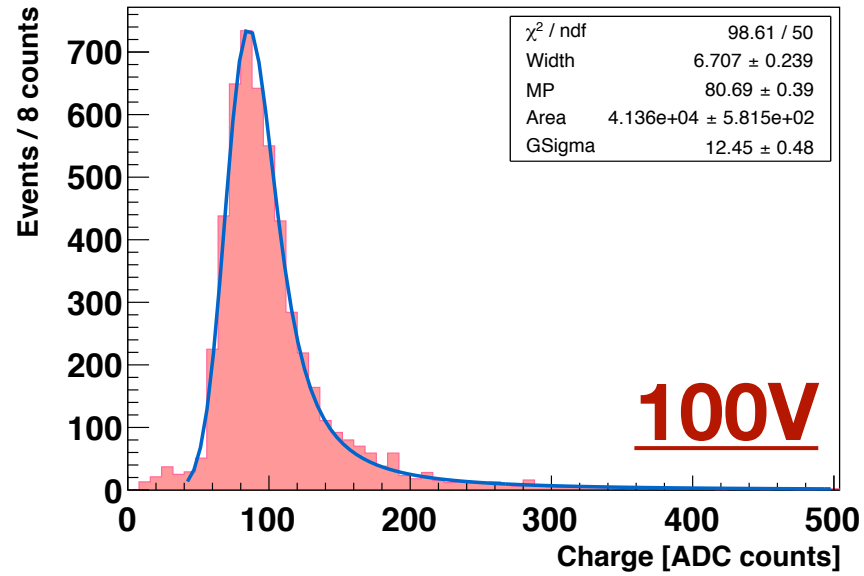


Seed $> 3.5\sigma$
Neighbor $> 1.5\sigma$



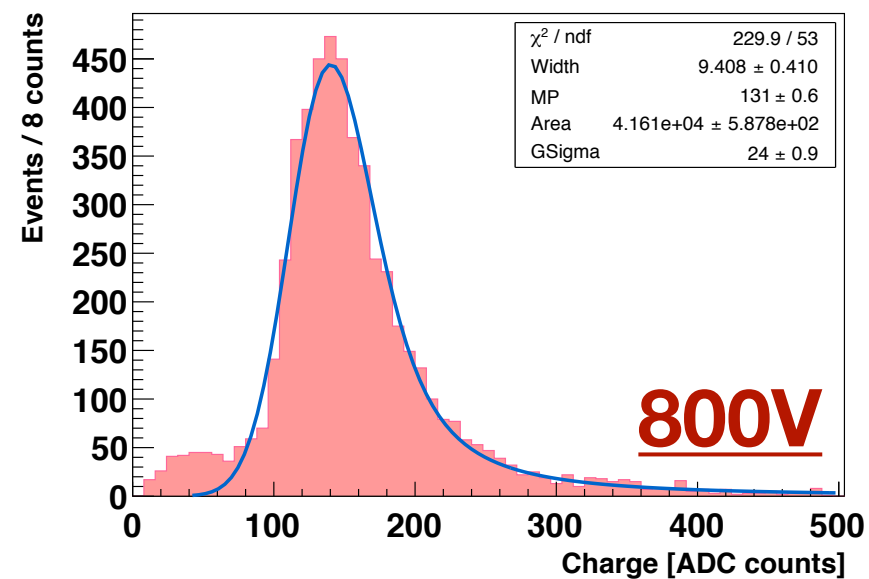
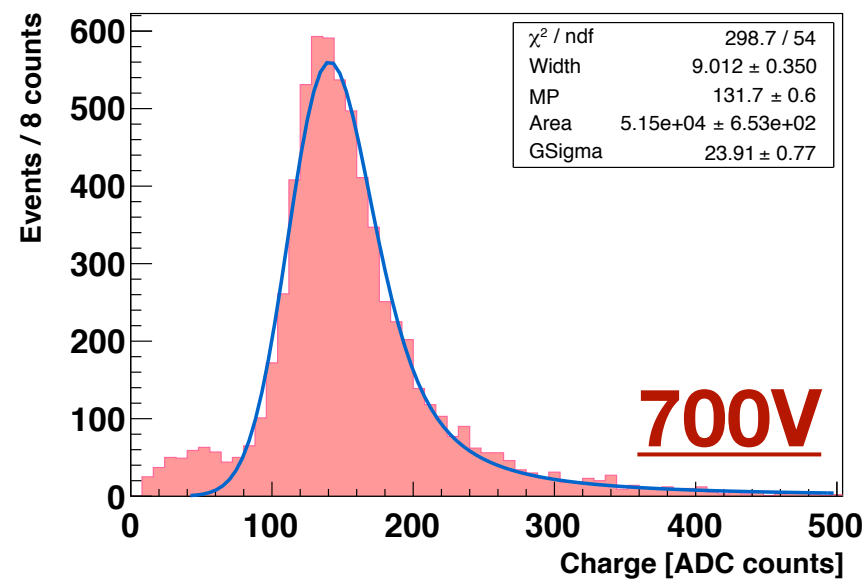
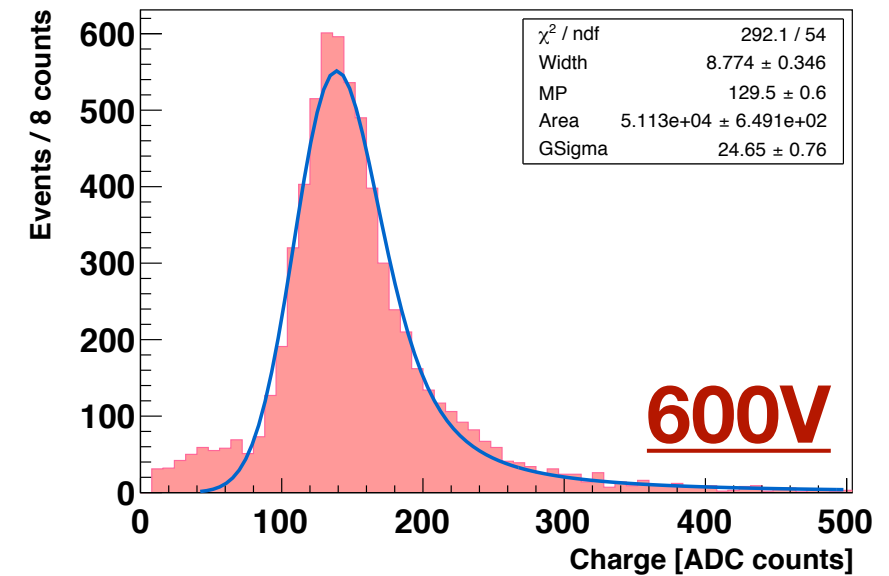
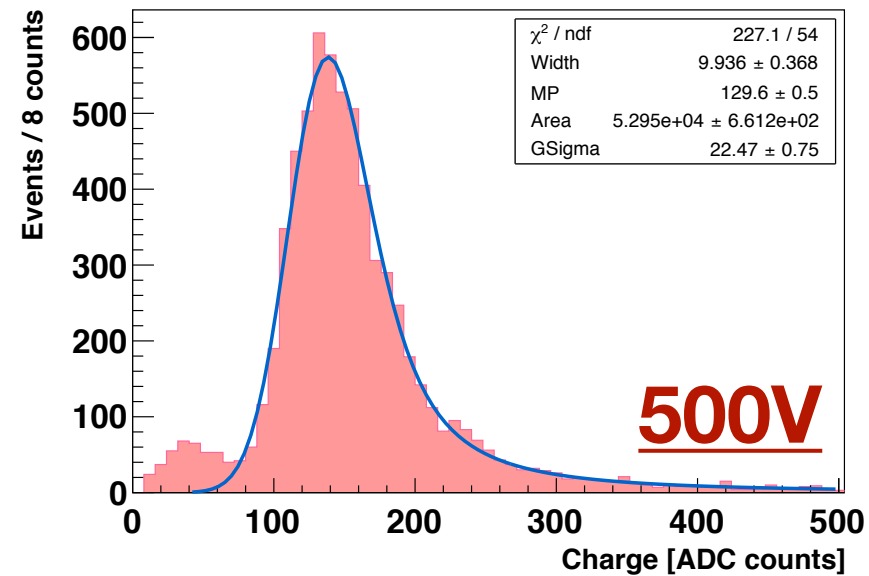
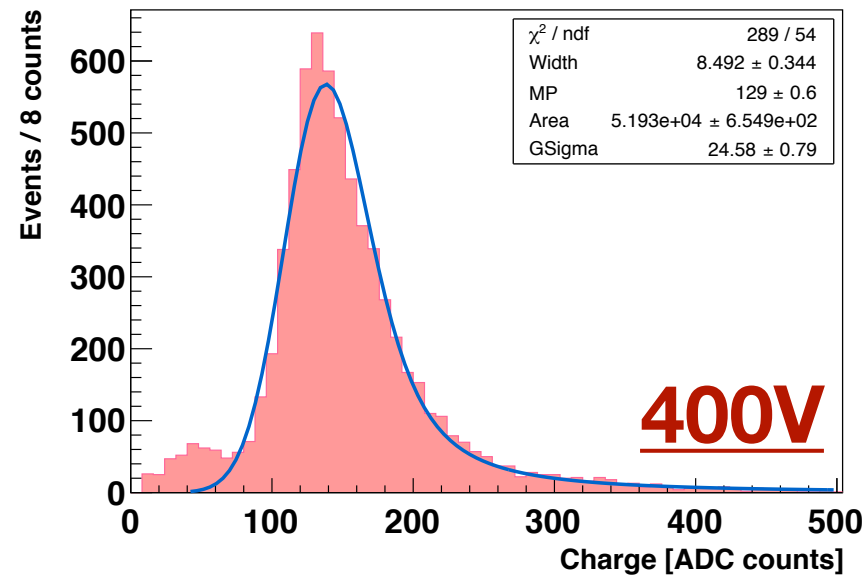
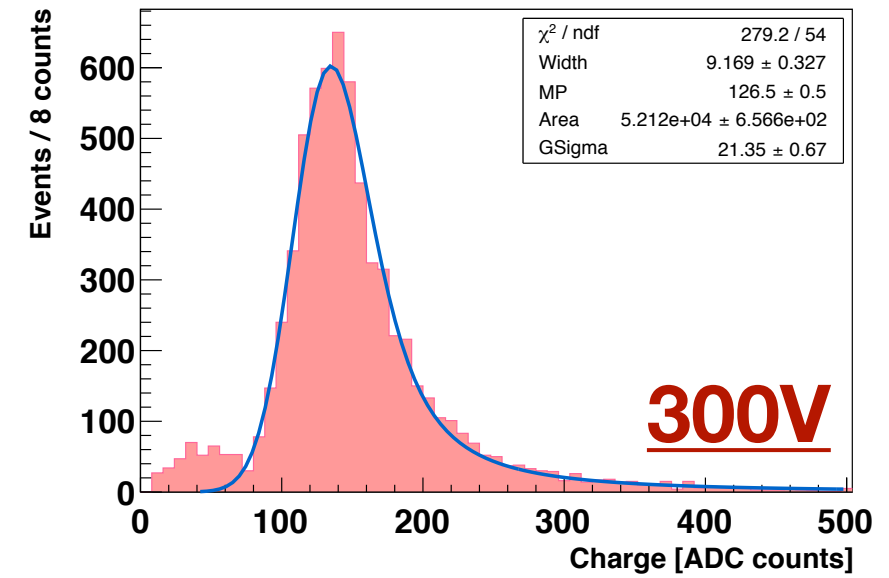
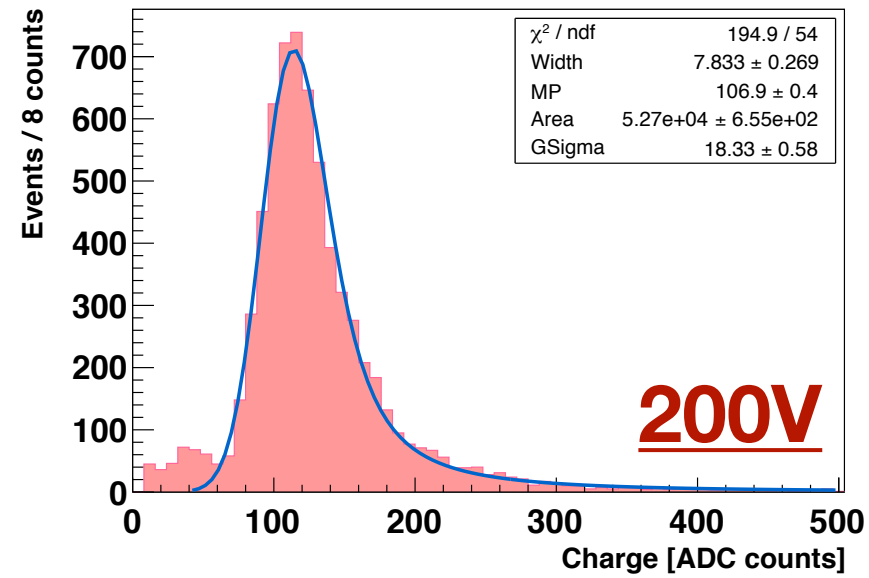
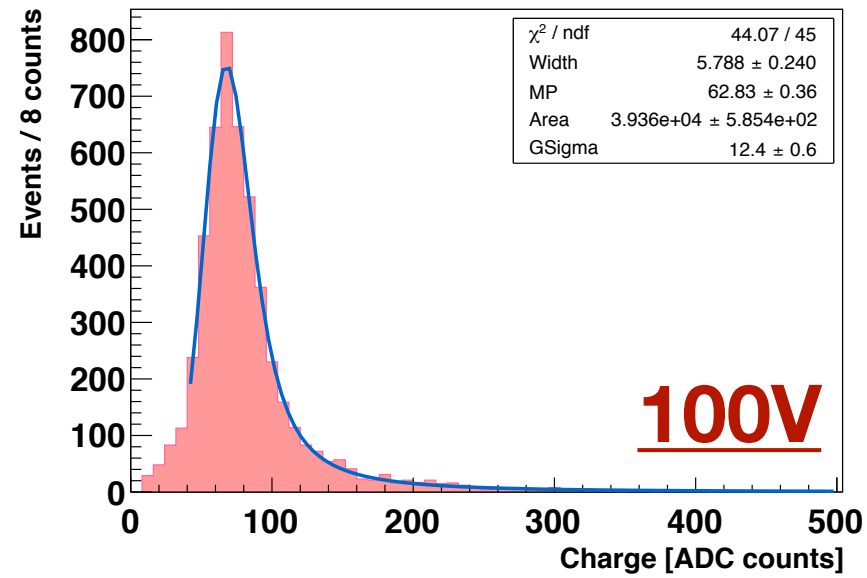
Non-irrad. Fitting

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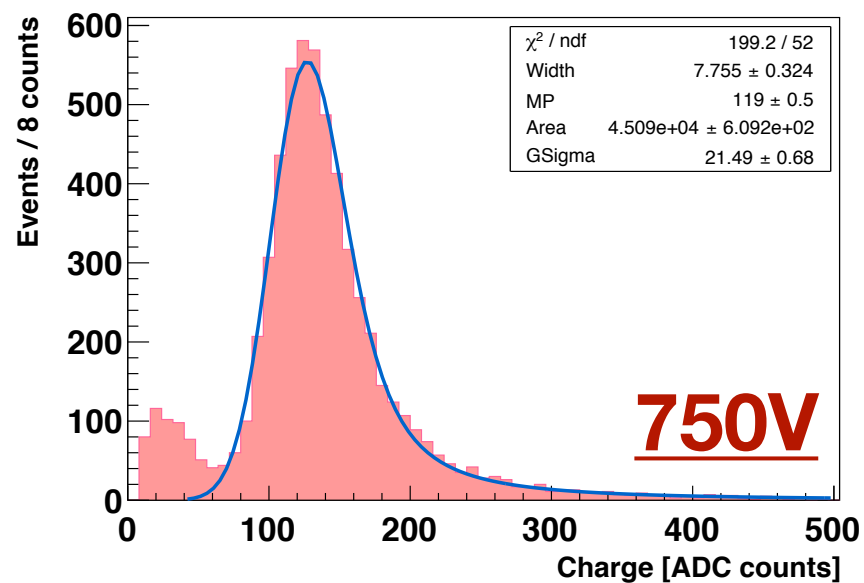
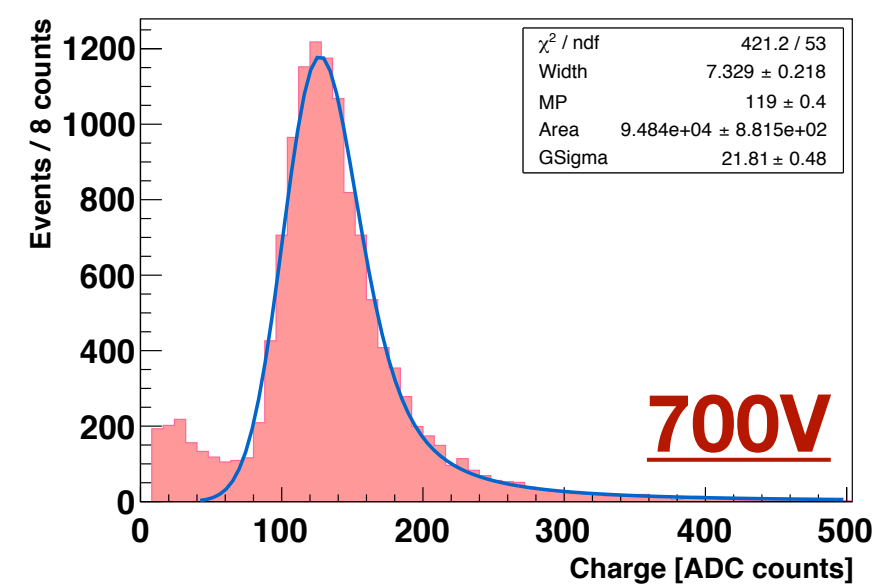
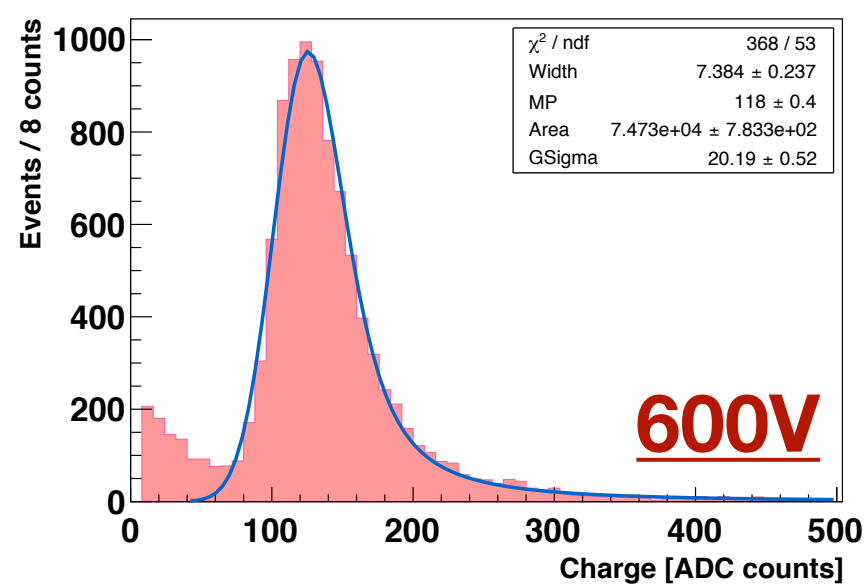
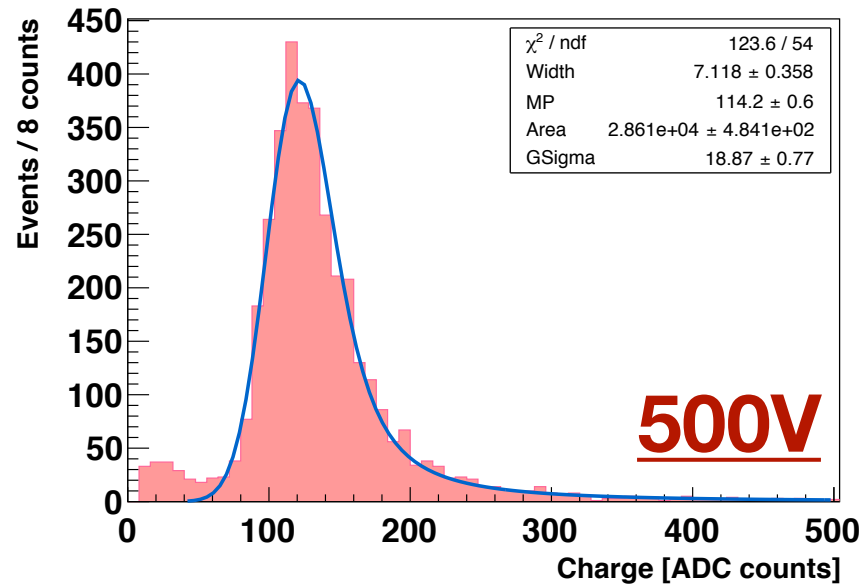
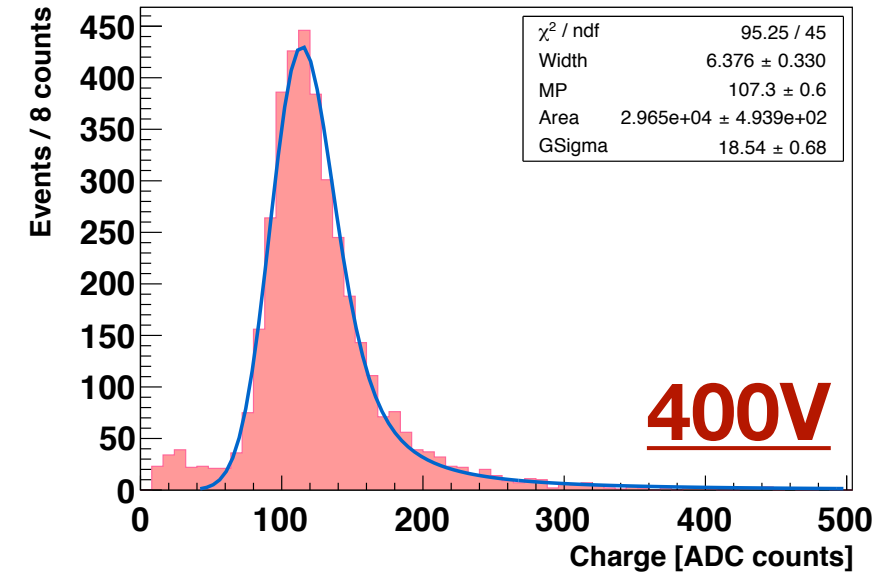
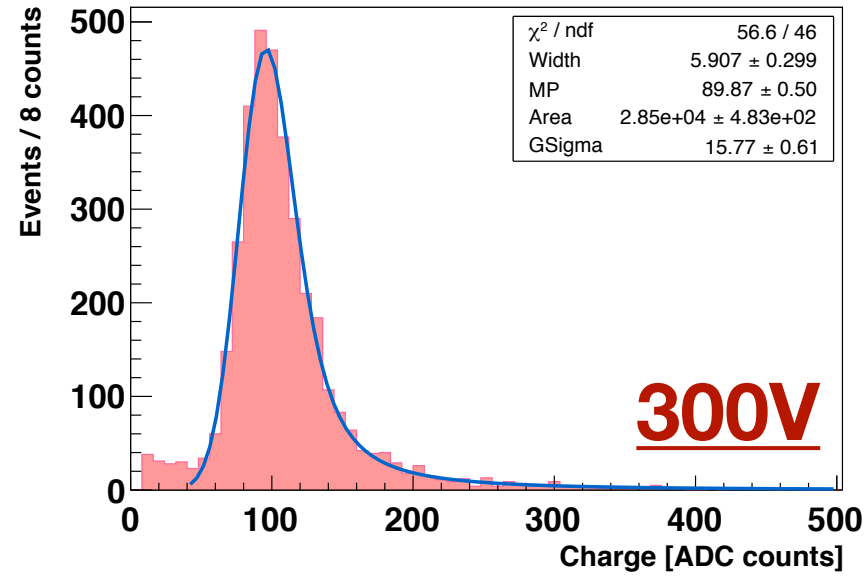
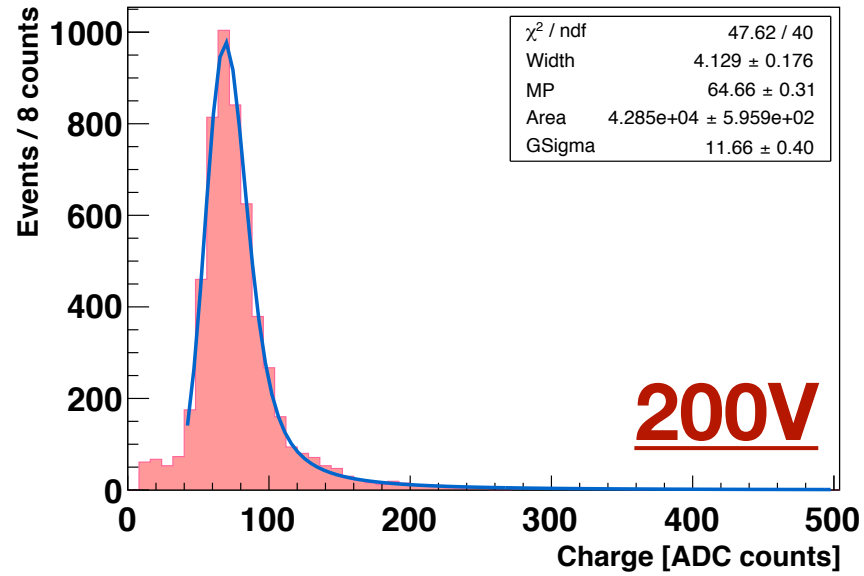
1E14-irrad. Fitting

9



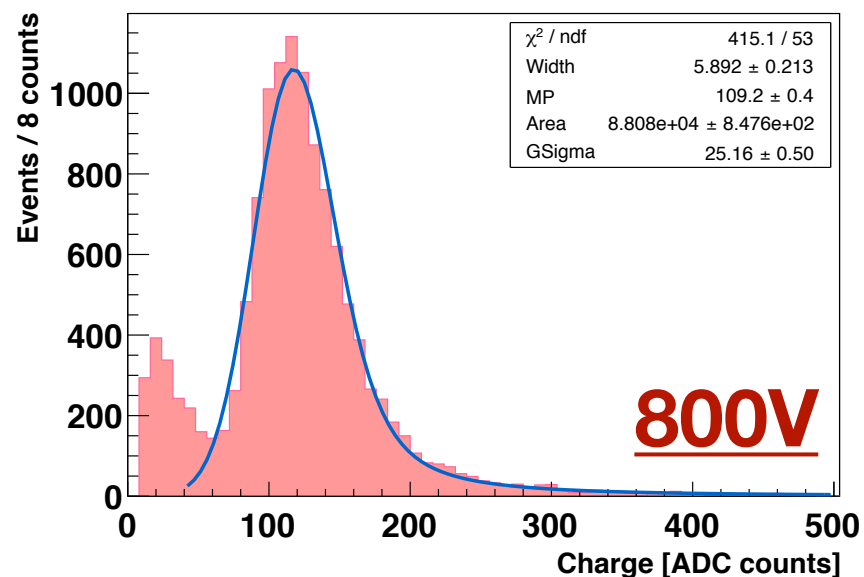
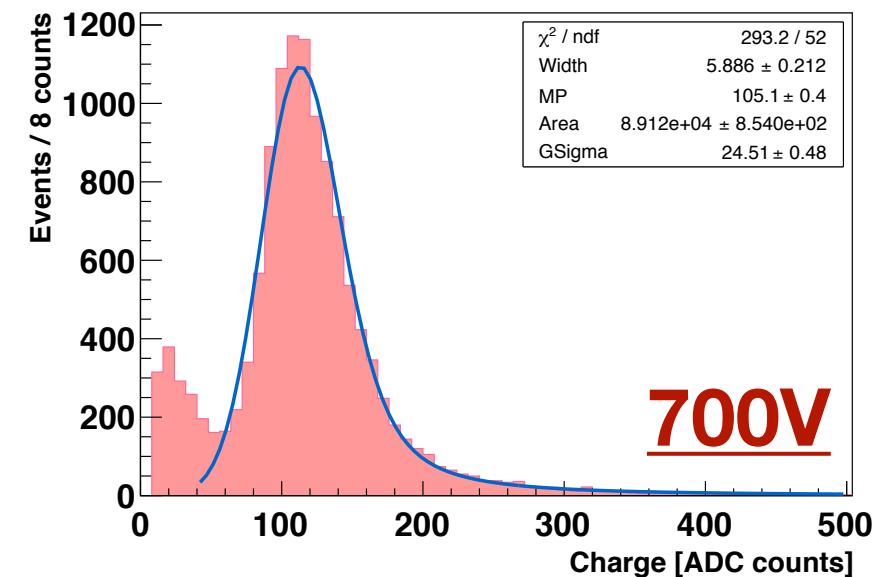
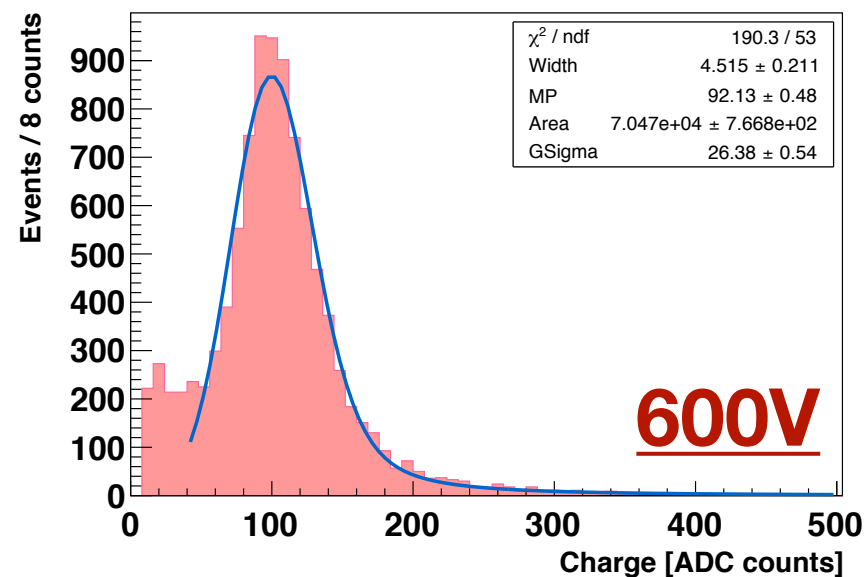
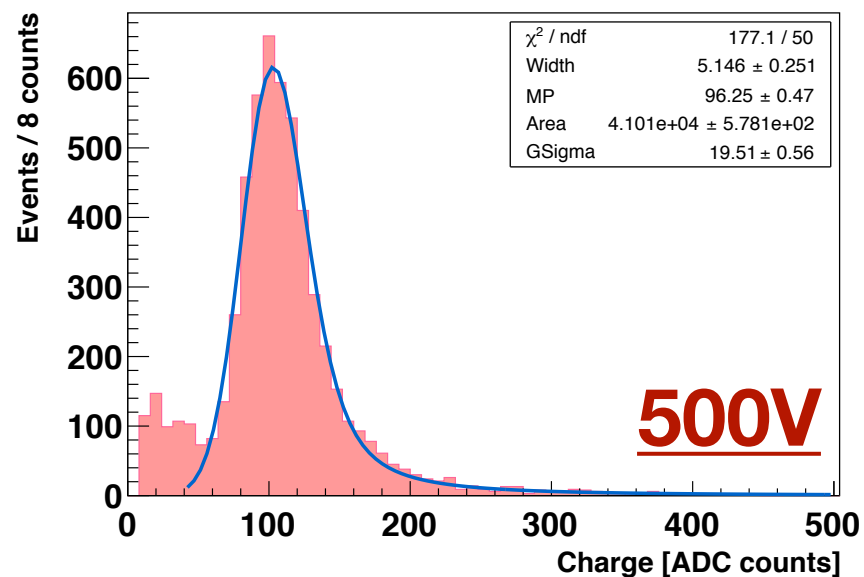
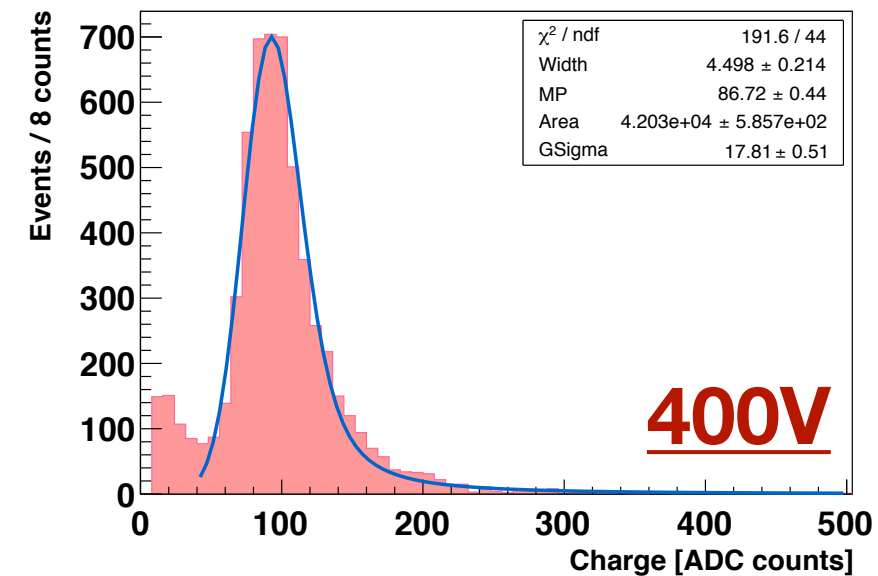
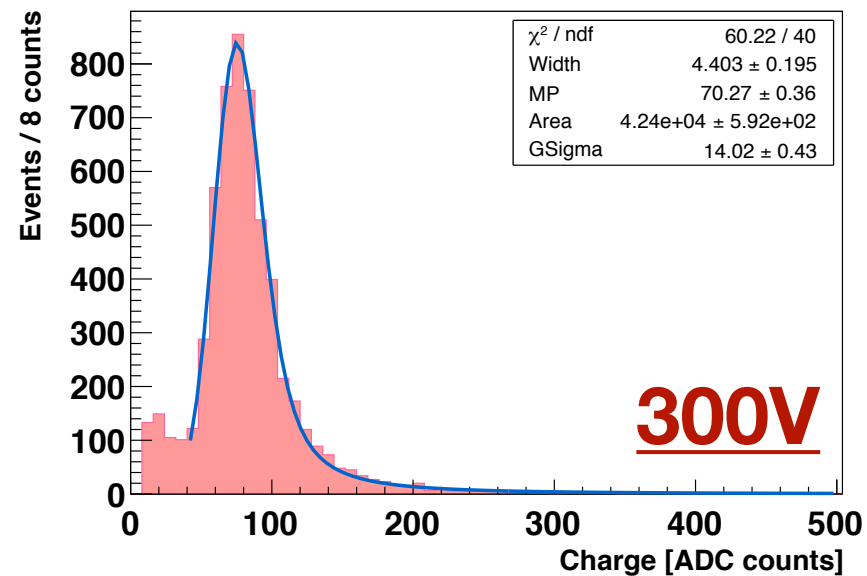
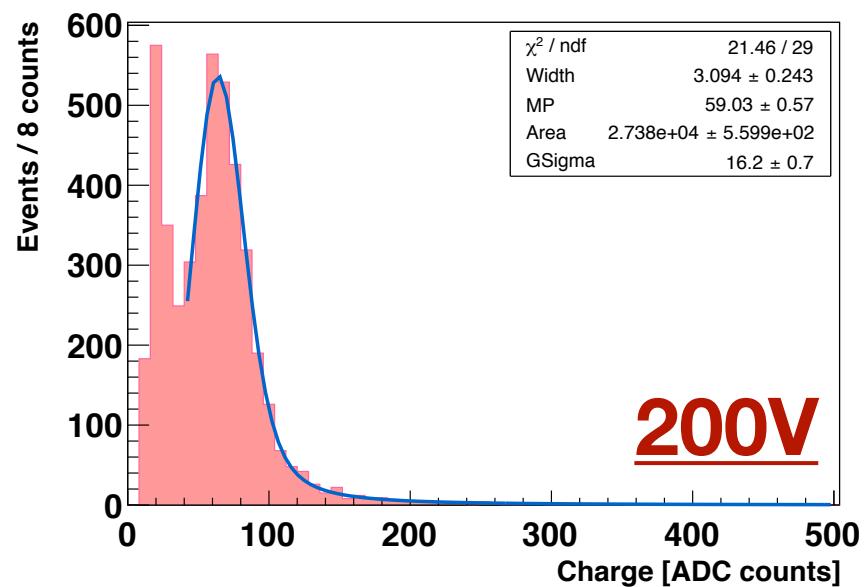
5E14-irrad. Fitting

10



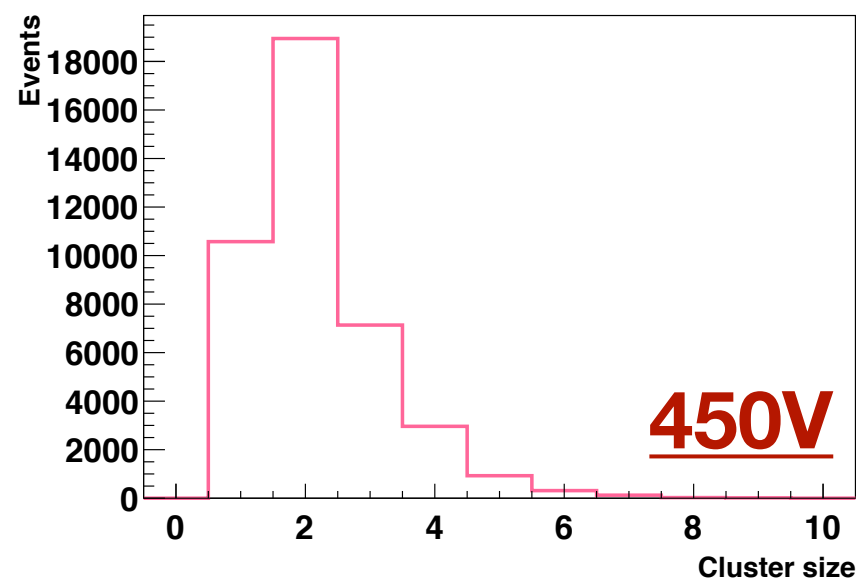
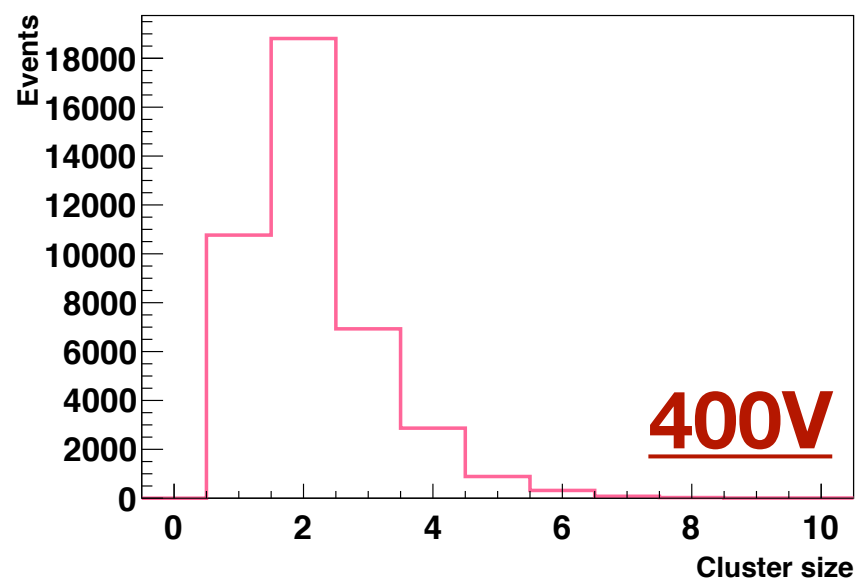
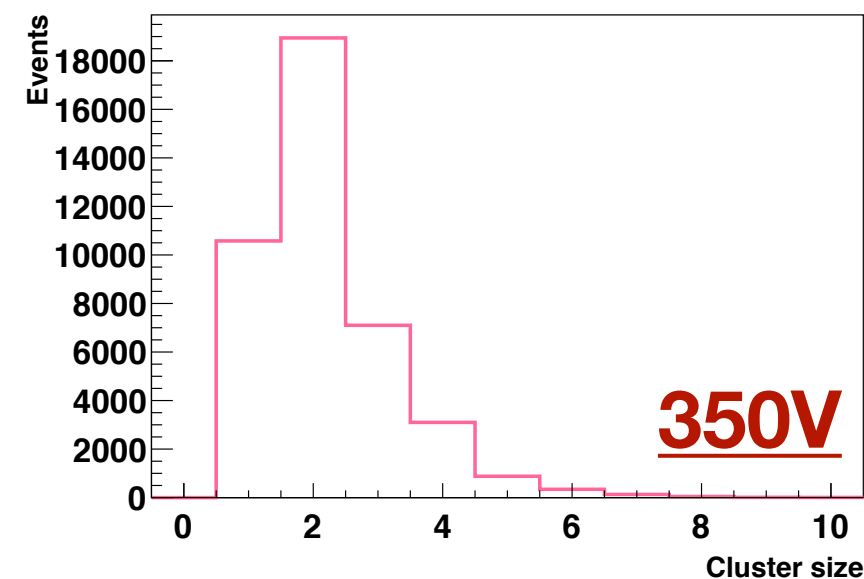
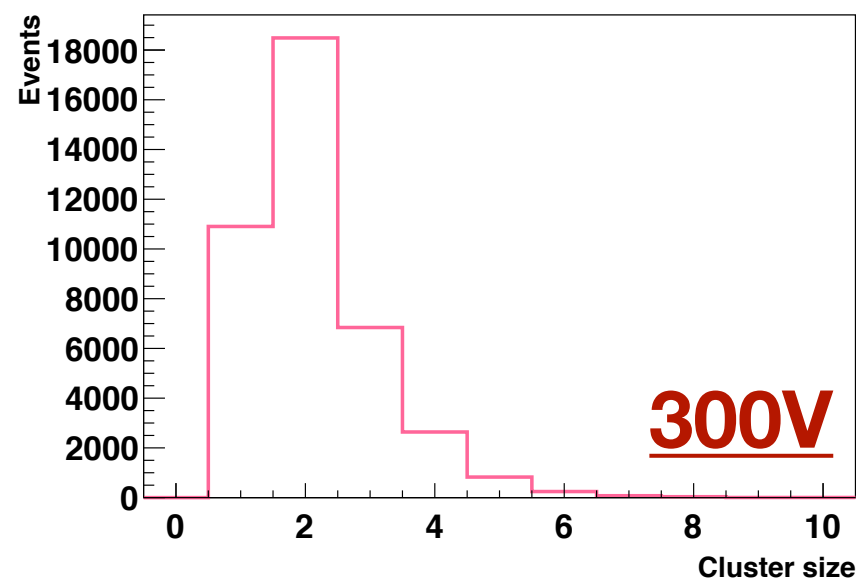
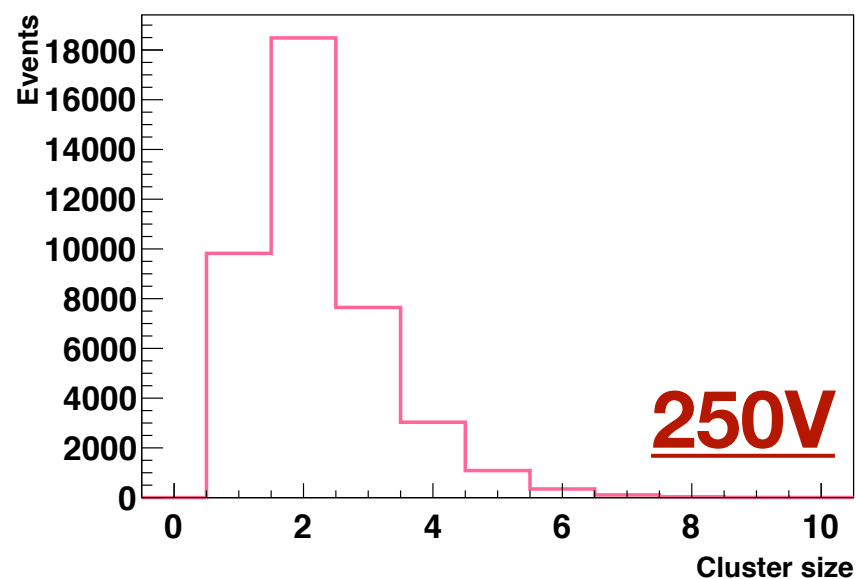
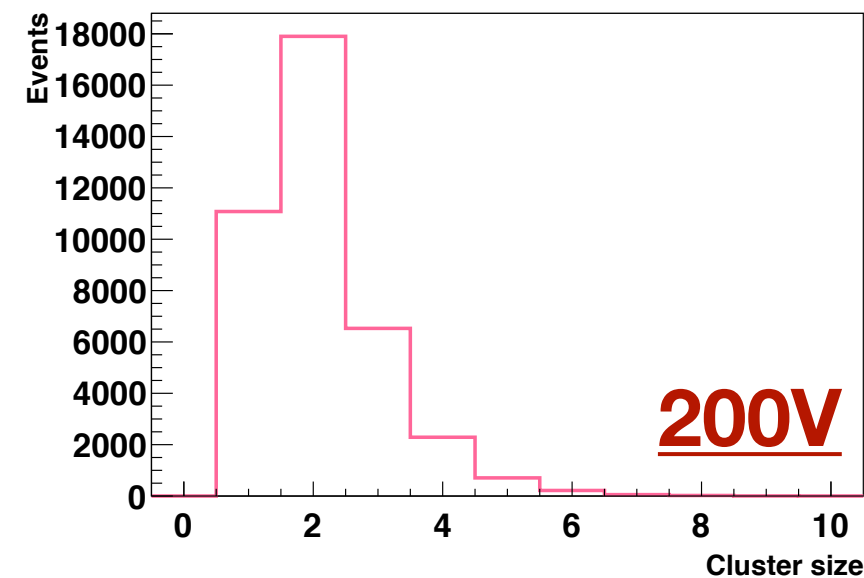
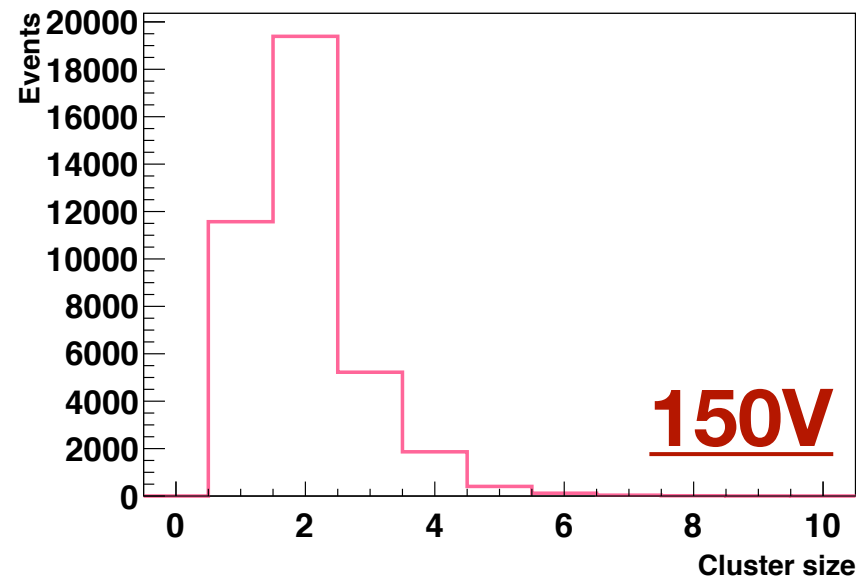
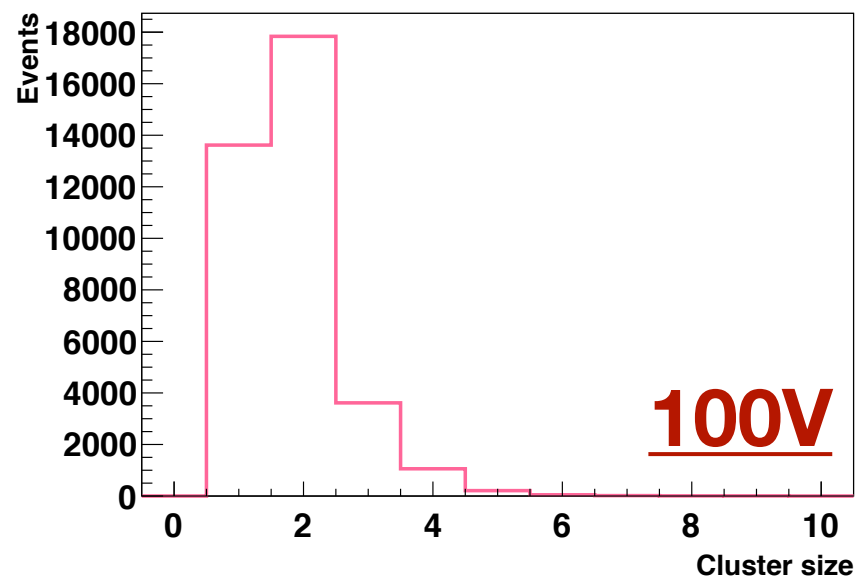
1E15-irrad. Fitting

11



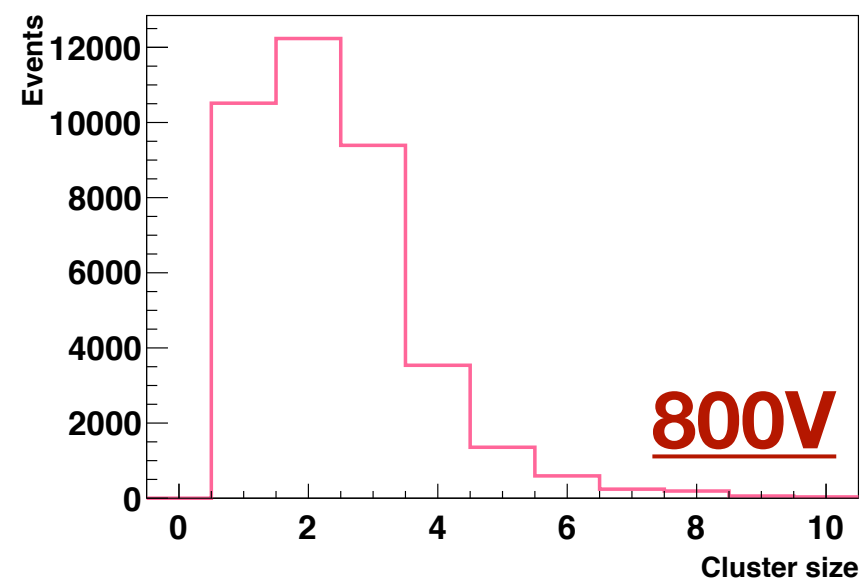
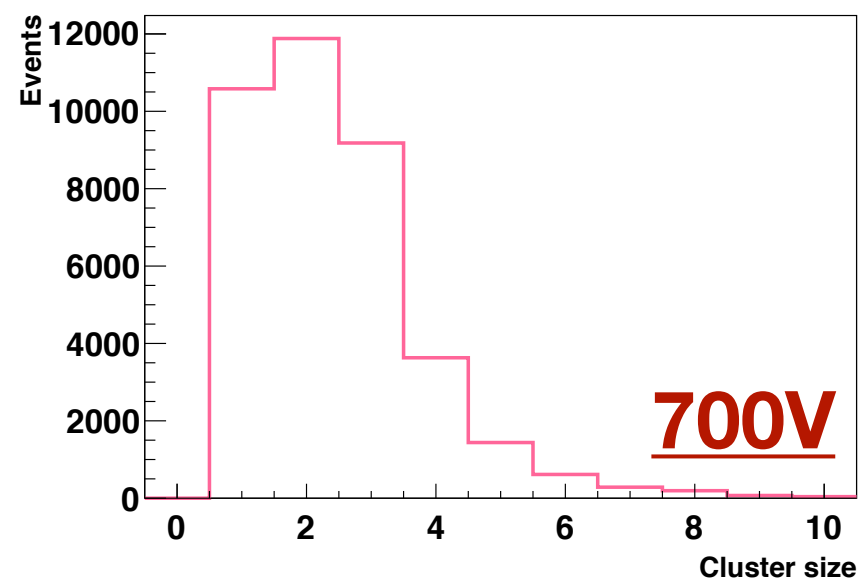
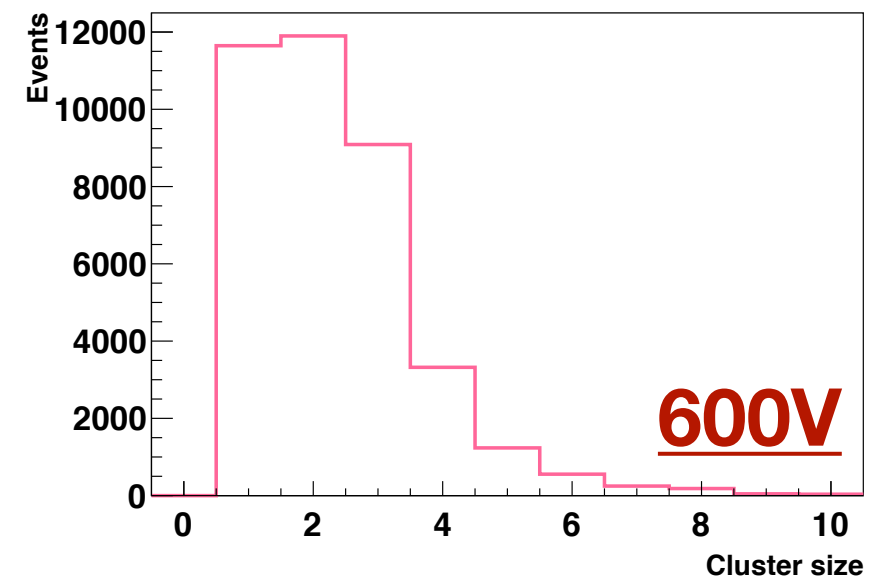
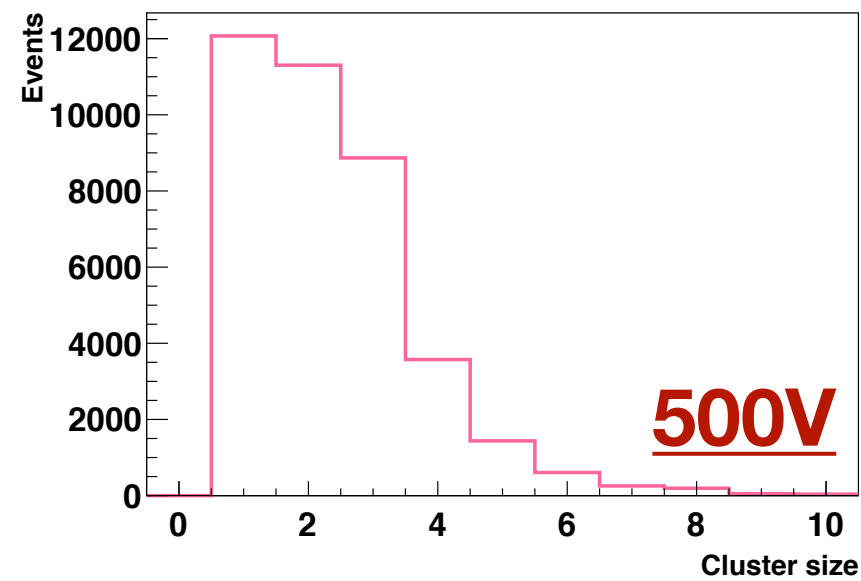
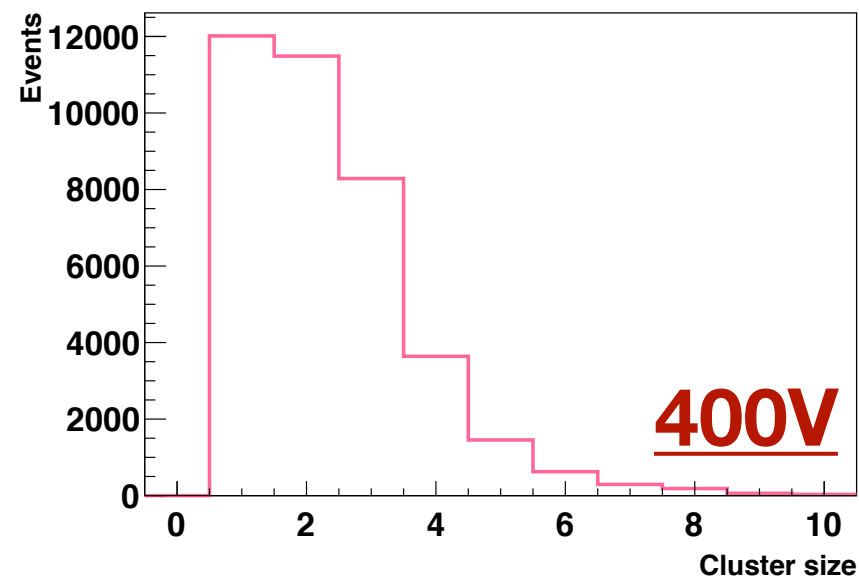
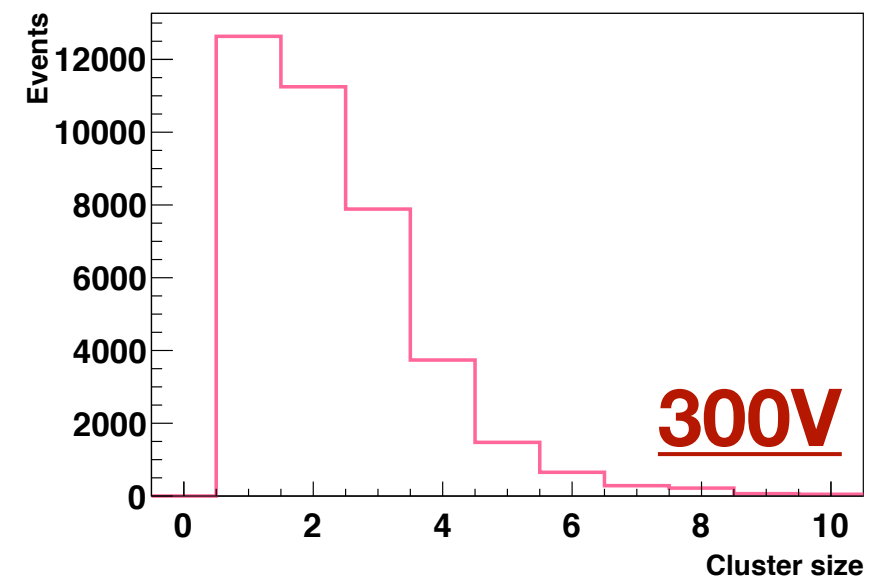
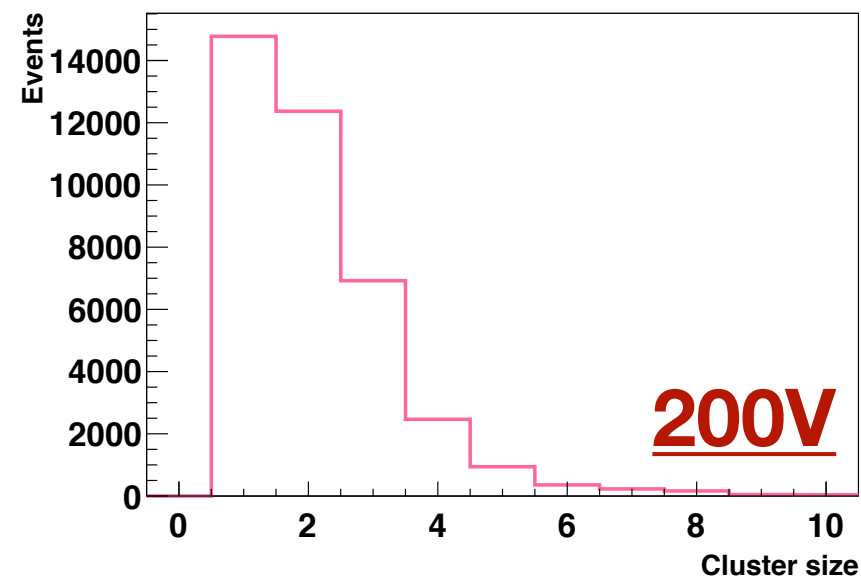
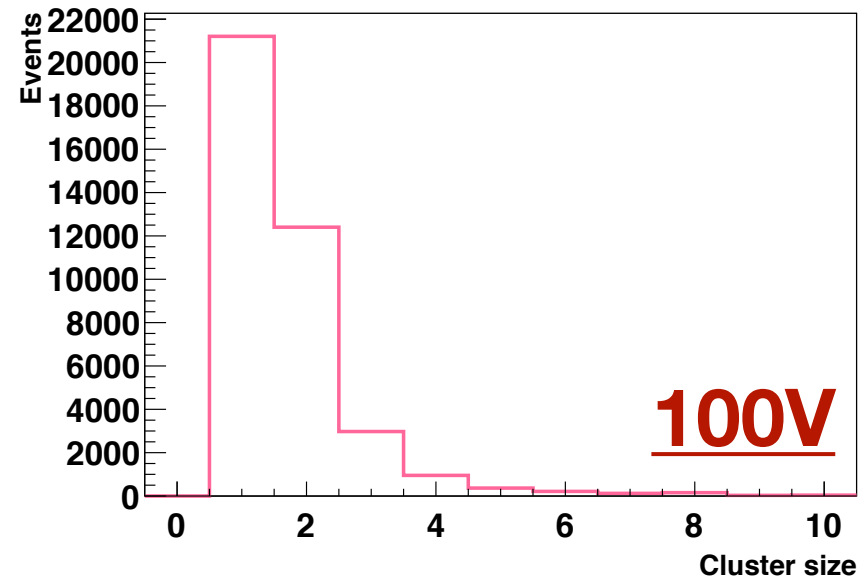
Non-irrad. Cluster Size

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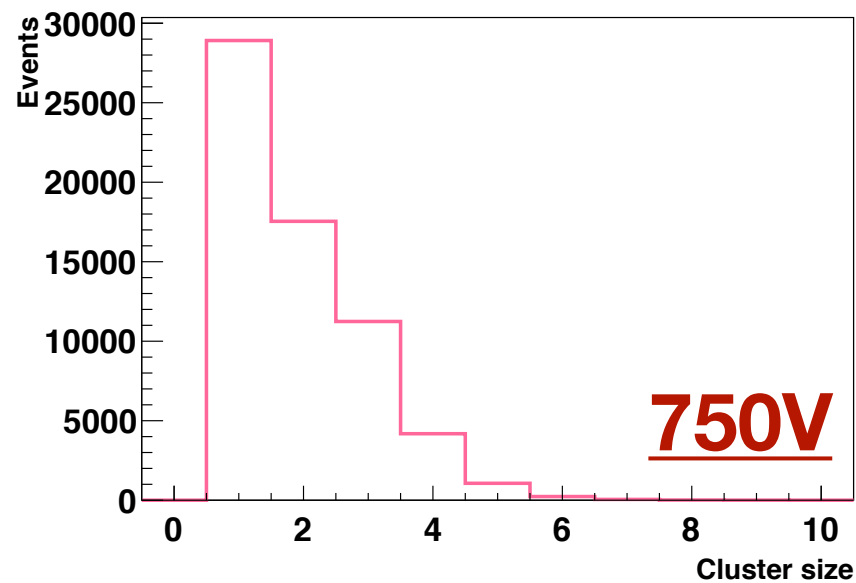
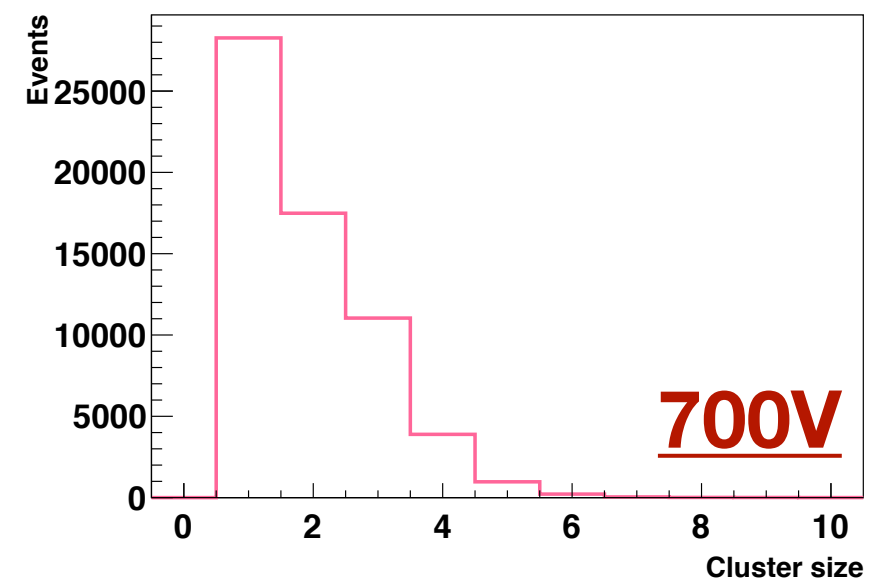
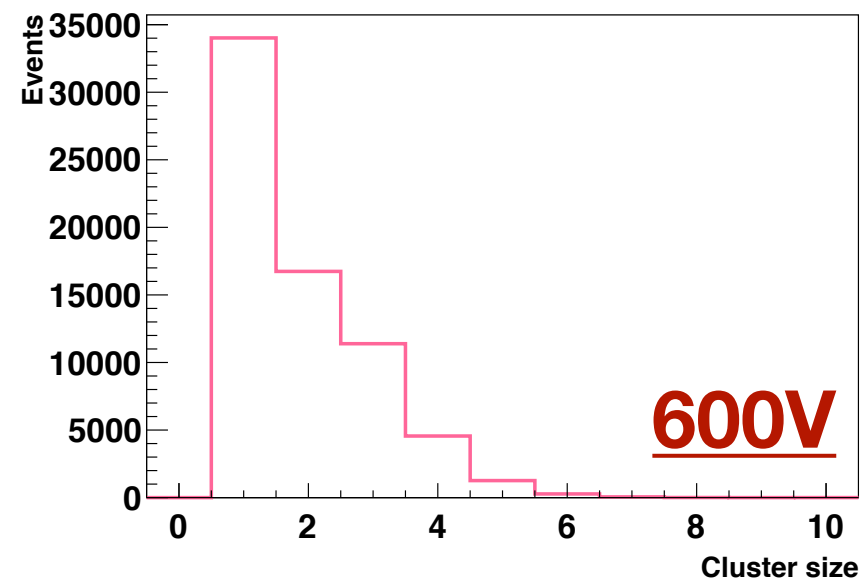
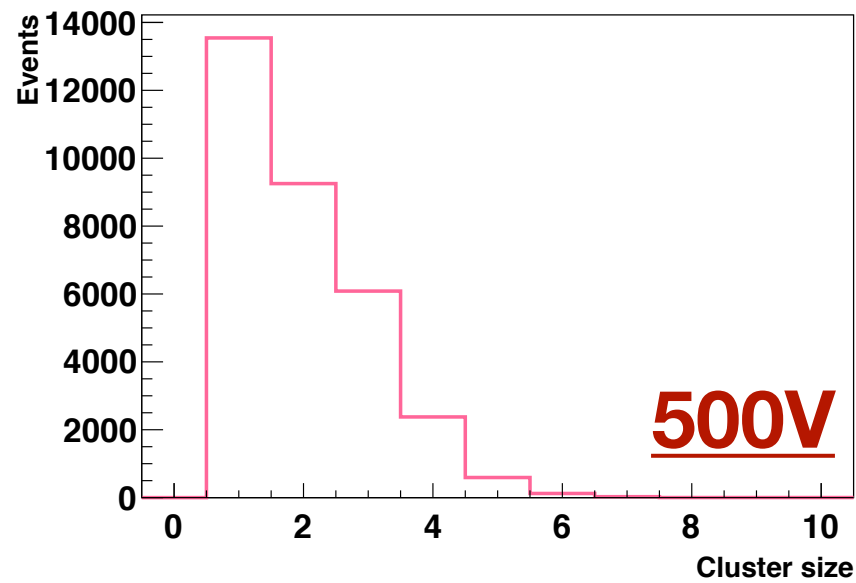
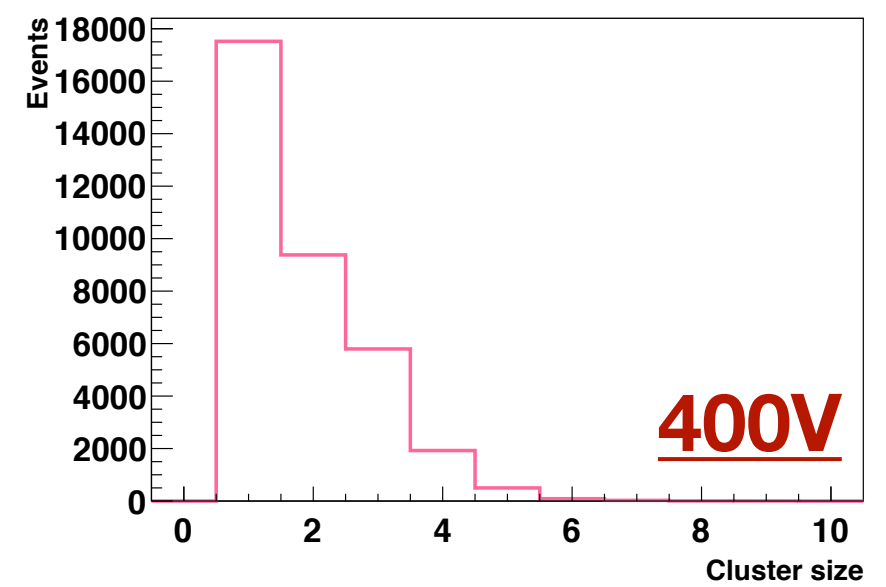
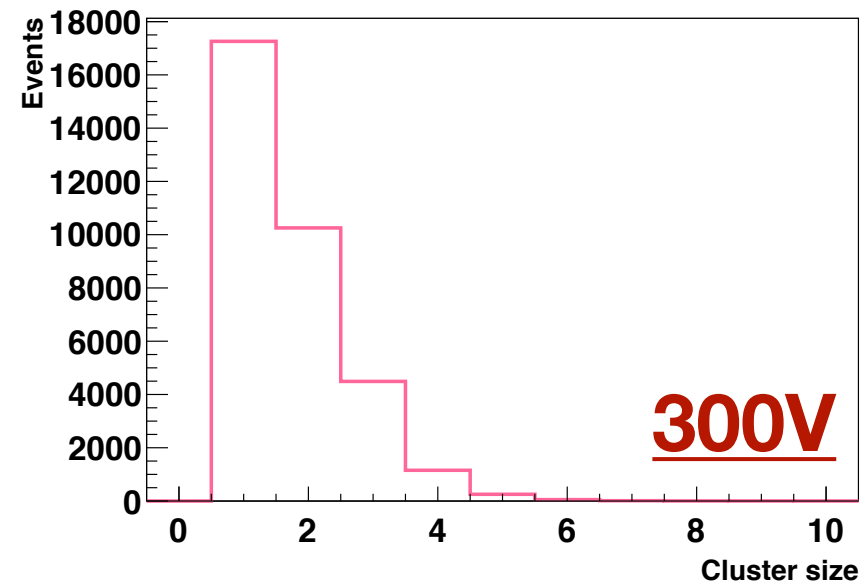
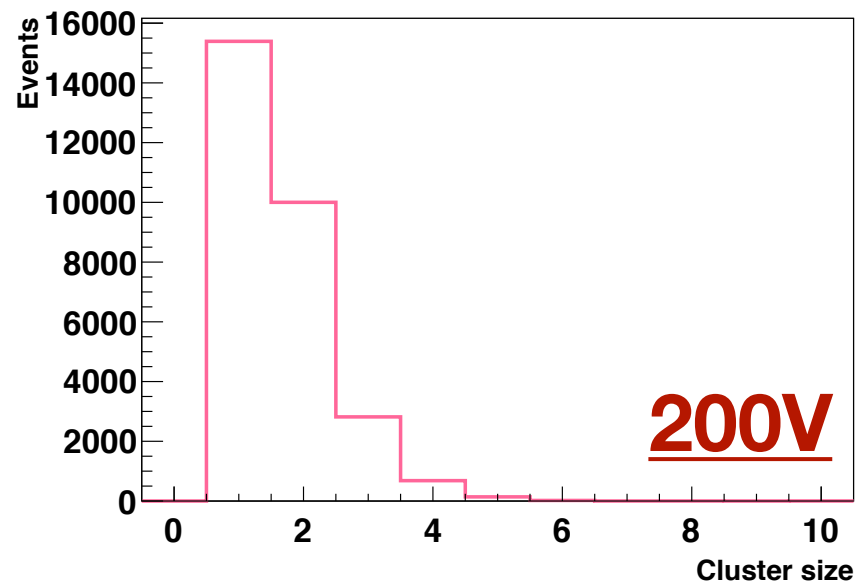
1E14-irrad. Cluster Size

13



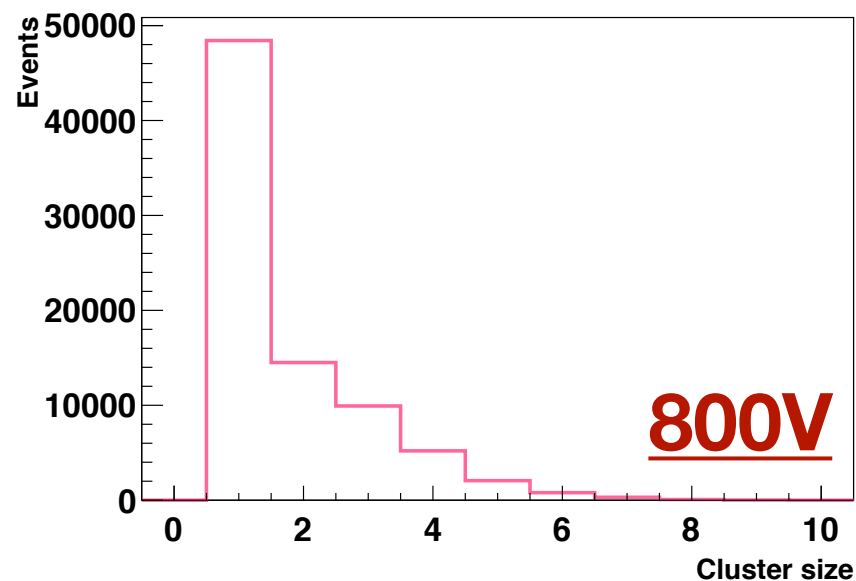
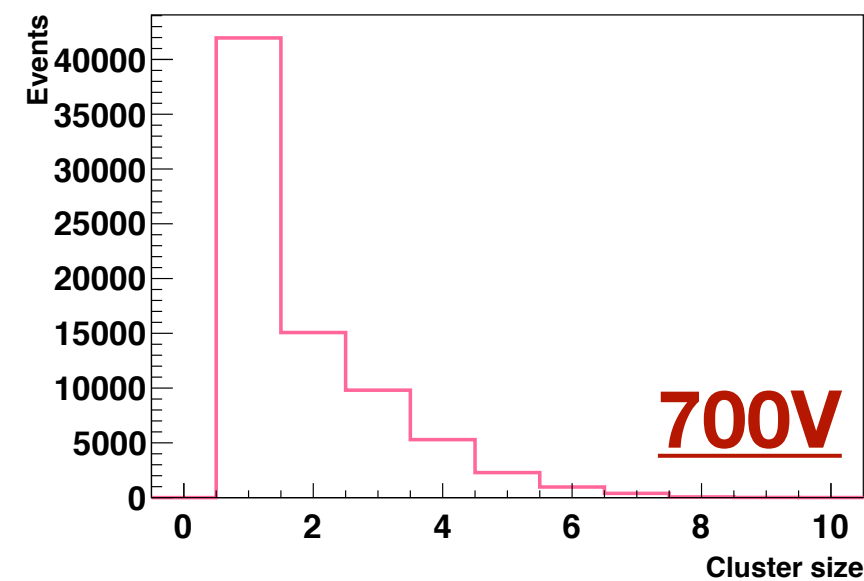
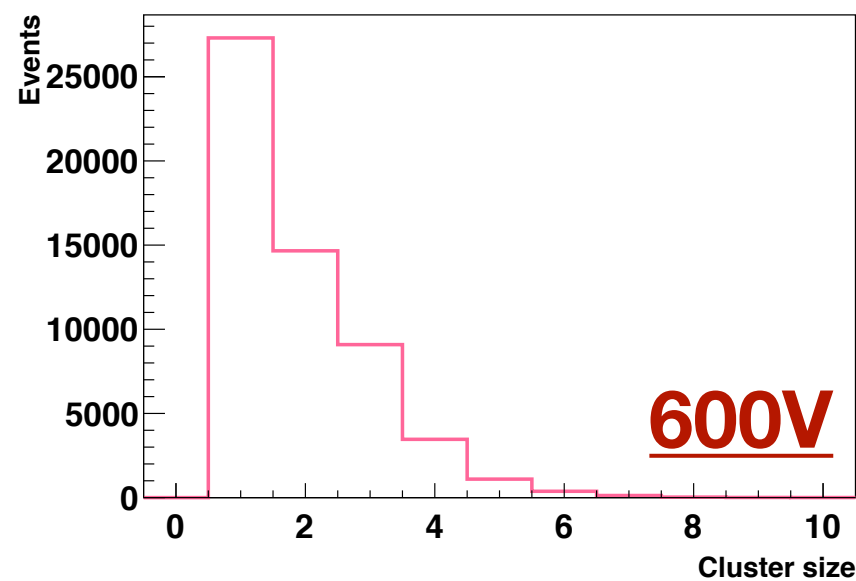
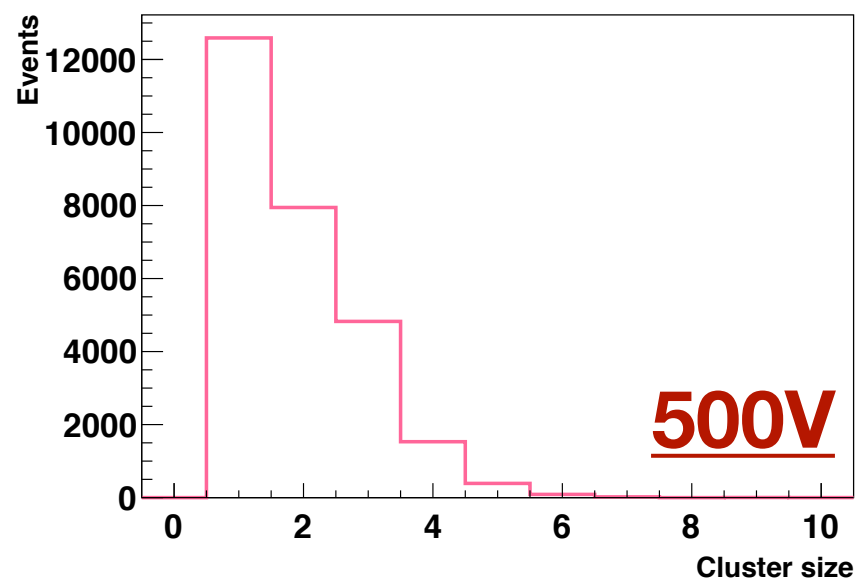
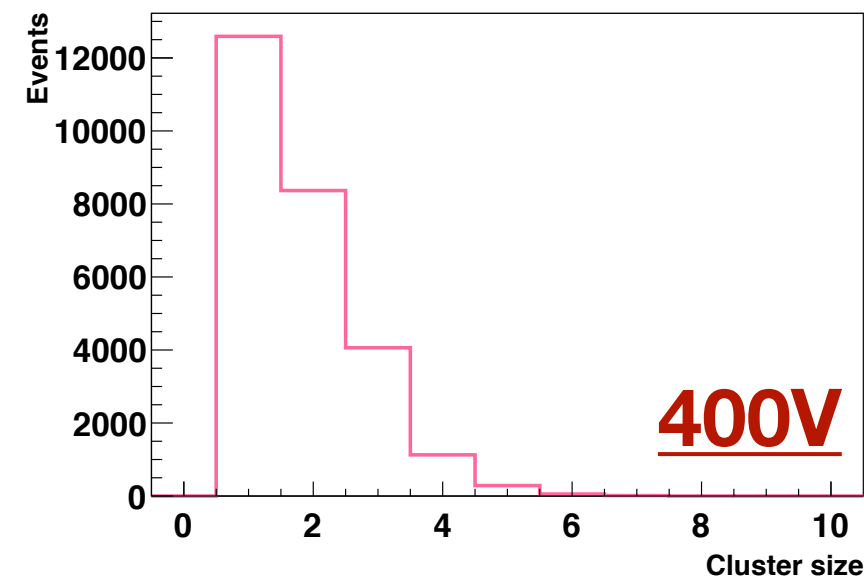
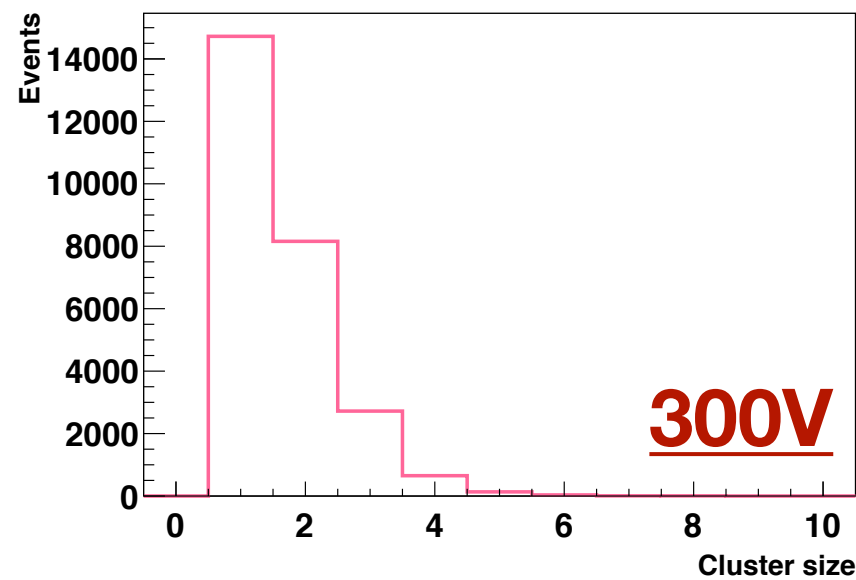
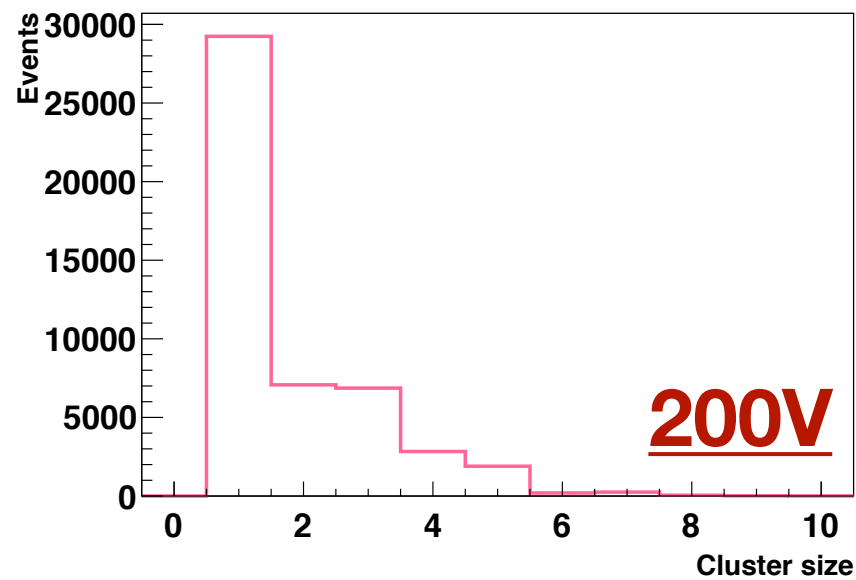
5E14-irrad. Cluster Size

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1E15-irrad. Cluster Size

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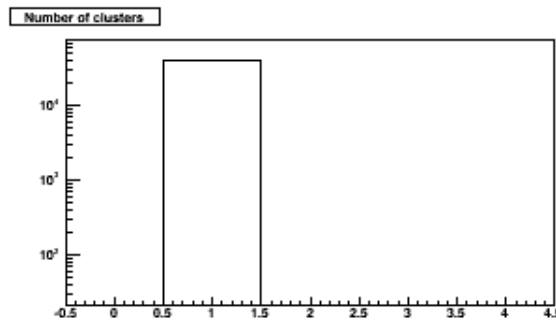
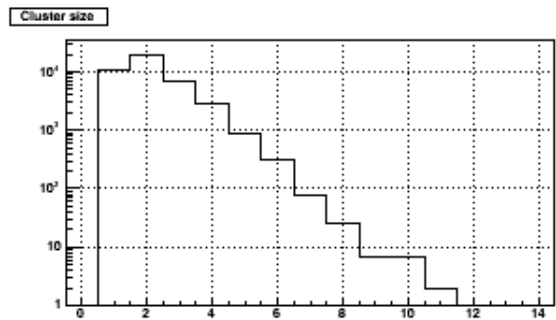


Seed $> 3.5\sigma$ / Neighbor $> 1.5\sigma$

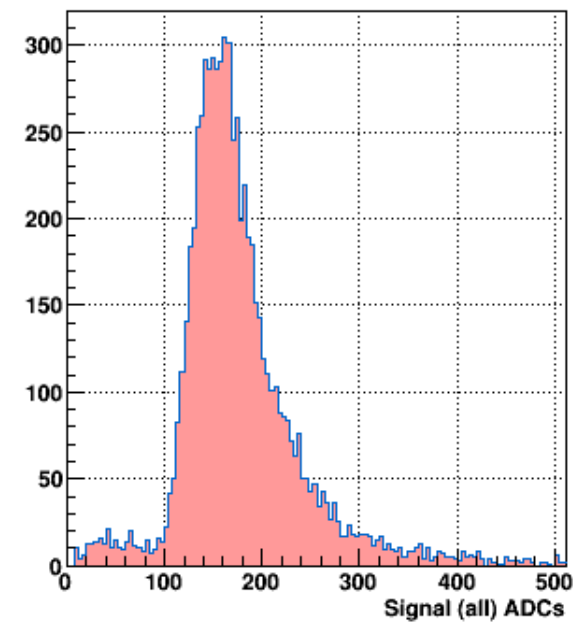
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Non-irrad. -400V

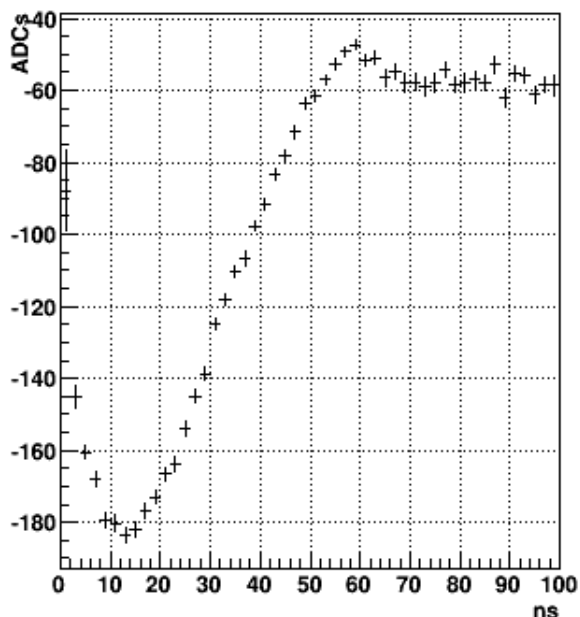
1E14-irrad. -400V



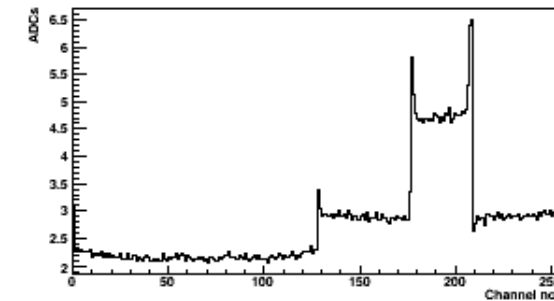
Spectrum with Time cut [8, 20]



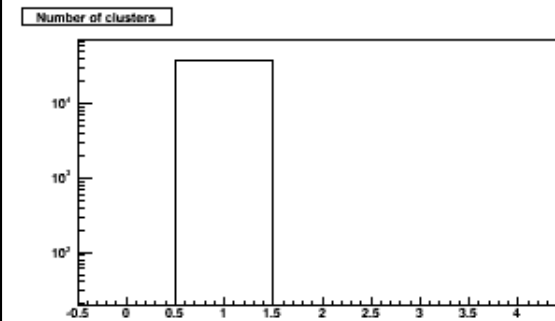
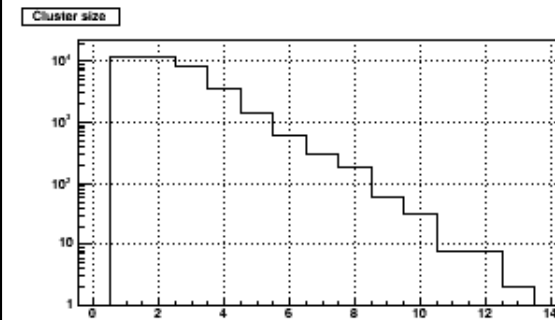
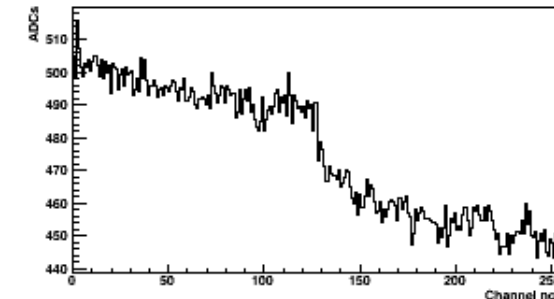
Time



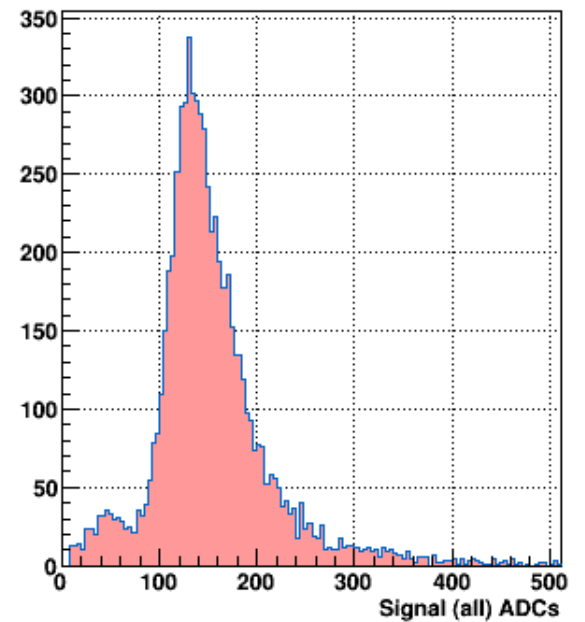
Noise



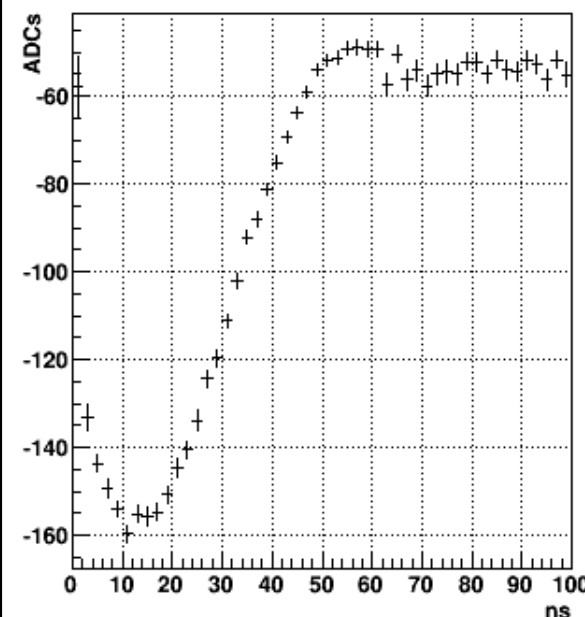
Pedestals



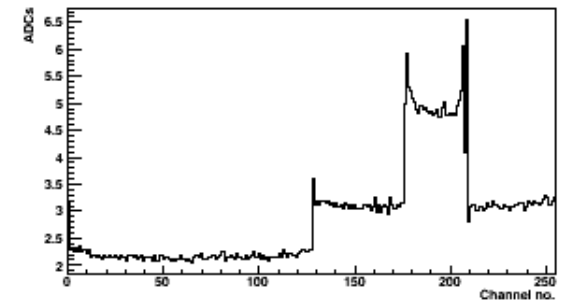
Spectrum with Time cut [8, 20]



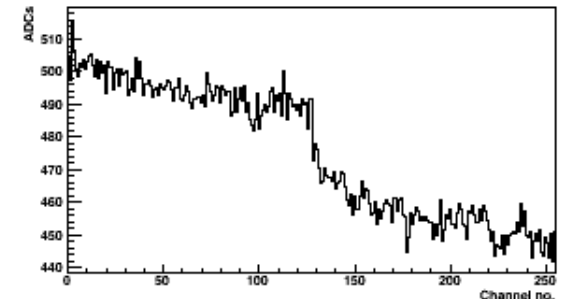
Time



Noise



Pedestals

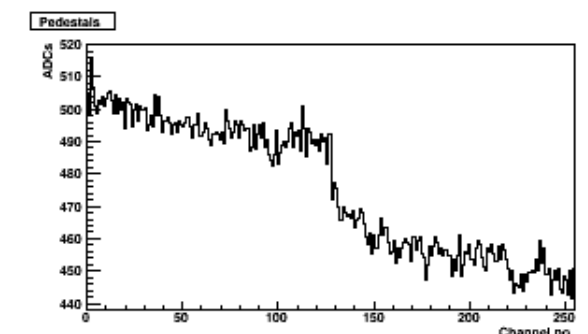
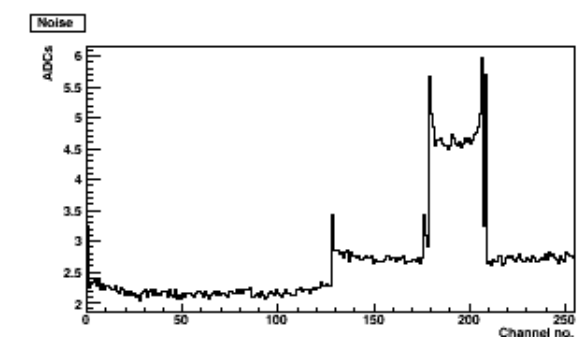
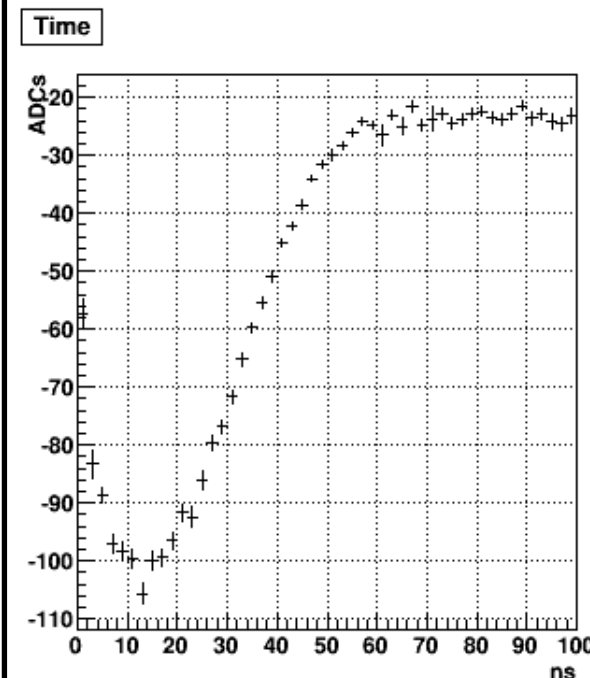
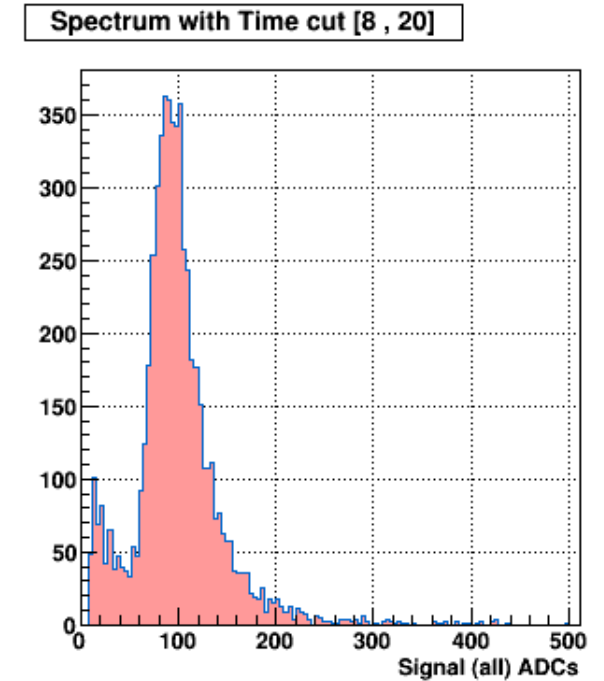
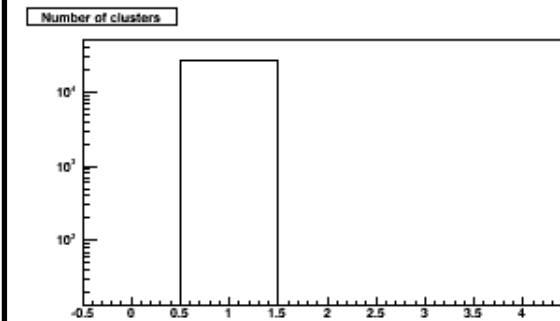
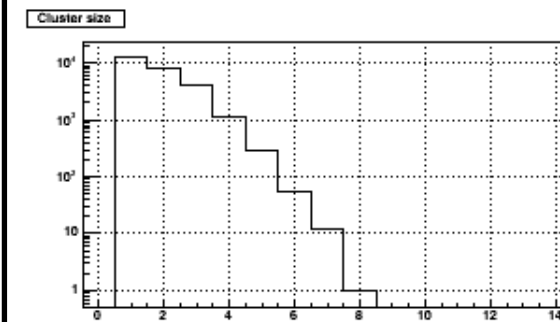
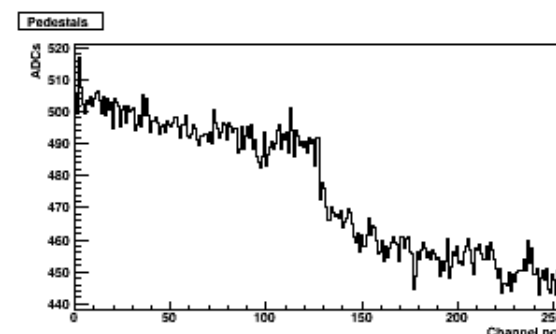
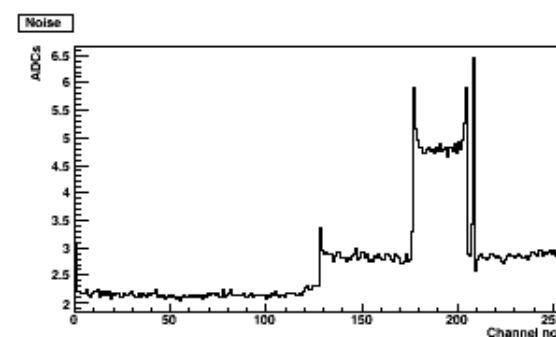
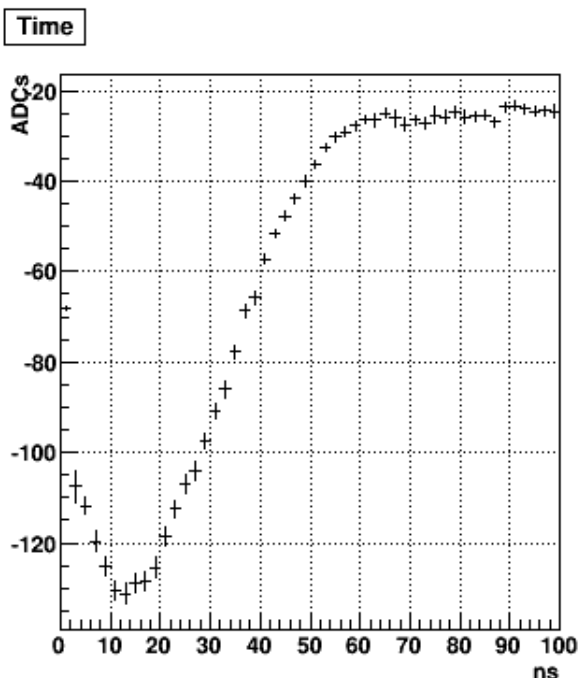
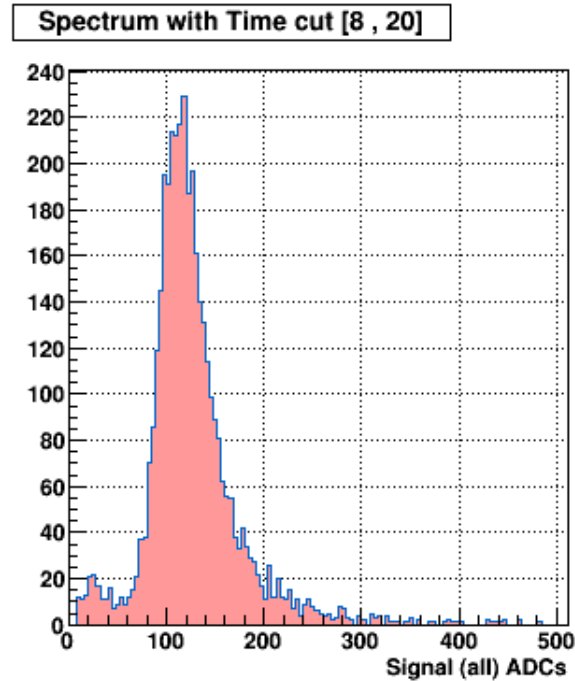
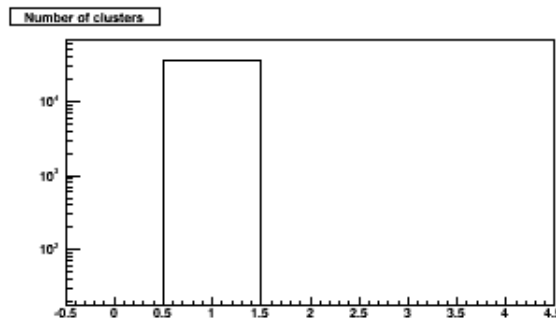
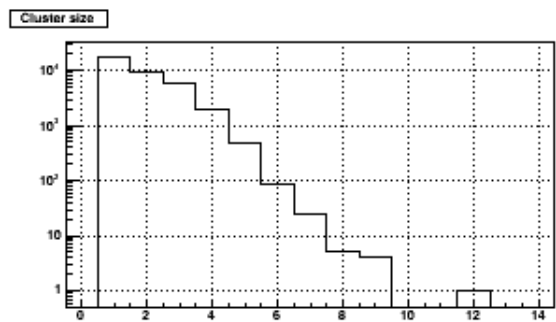


Seed $> 3.5\sigma$ / Neighbor $> 1.5\sigma$

17

5E14-irrad. -400V

1E15-irrad. -400V

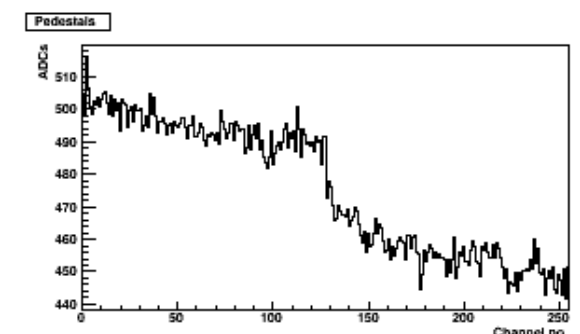
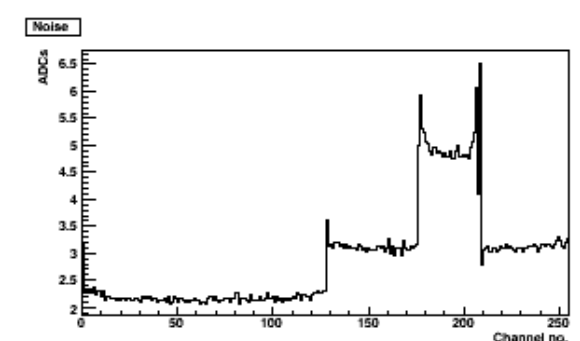
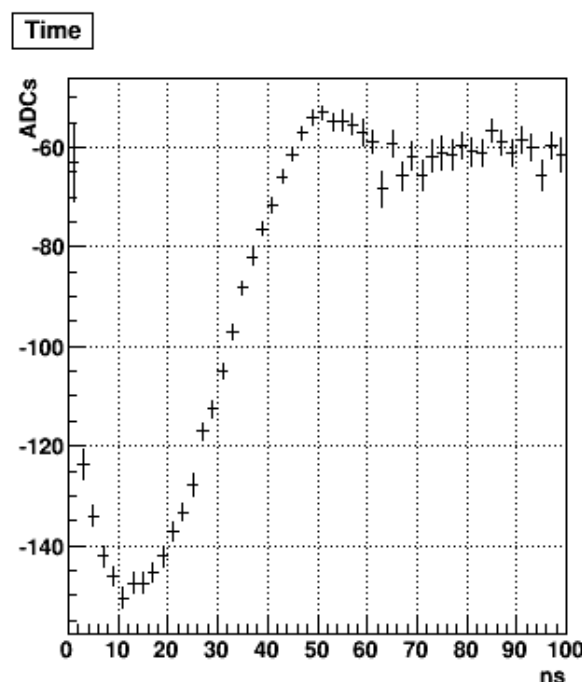
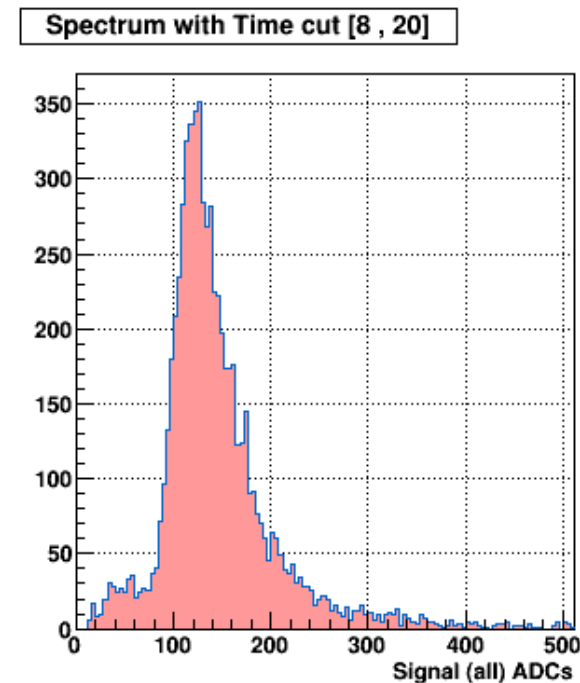
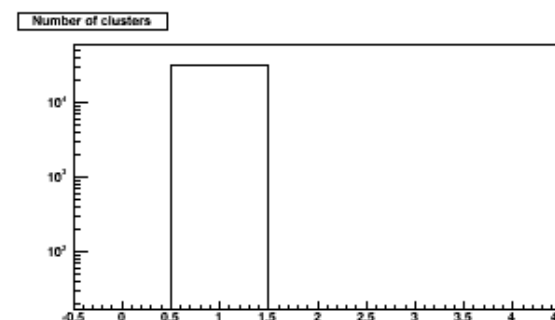
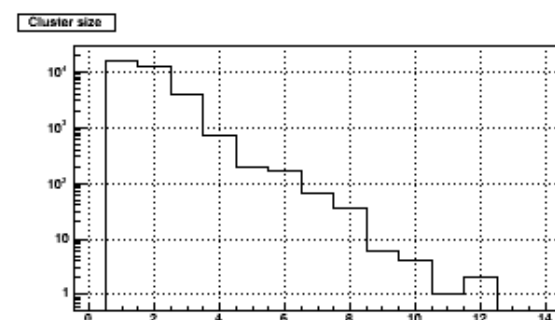
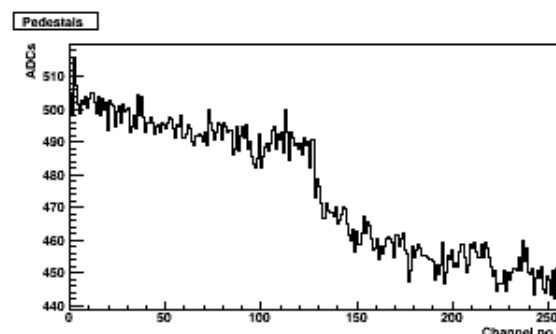
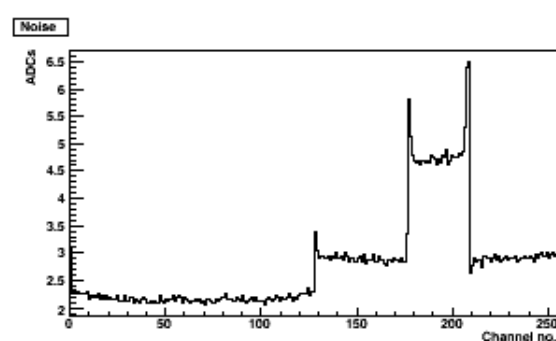
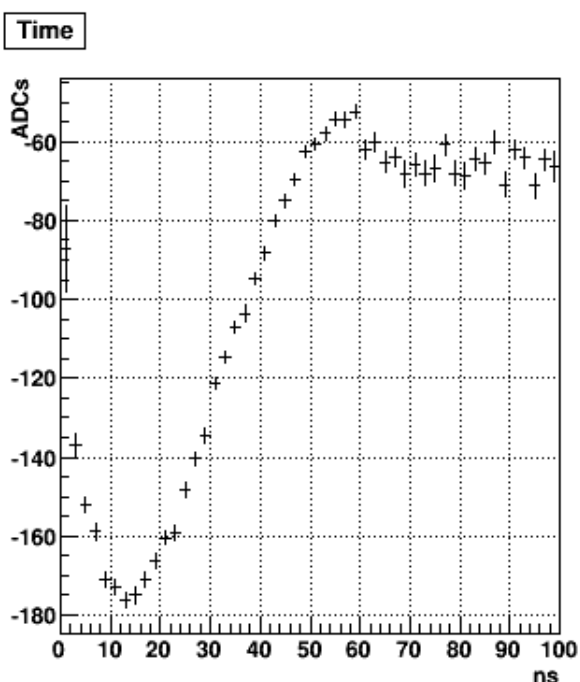
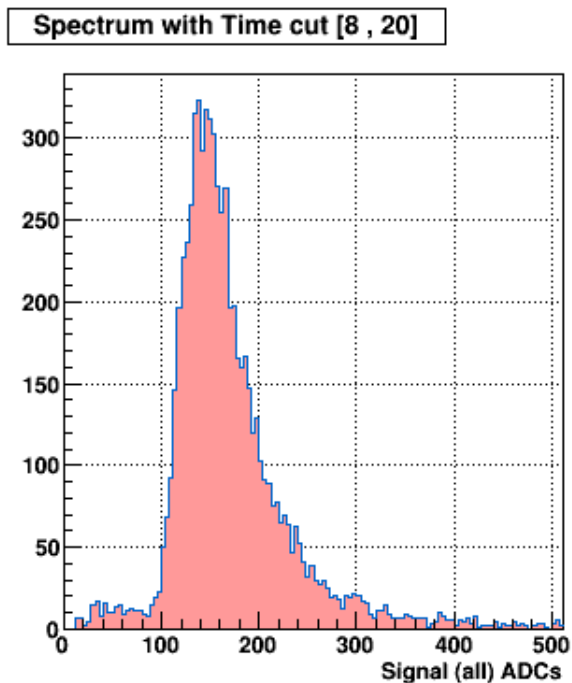
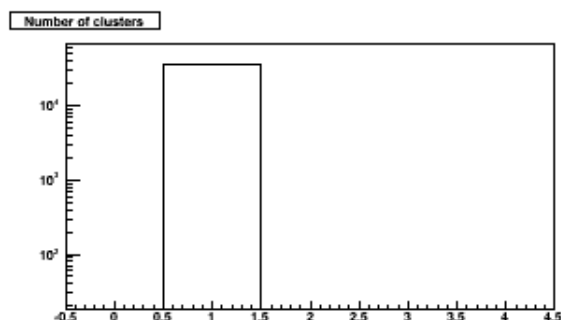
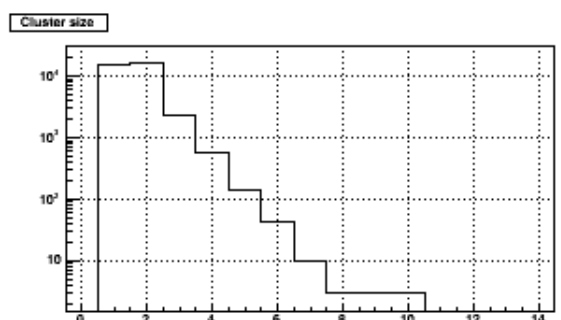


Seed $> 5\sigma$ / Neighbor $> 3\sigma$

18

Non-irrad. -400V

1E14-irrad. -400V



Seed $> 5\sigma$ / Neighbor $> 3\sigma$

19

5E14-irrad. -400V

1E15-irrad. -400V

