

Cluster Analysis Report

Directory: /home/virgolaema/dune/online-pointing-utils/data/prod_es/bkgs/

Combined analysis of 1 file(s):

`es_valid_bg_tick3_ch2_min2_tot1_e0_clusters_0.root`

Clustering Parameters:

Time tolerance: 3 ticks

Channel tolerance: 2

Min cluster size: 2 TPs

Min TOT threshold: 1 samples (time over threshold)

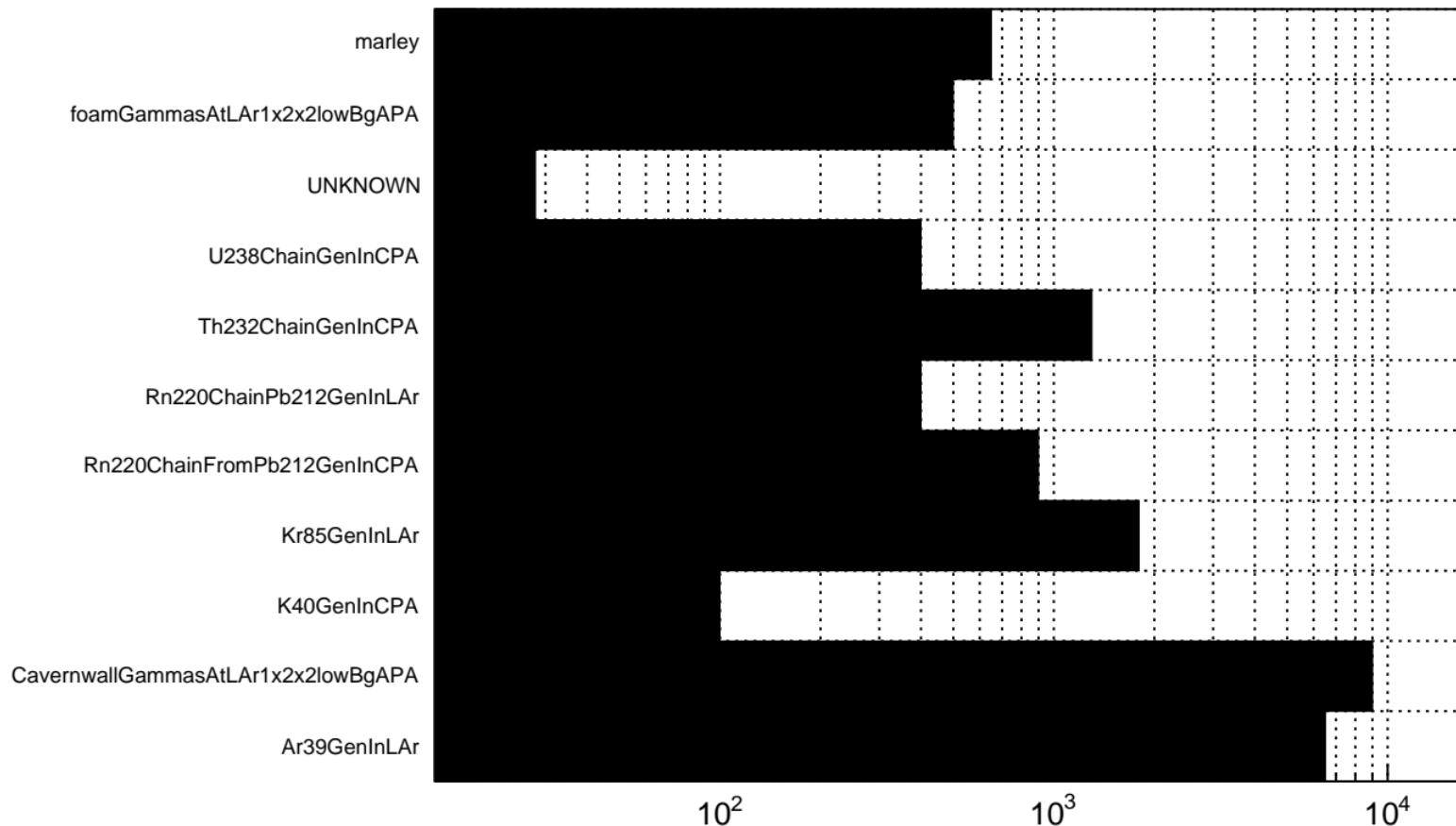
Minimum Cluster Charge:

Induction U: 292.0 ADC

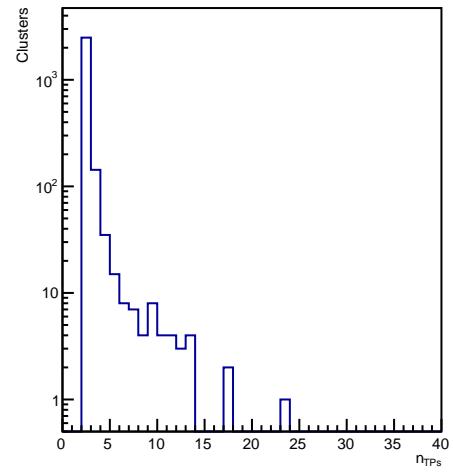
Induction V: 292.0 ADC

Generated by ~~Collection 0x284.0 ADDB~~ 2025

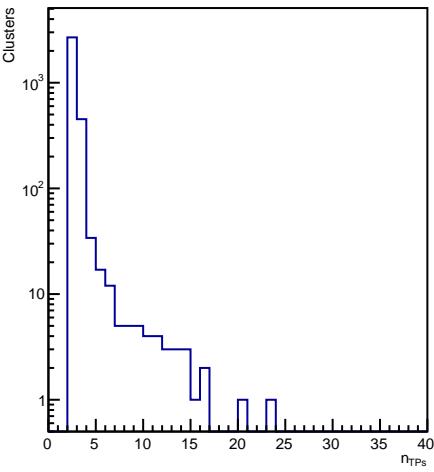
Clusters by true label



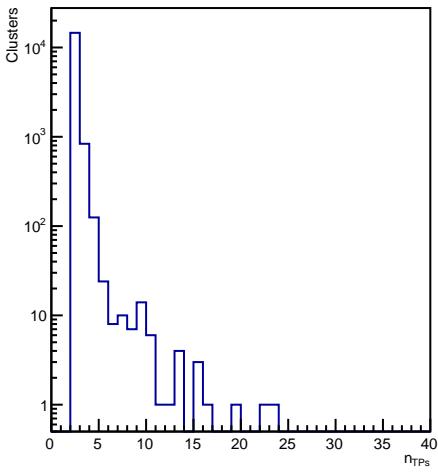
Cluster size (n_tps) - U



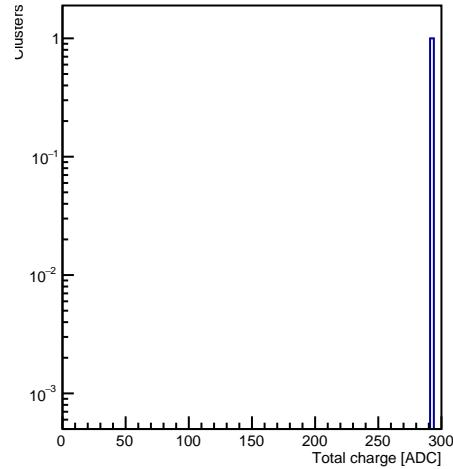
Cluster size (n_tps) - V



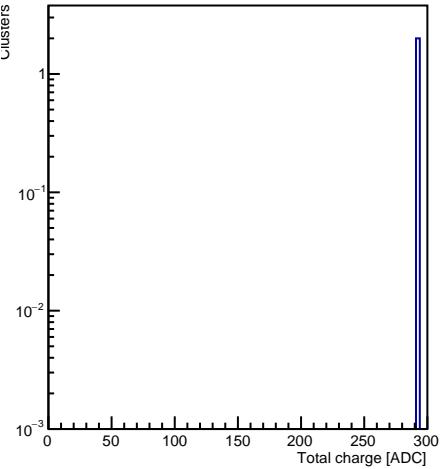
Cluster size (n_tps) Page 3/20



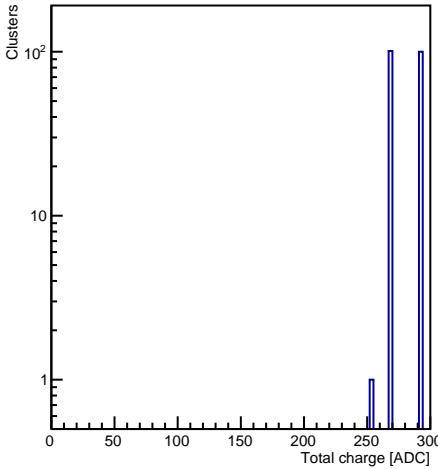
Total charge - U



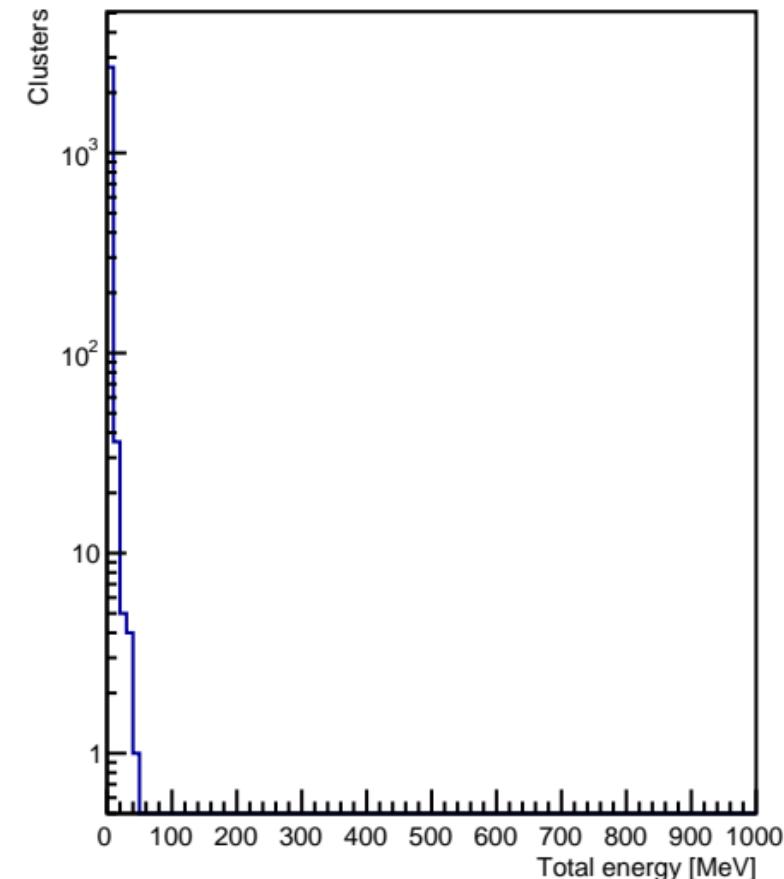
Total charge - V



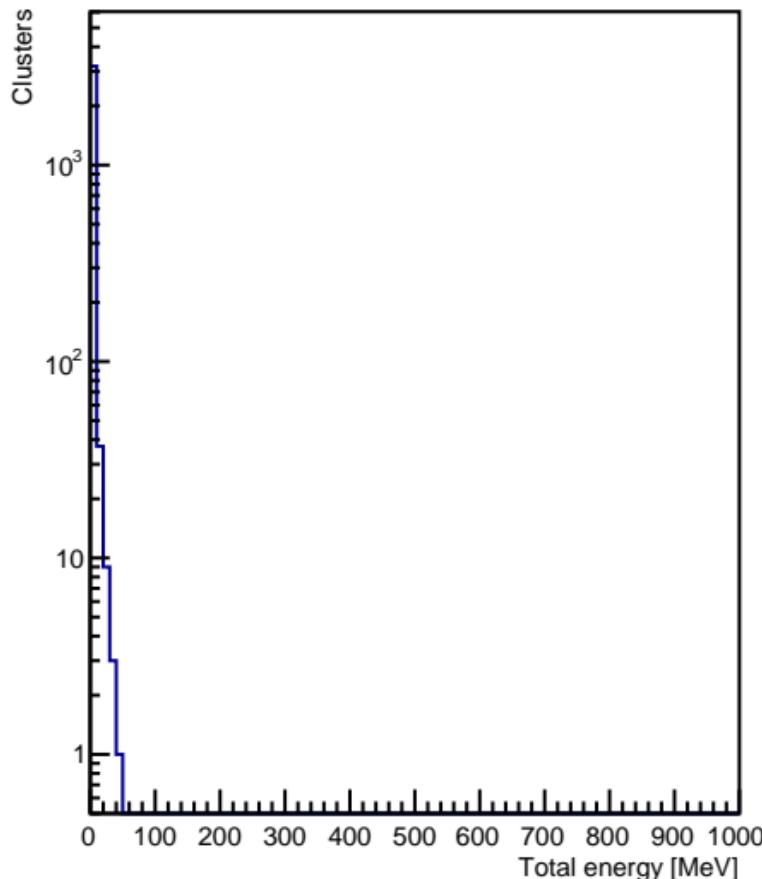
Total charge - X



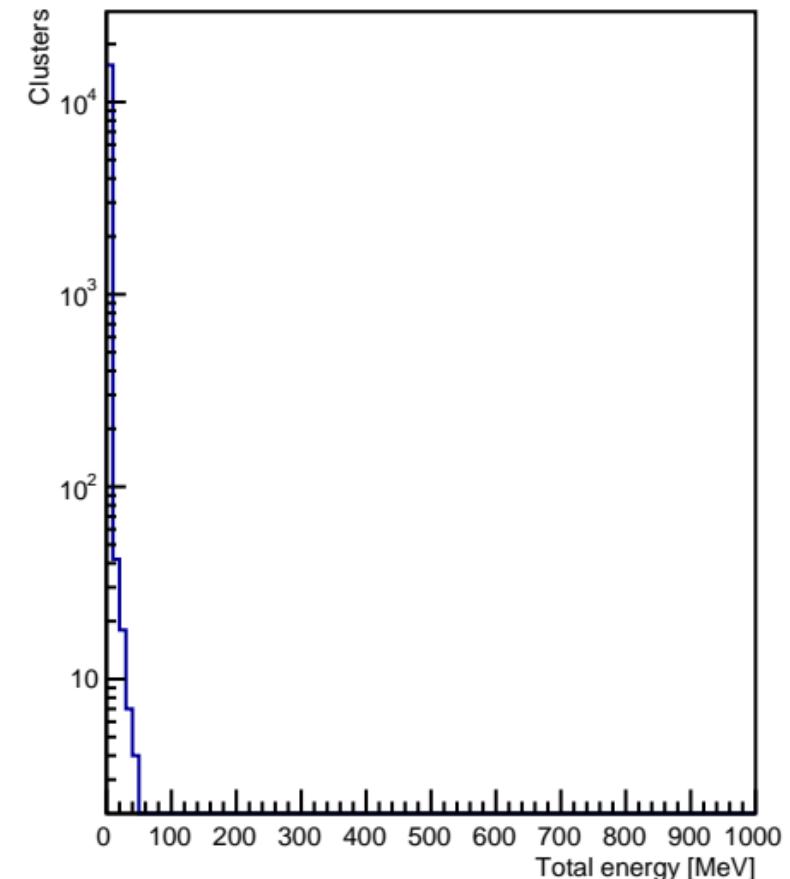
Total energy - U



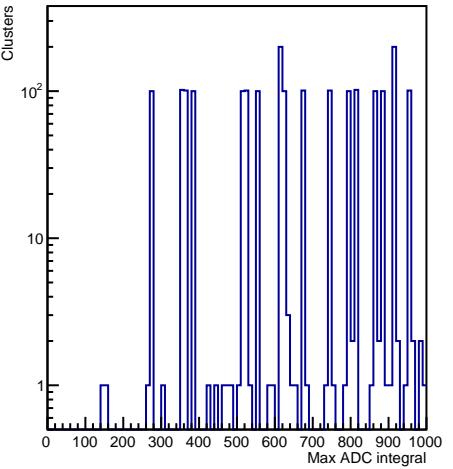
Total energy - V



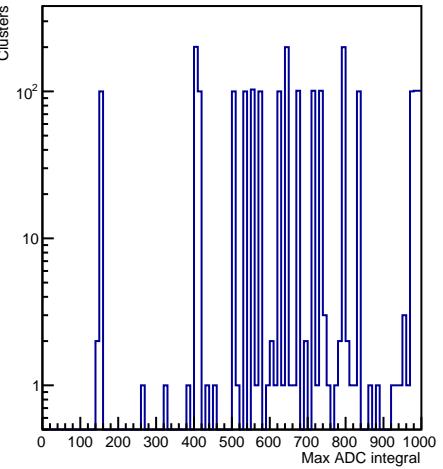
Total energy - X



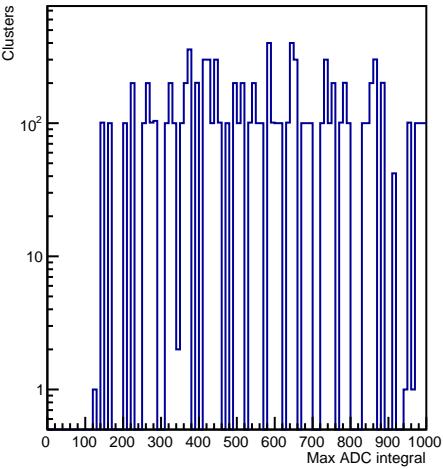
Max TP adc_integral - U



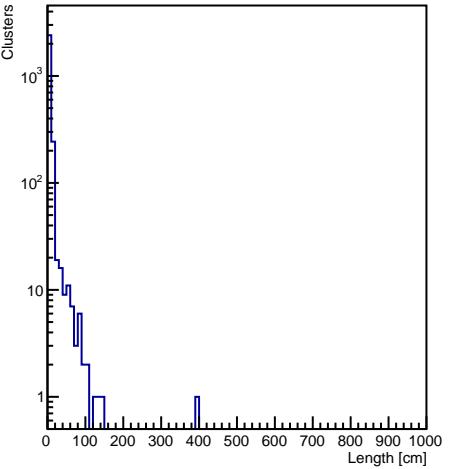
Max TP adc_integral - V



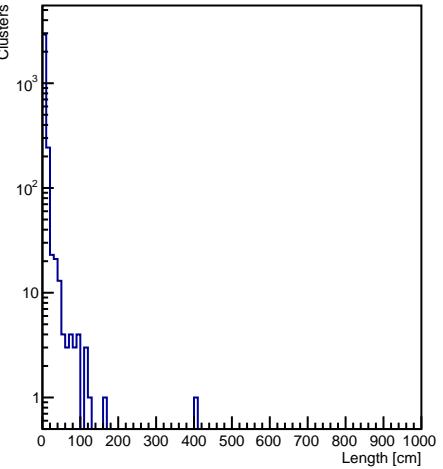
Max TP adc_integral Page 5/20



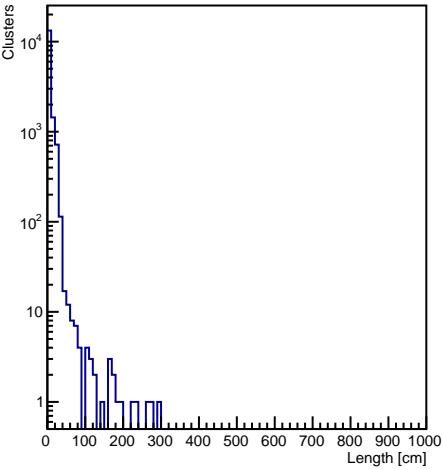
Total length (cm) - U

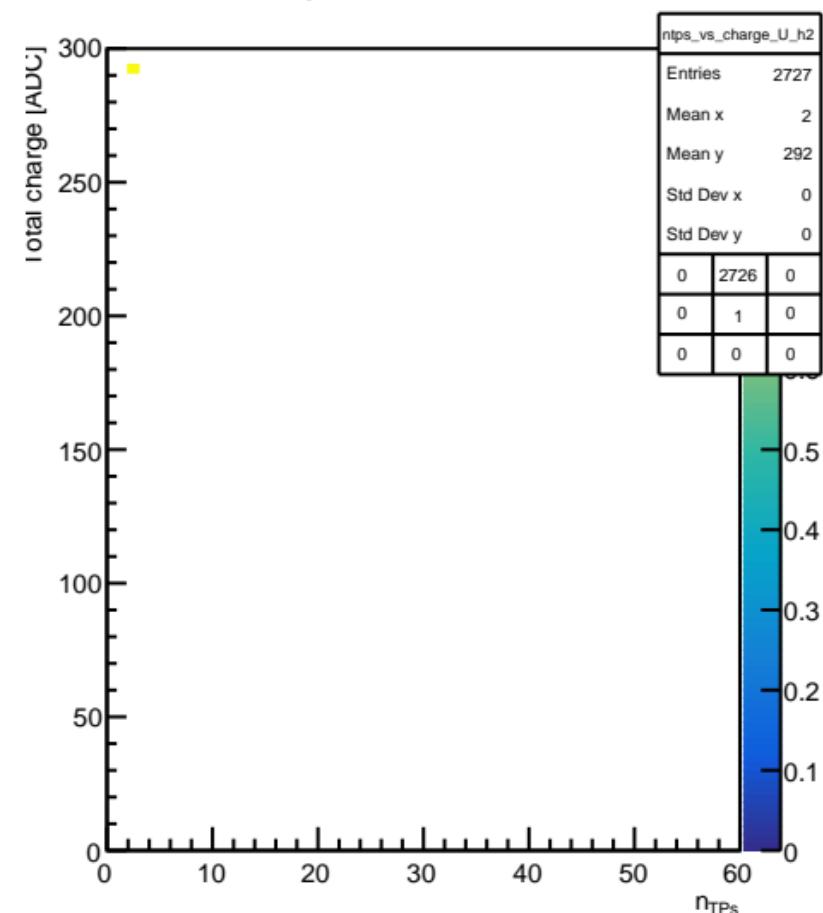
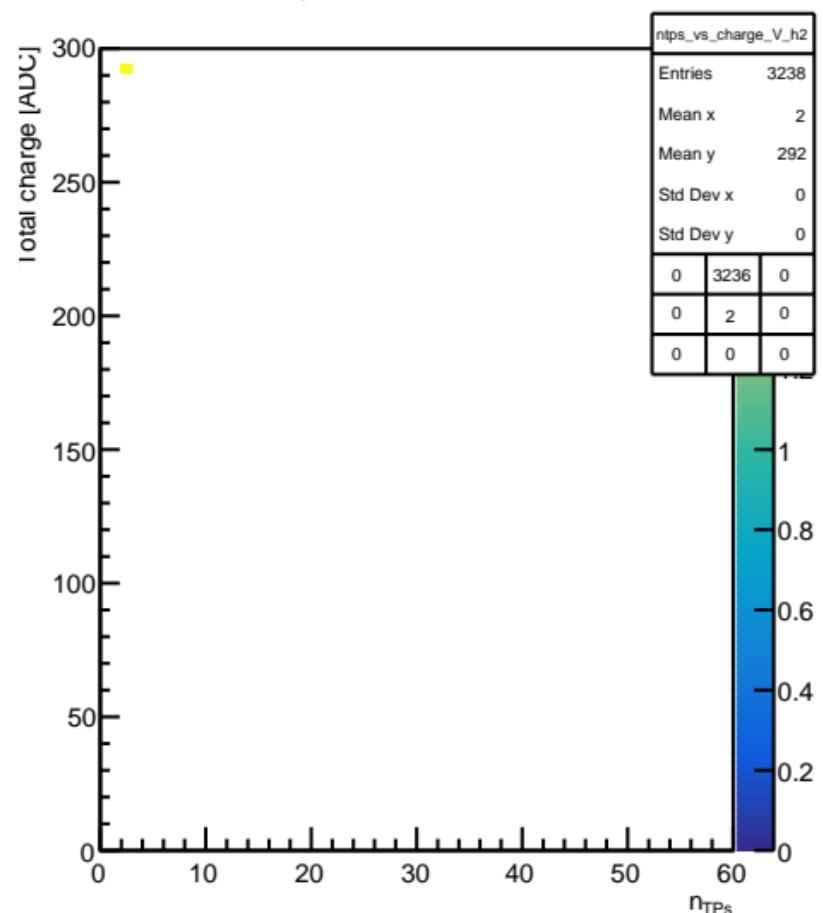
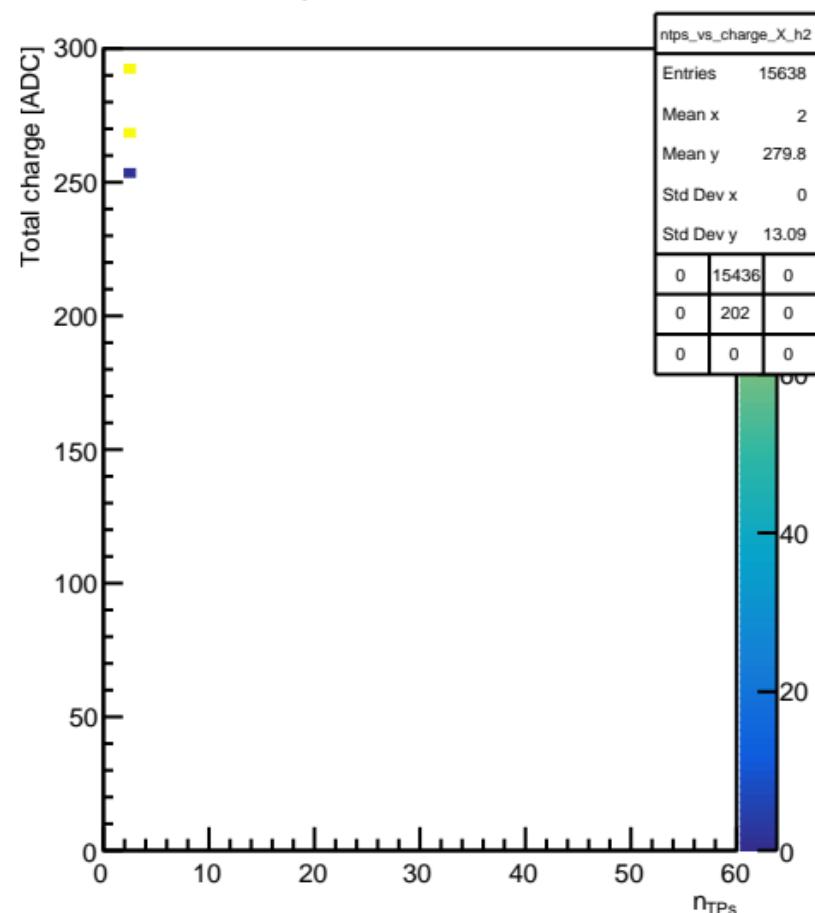


Total length (cm) - V



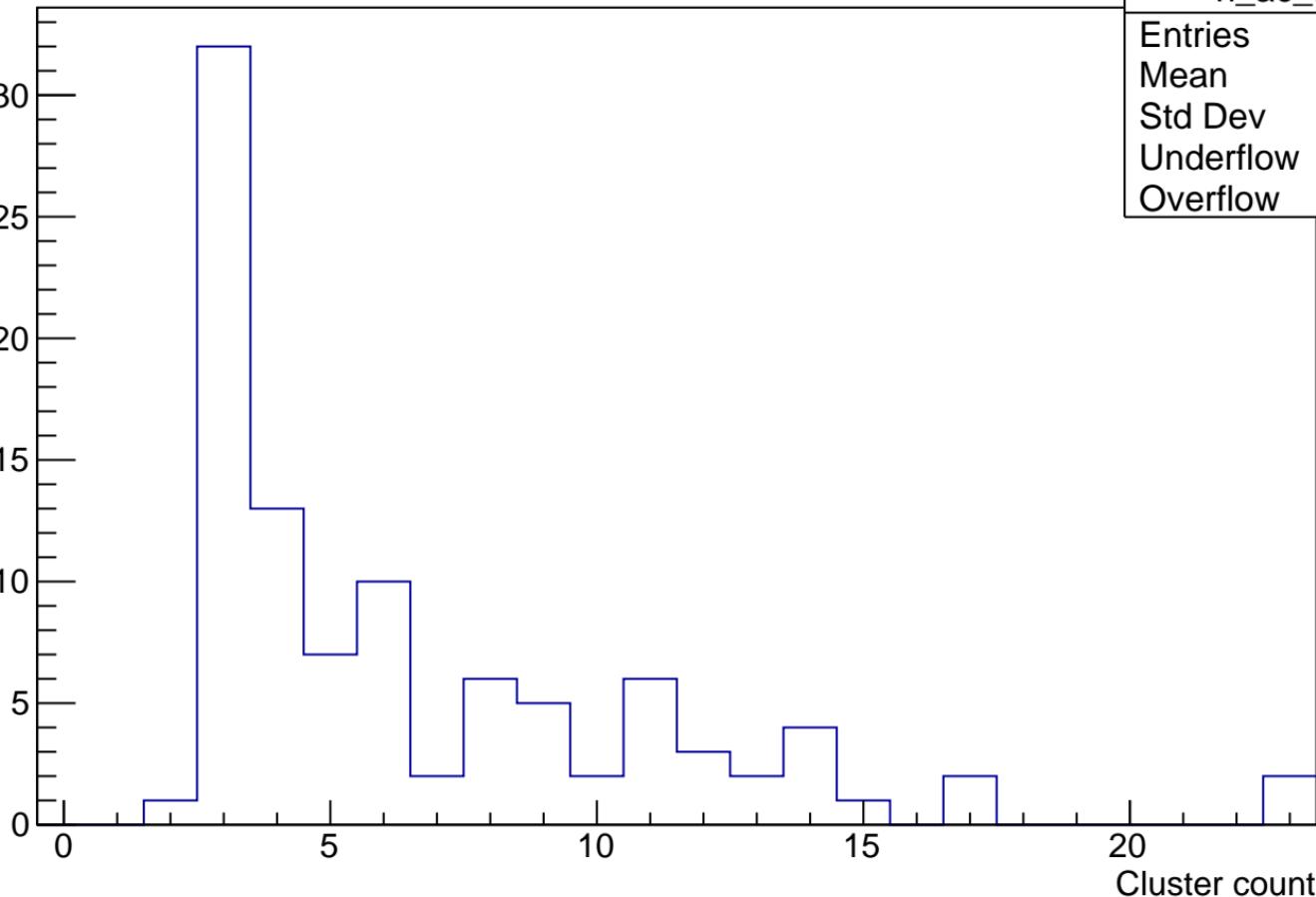
Total length (cm) - X



n_{TPs} vs total charge - U n_{TPs} vs total charge - V n_{TPs} vs total charge - X

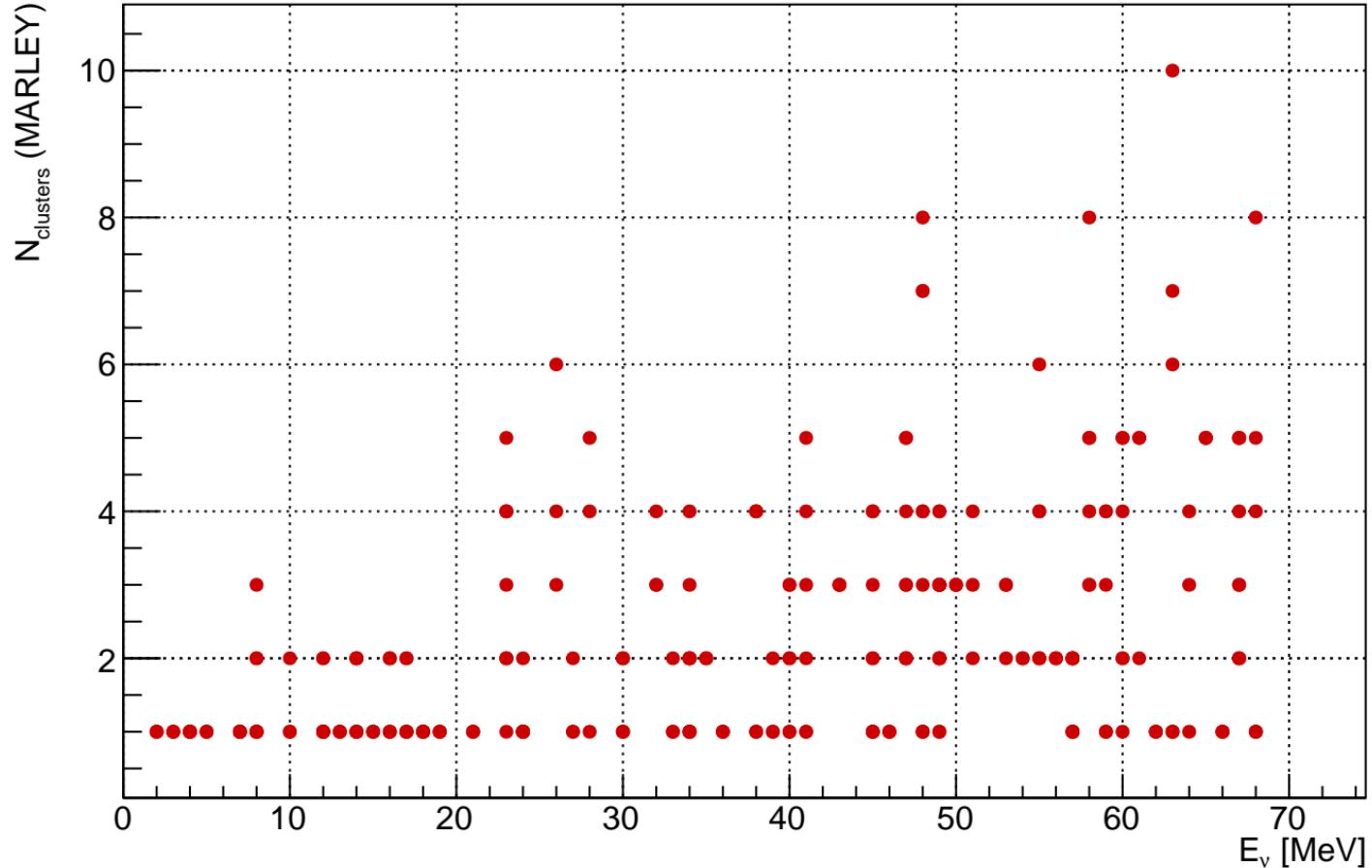
Supernova clusters per event

Events

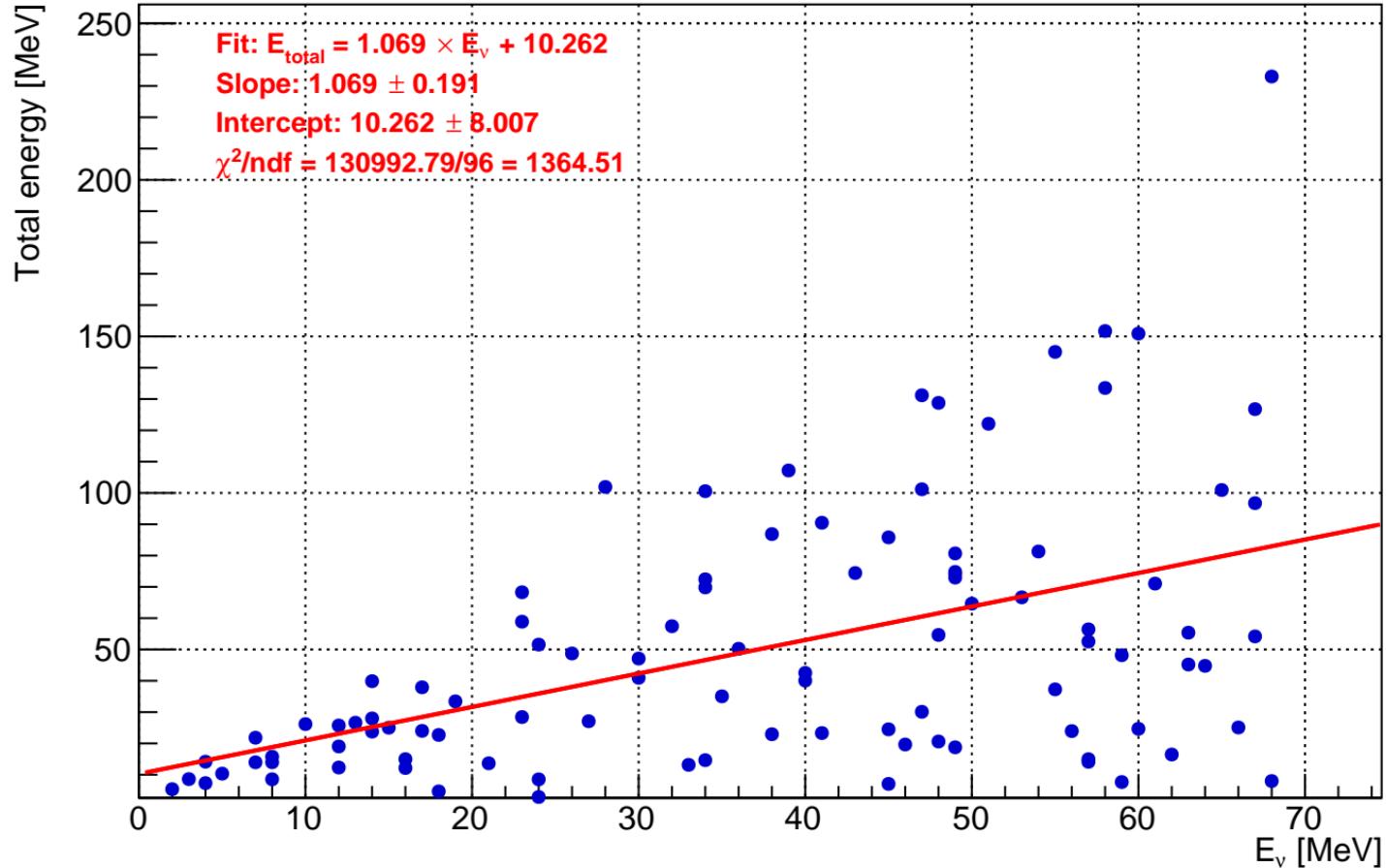


h_ac_sn	
Entries	98
Mean	6.643
Std Dev	4.448
Underflow	0
Overflow	0

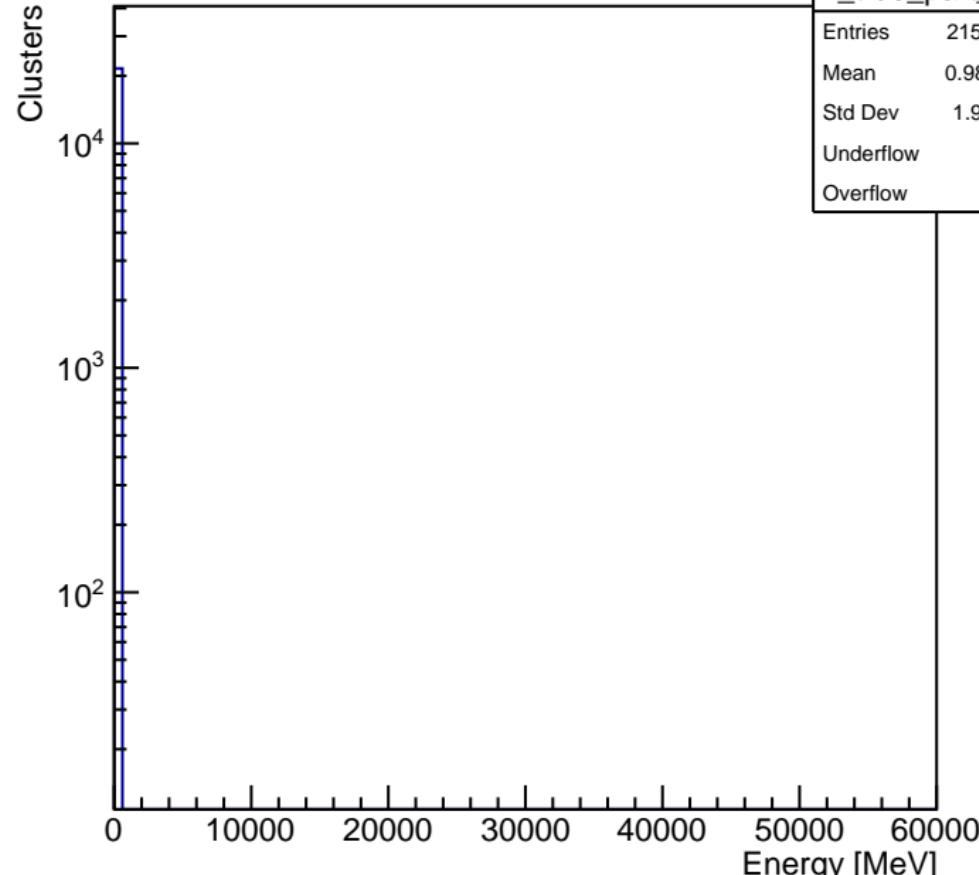
MARLEY clusters vs E_ν



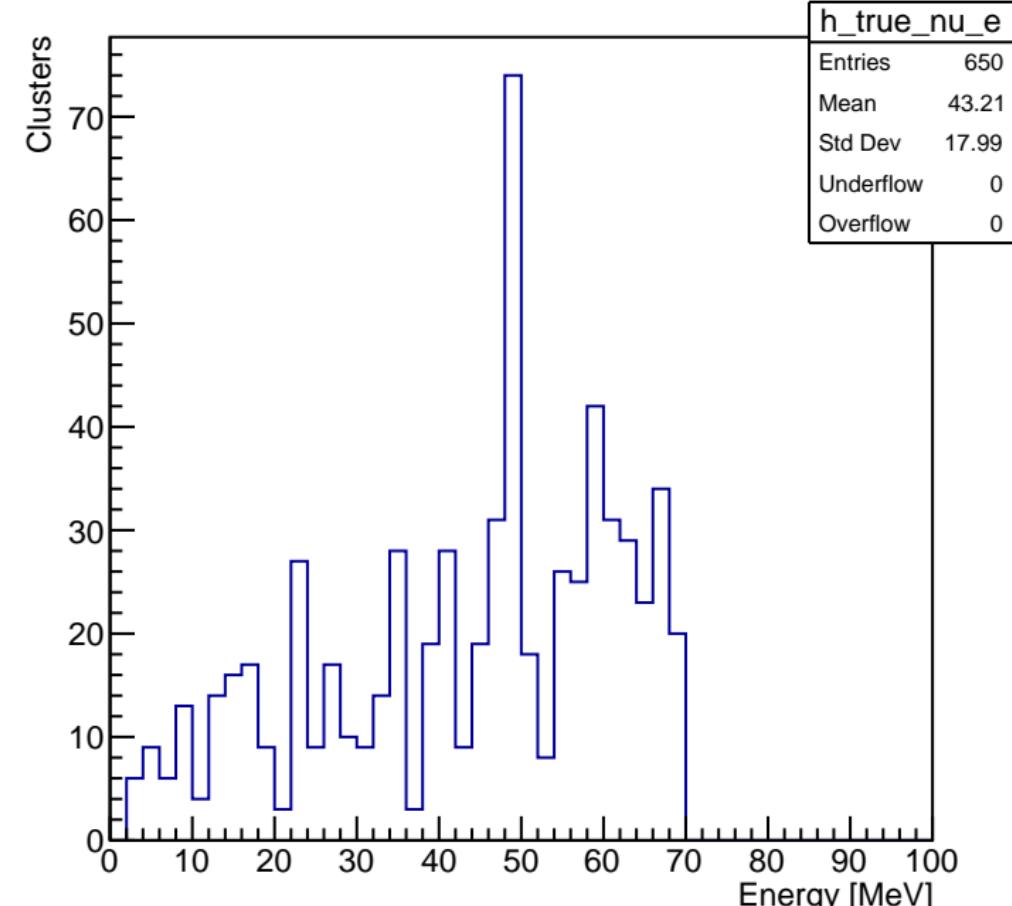
Total energy of MARLEY clusters vs E_v



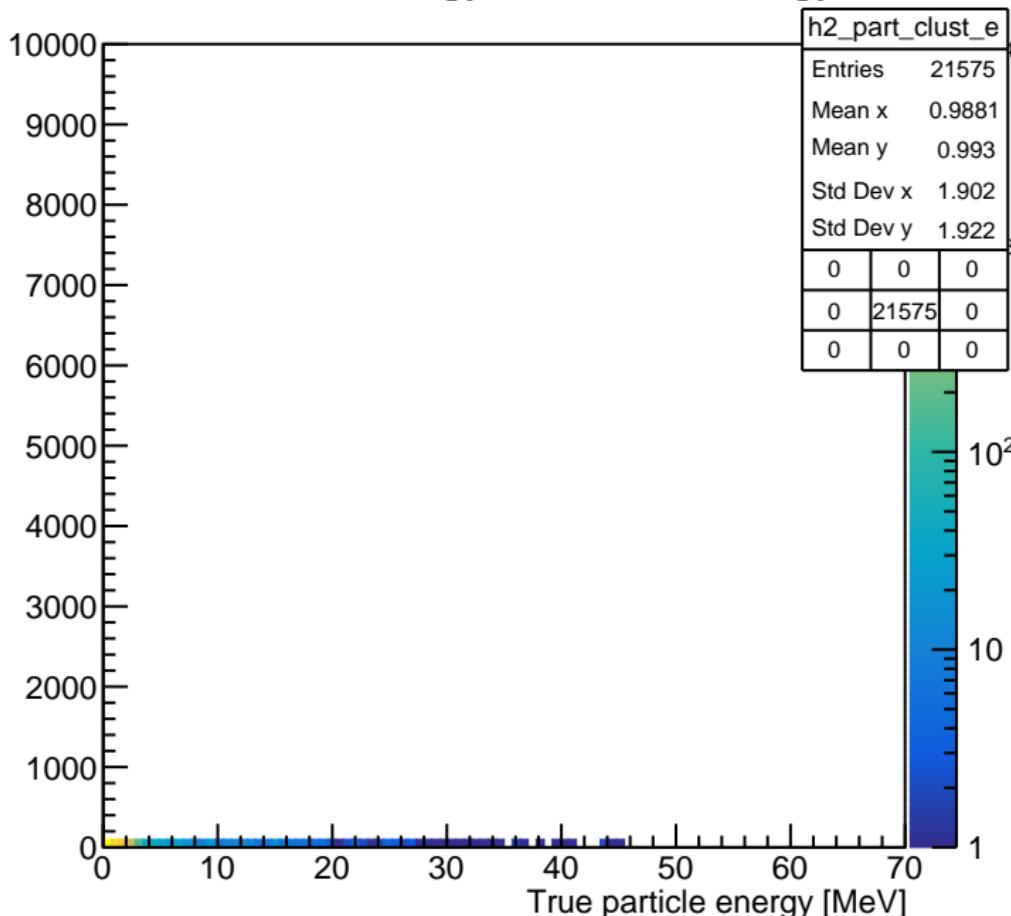
True particle energy



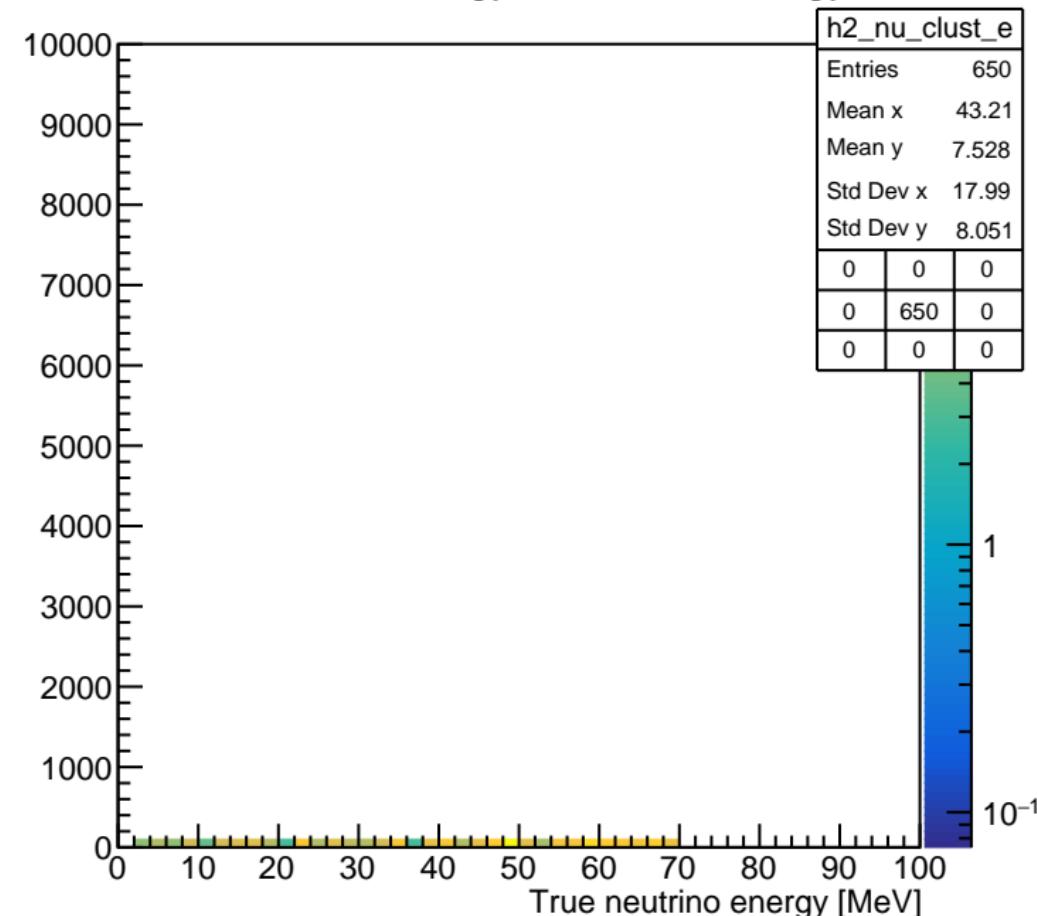
True neutrino energy

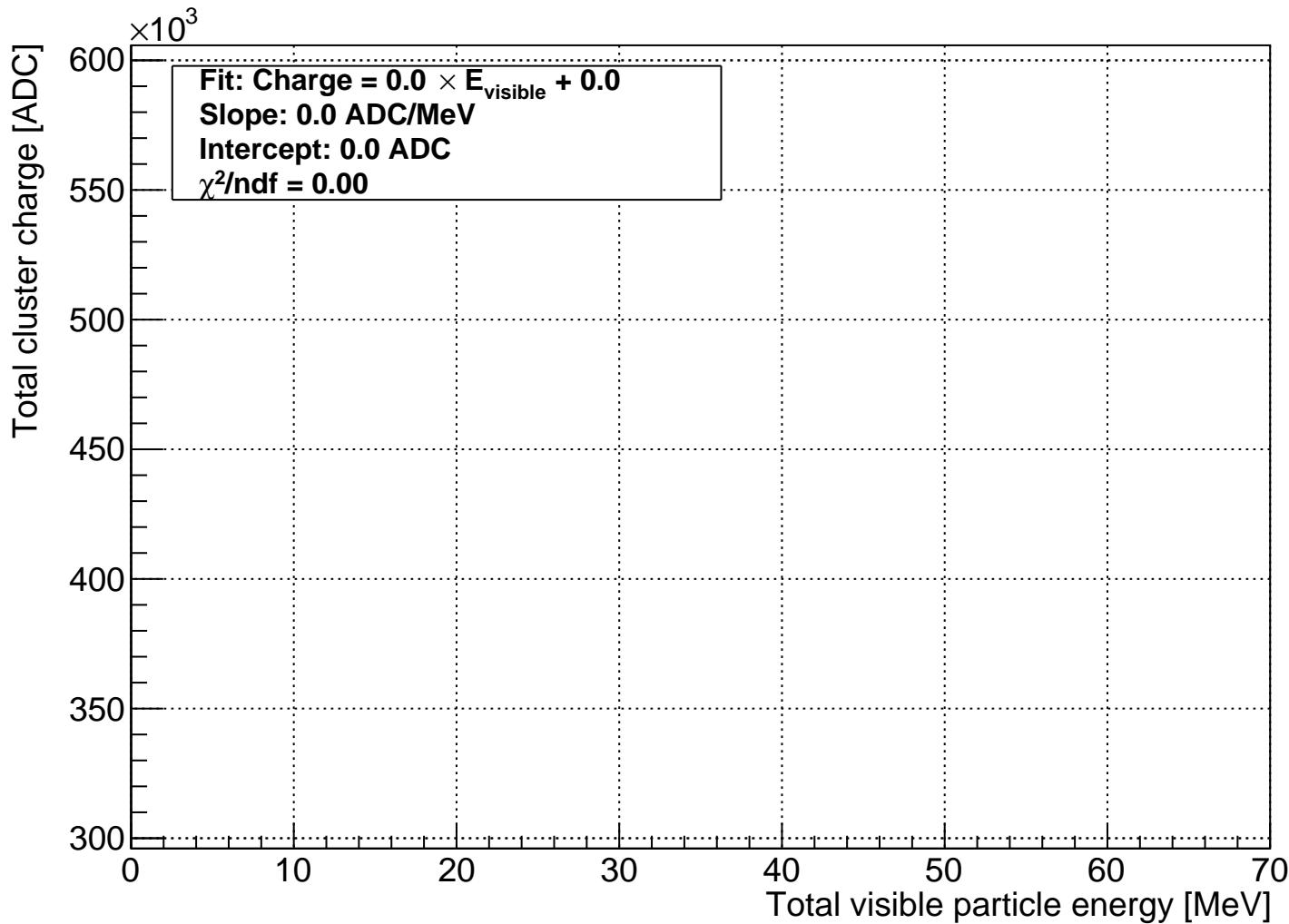


Particle energy vs cluster energy



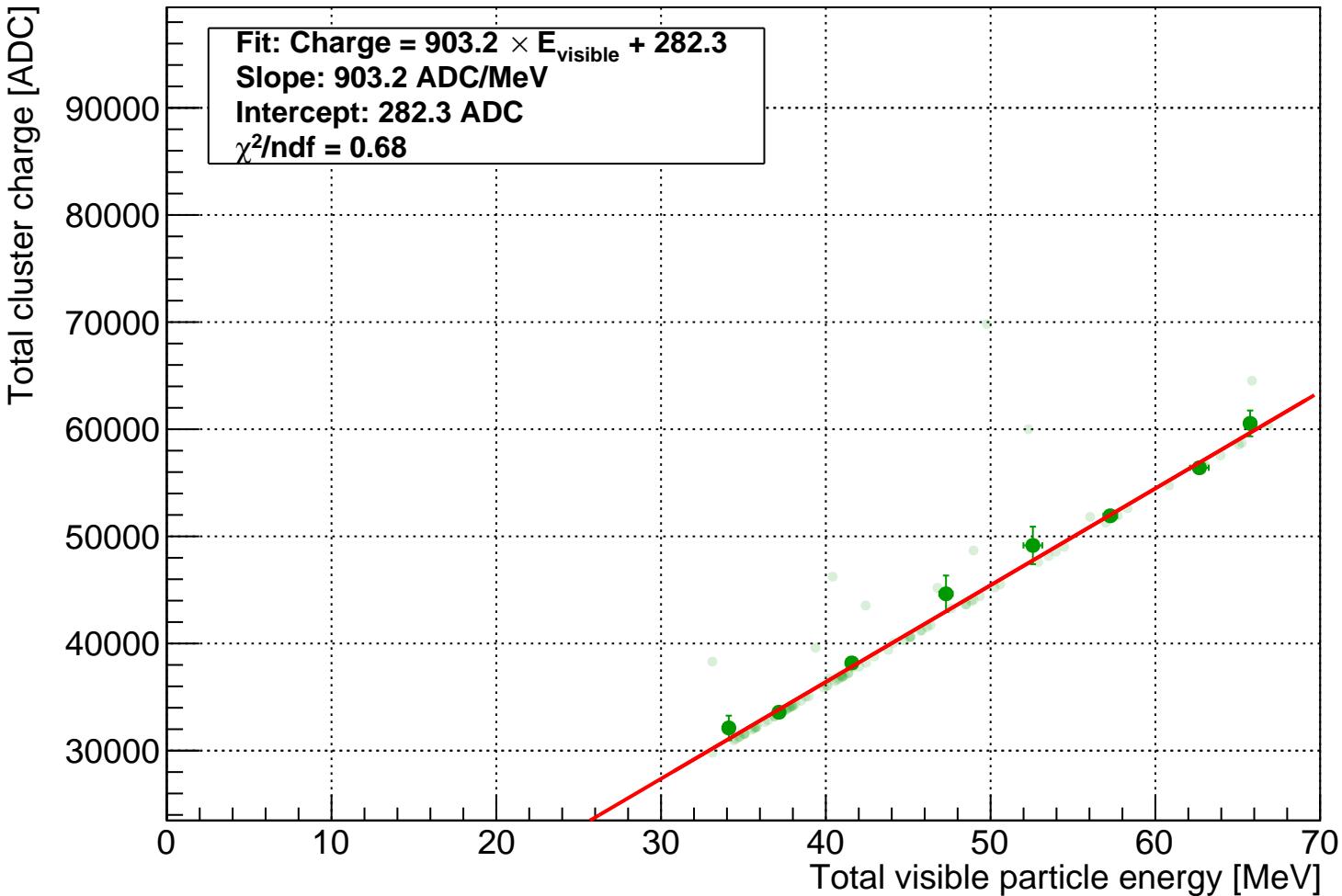
Neutrino energy vs cluster energy





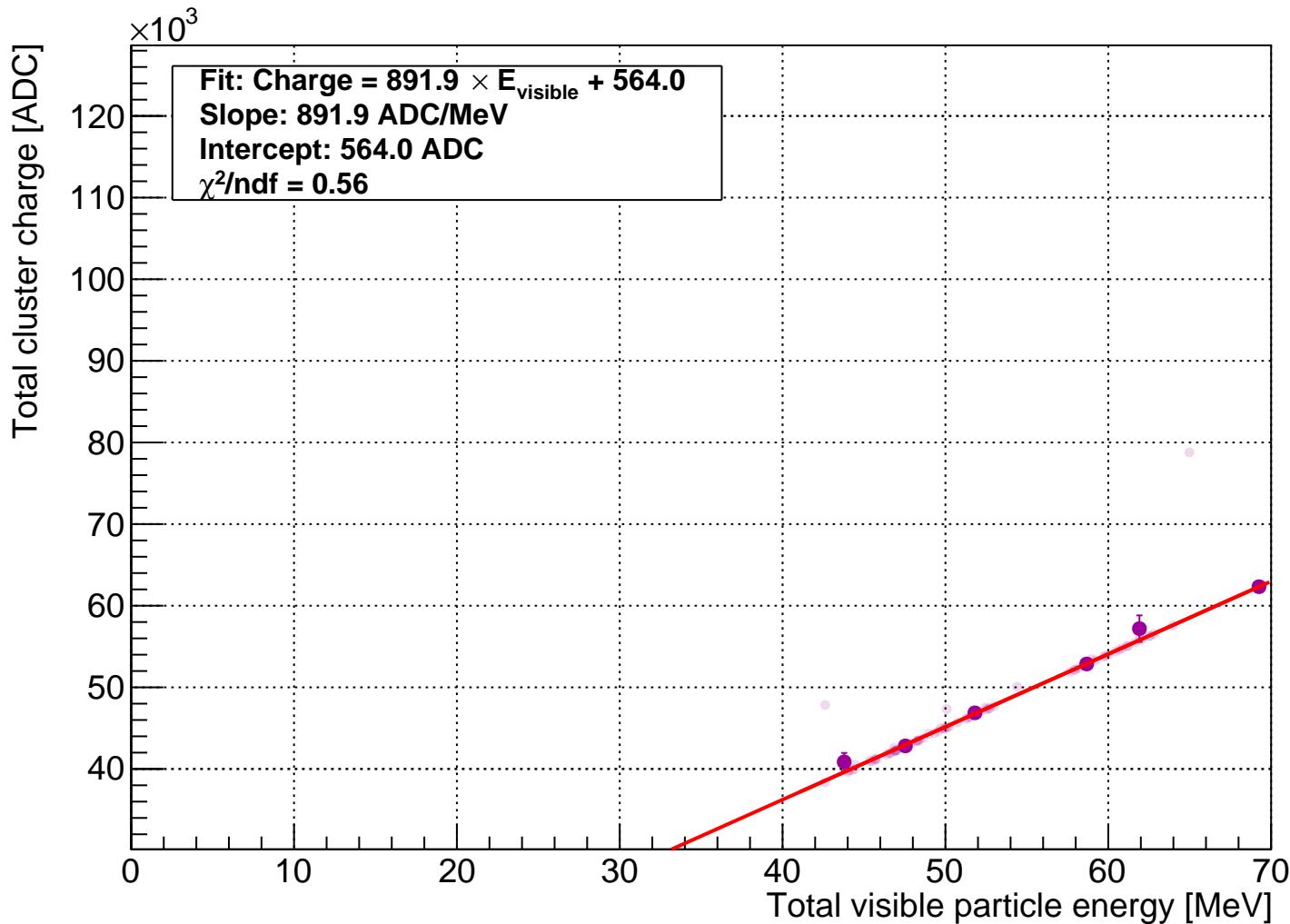
Total visible energy vs total cluster charge per event (U Plane)

Page 13/20

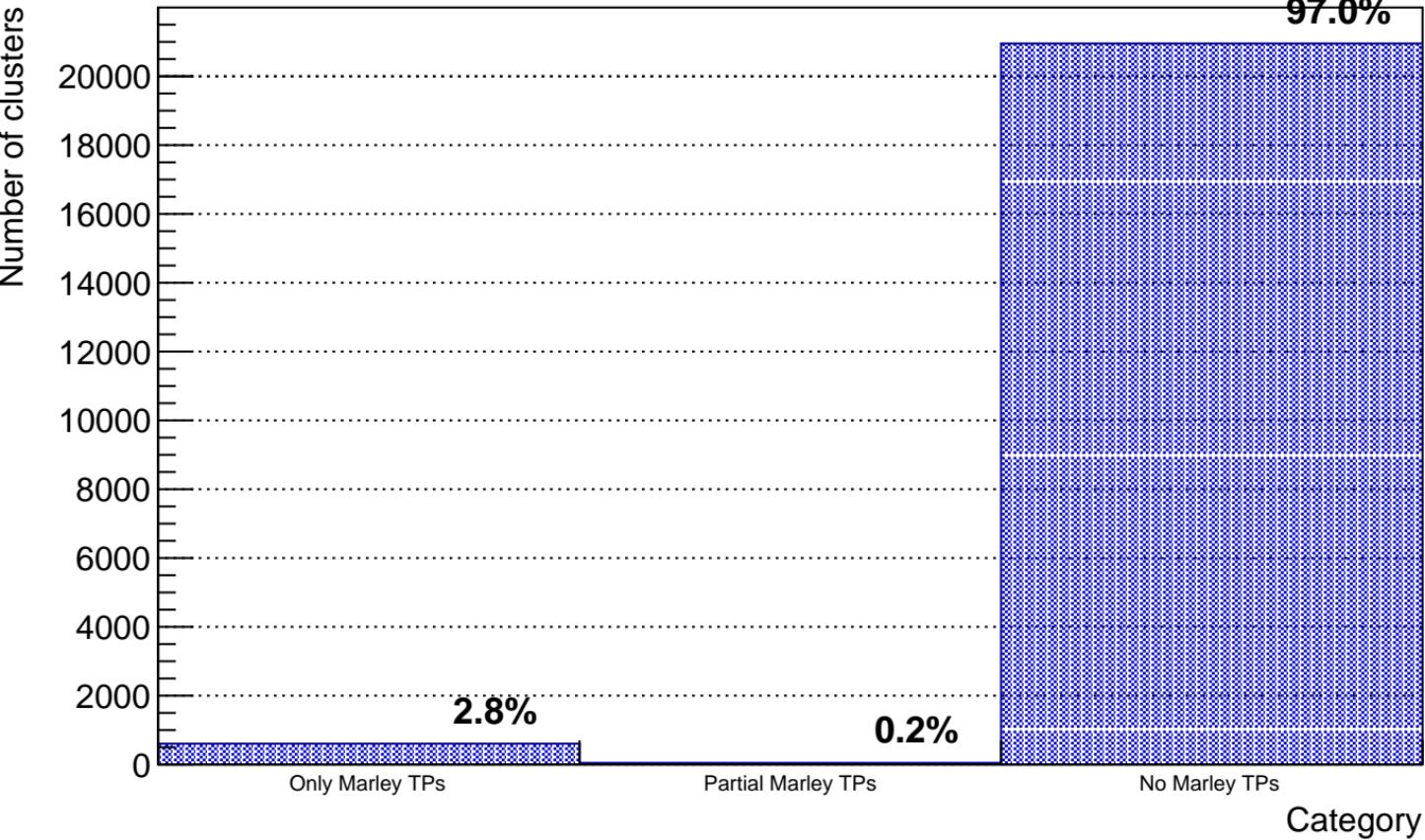


Total visible energy vs total cluster charge per event (V Plane)

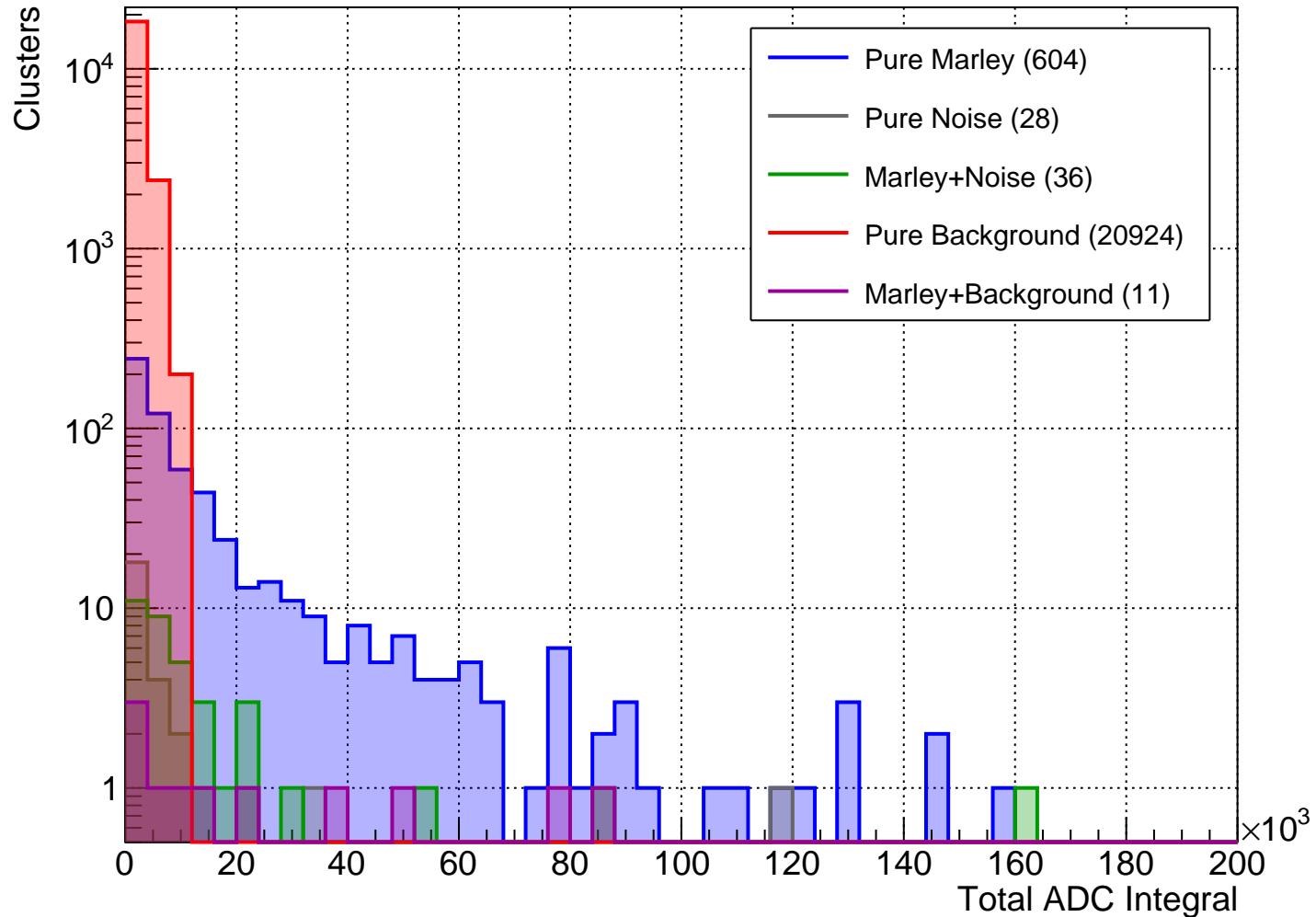
Page 14/20



Clusters by Marley TP content



Total ADC Integral by Cluster Family



Total Energy by Cluster Family

