

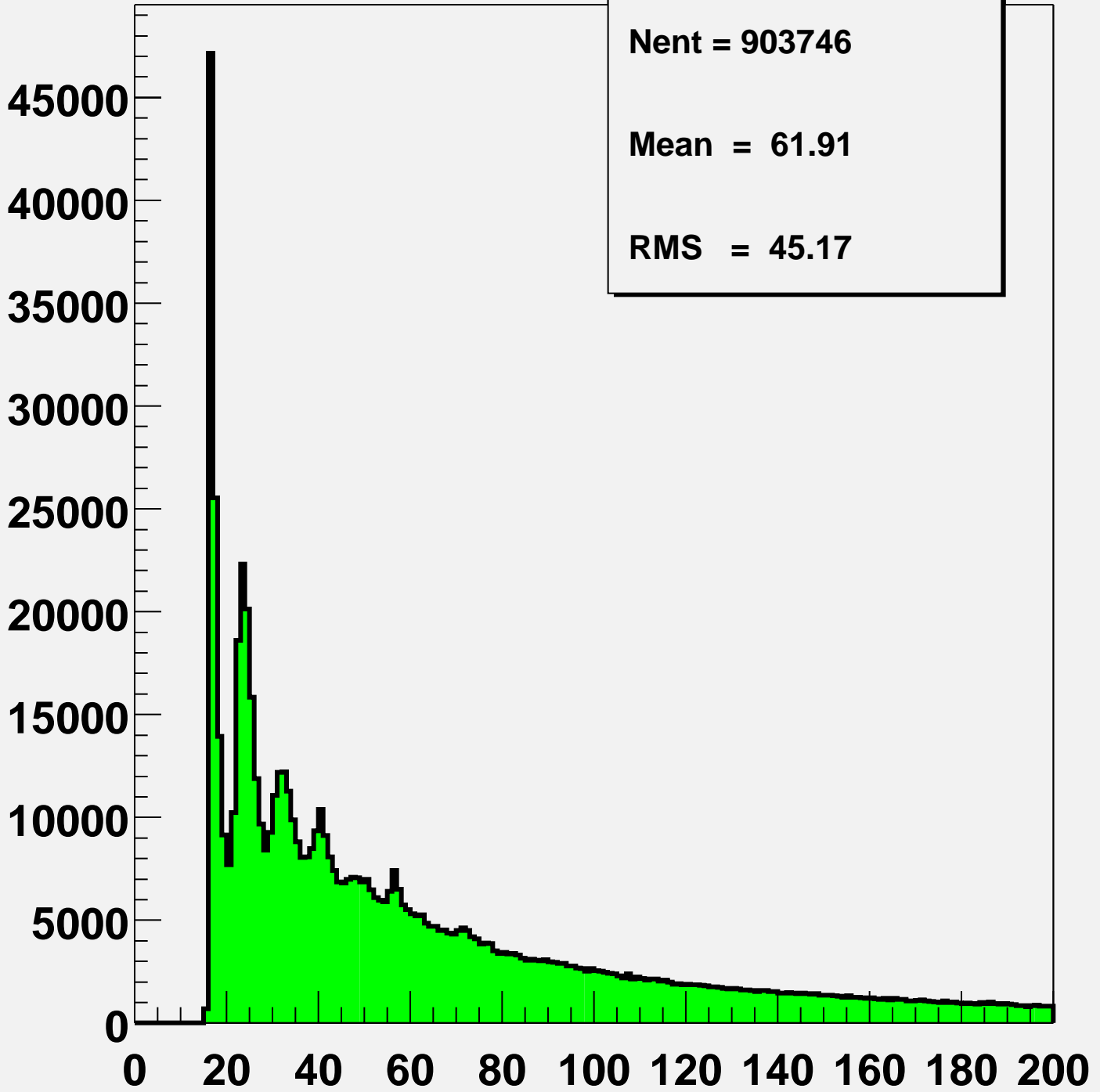
## Standard Plots from SMT\_Examine

Following are the standard plots(cluster distributions) made from SMT\_examine.

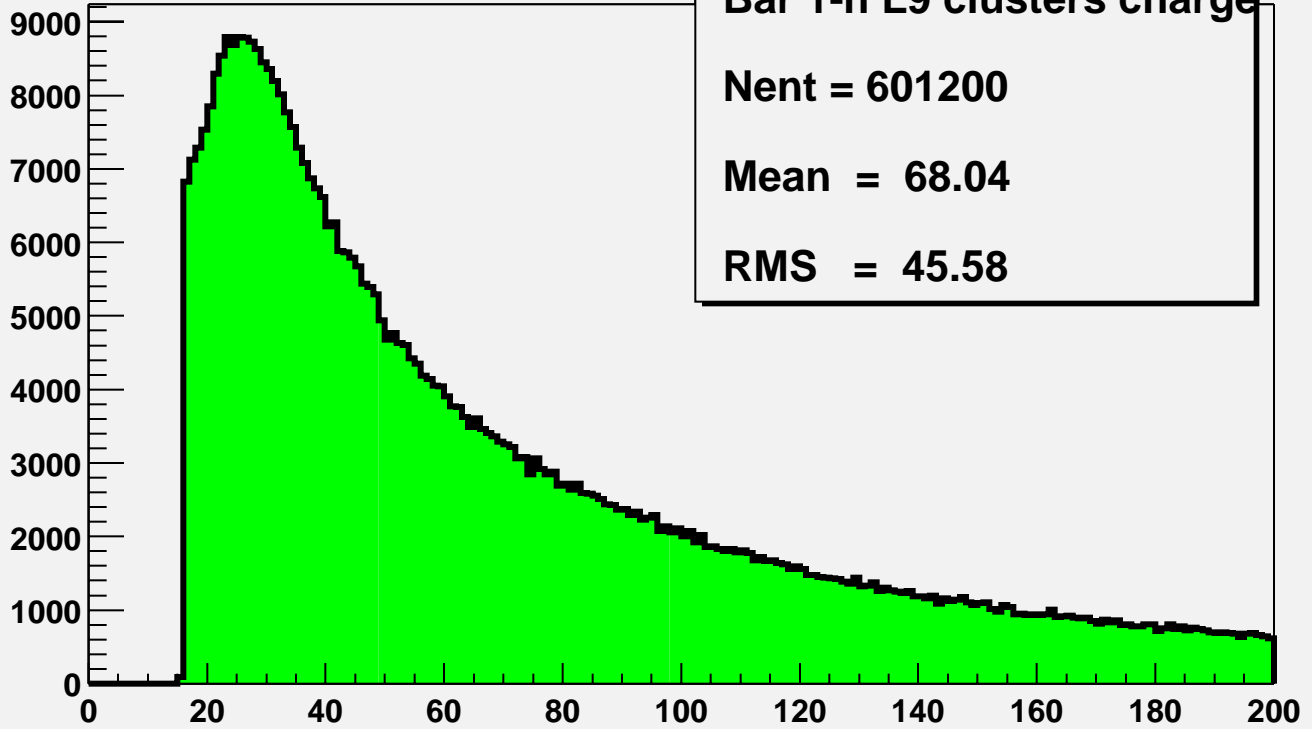
- The run number used was 143781.
- All 12 SMT crates were in the run.
- The details of the run can be found at <http://www-d0online.fnal.gov/www/run/runQuery.htm> by typing in the run number.
- The raw data files used to get the plots are all\_0000143781\_0\*.raw where \* is any of the following number  
02,04,06,08,15,16,17,18,20,22,24,26,27,28,31,  
39,40,45,48,50,57,59,60,61,65,66,67,69,72,76
- The version of base release used to compile the package was t02.04.00.
- The first set “Set I” are the standard plots.
- The second set “Set II” has cluster plots of those device that contribute to the anomalous peaks in “Set I”.
- In the plots “Set I”, typically, for example,  
Bar 1 L3 means Barrel no. 1 3-chippers in all layers.  
Bar 1-n L9 means Barrel 1 9-chippers n side.  
FD 03-n means F Disk No. 3 all wdges n-side.  
HD 4-n means H Disk all wedges n-side.
- In the plots “Set II”, typically, for example,  
Bar 3-5-10-p means Barrel no. 3,layer 5, ladder 10, p-side  
FD 05-07-n, means FDisk 5,Wedge 7, n-side.

# Set I

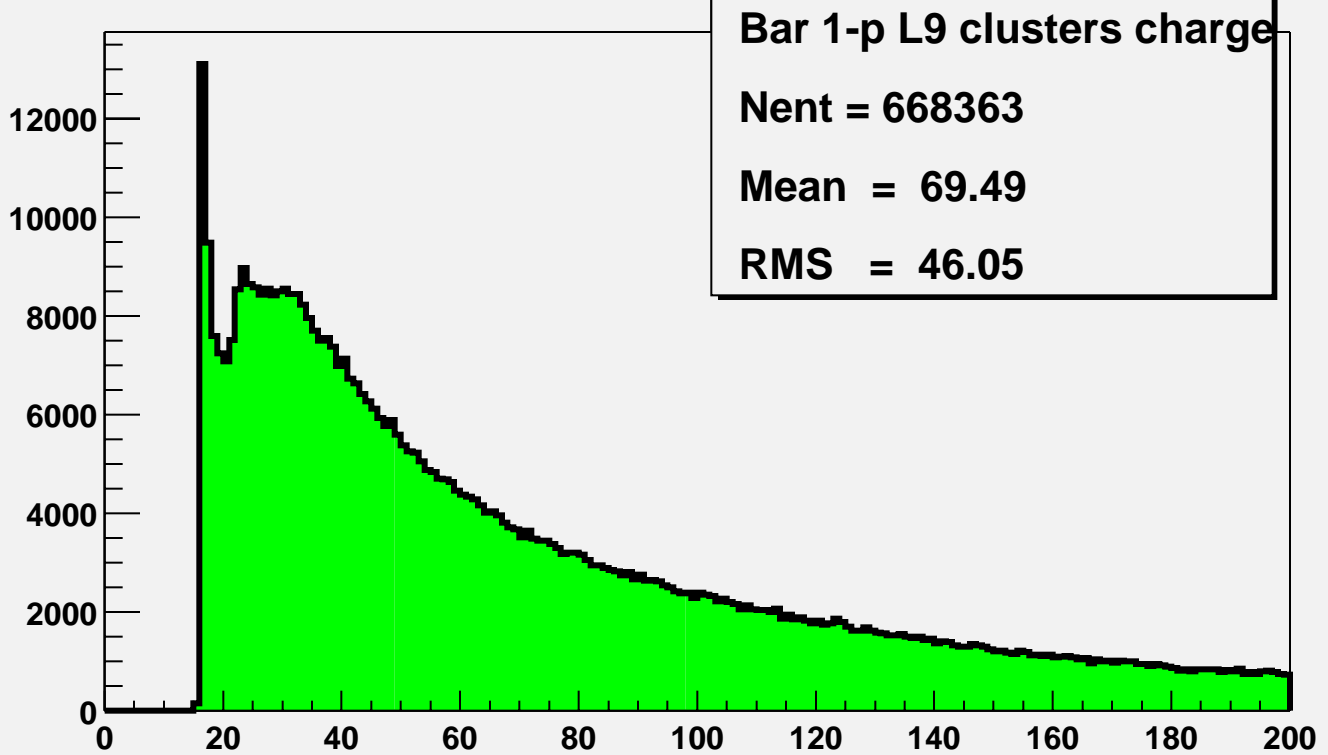
# Bar 1 L3 clusters charge



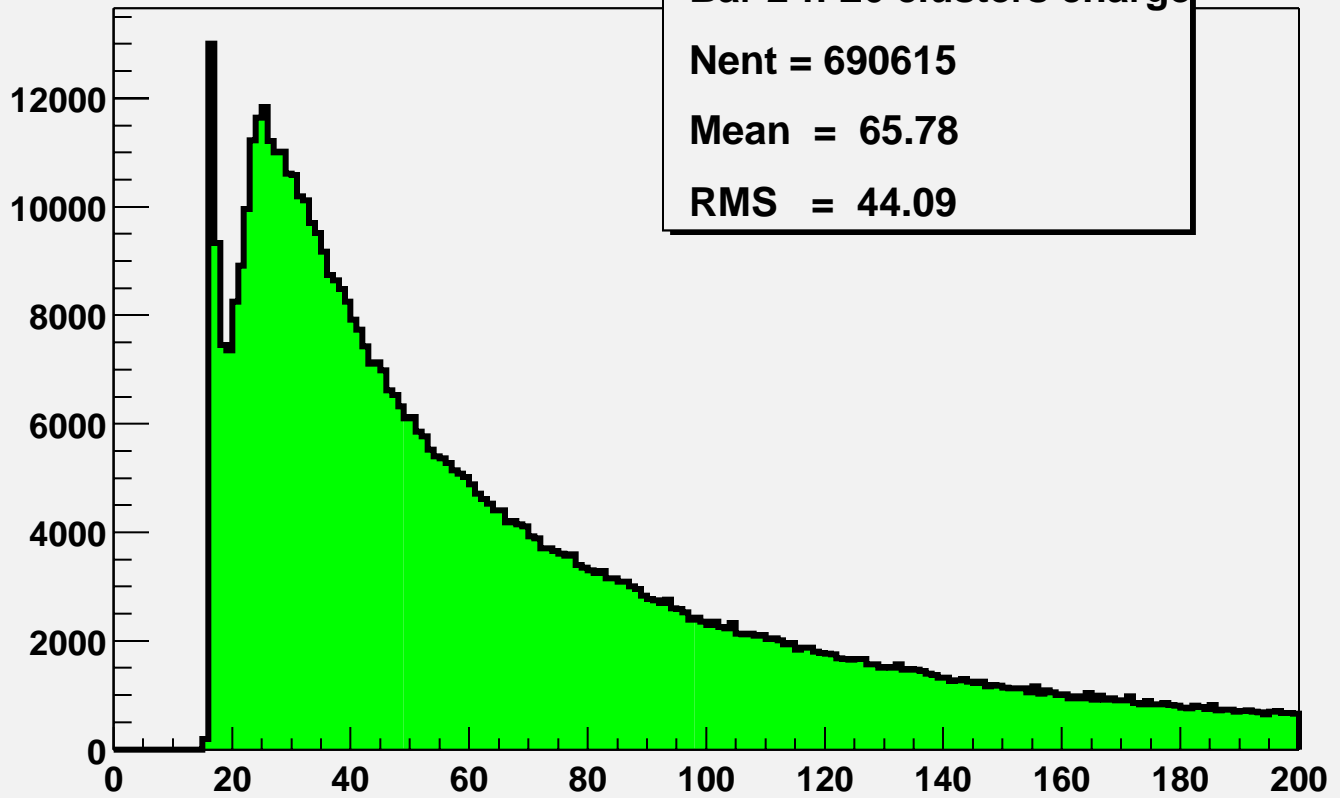
**Bar 1-n L9 clusters charge**



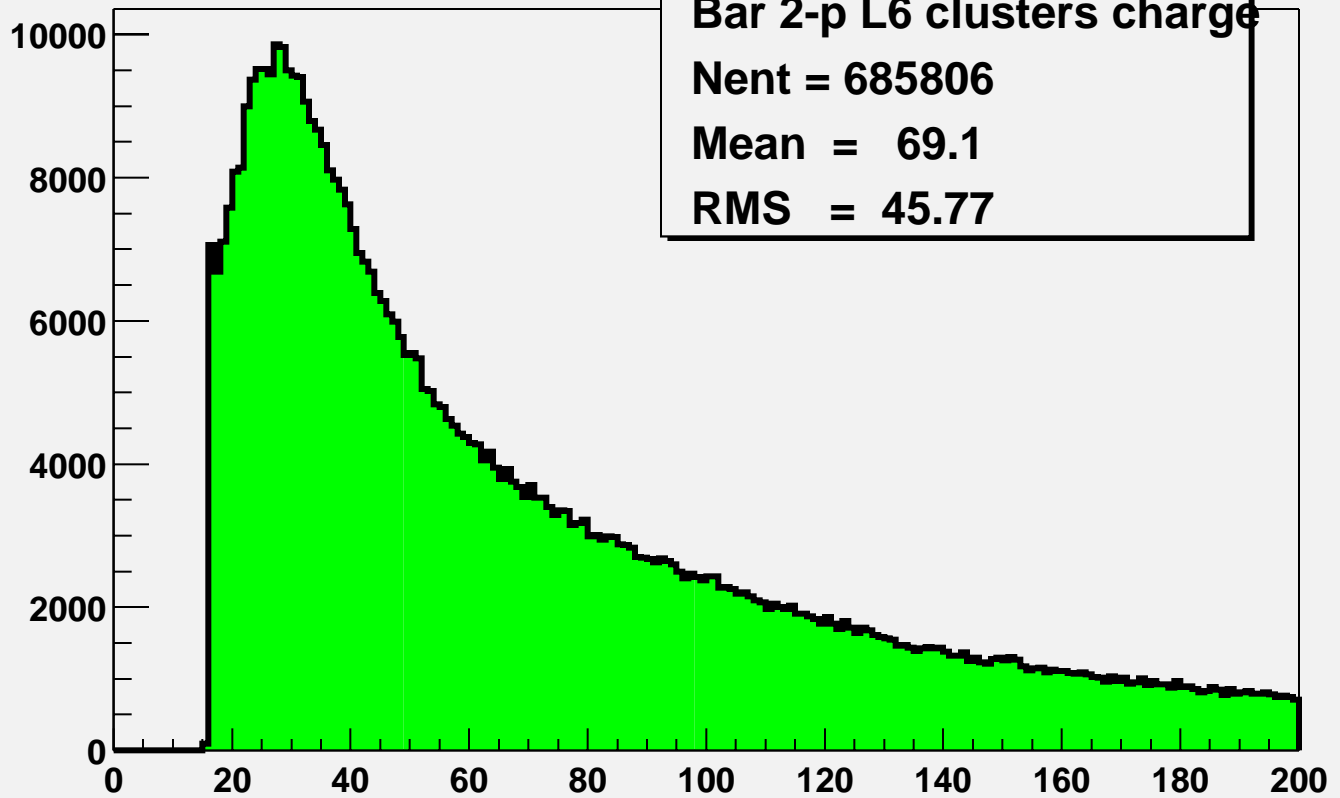
**Bar 1-p L9 clusters charge**



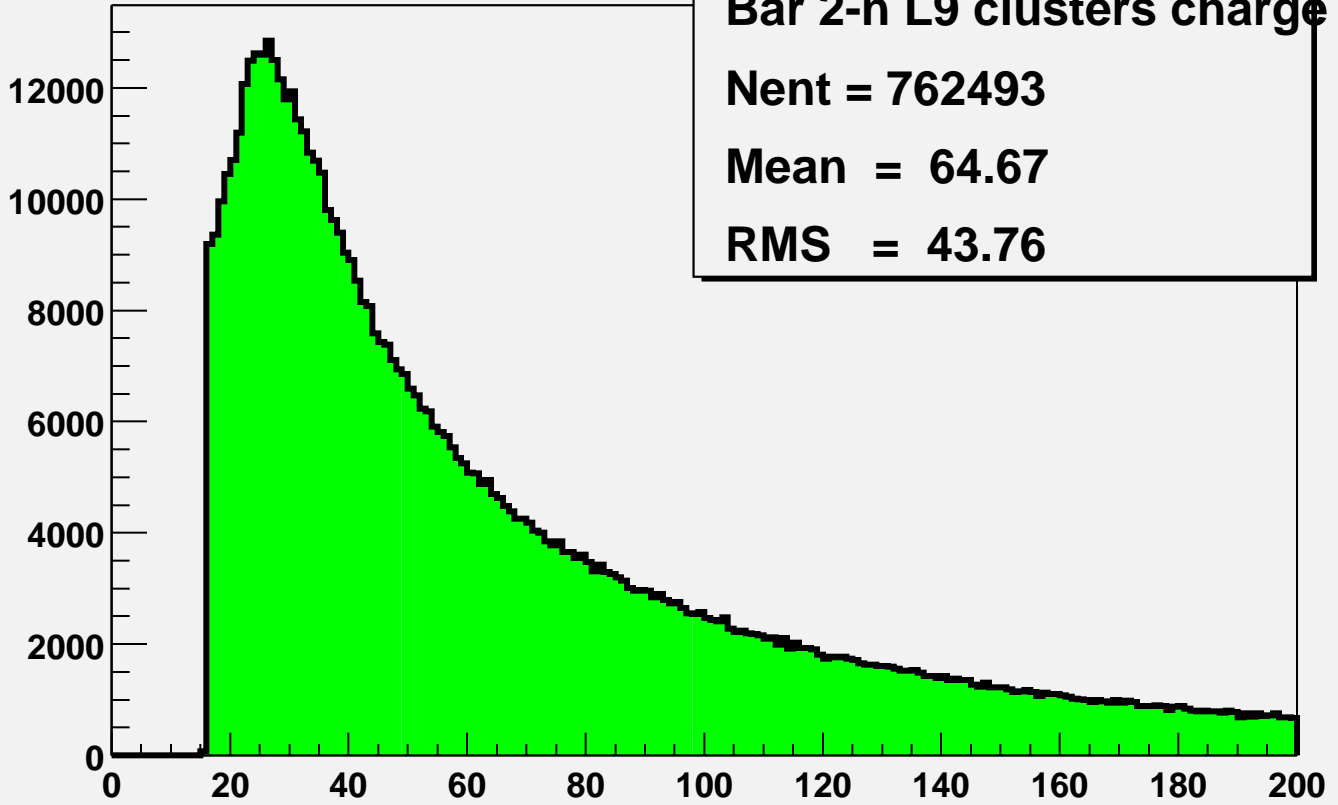
**Bar 2-n L6 clusters charge**



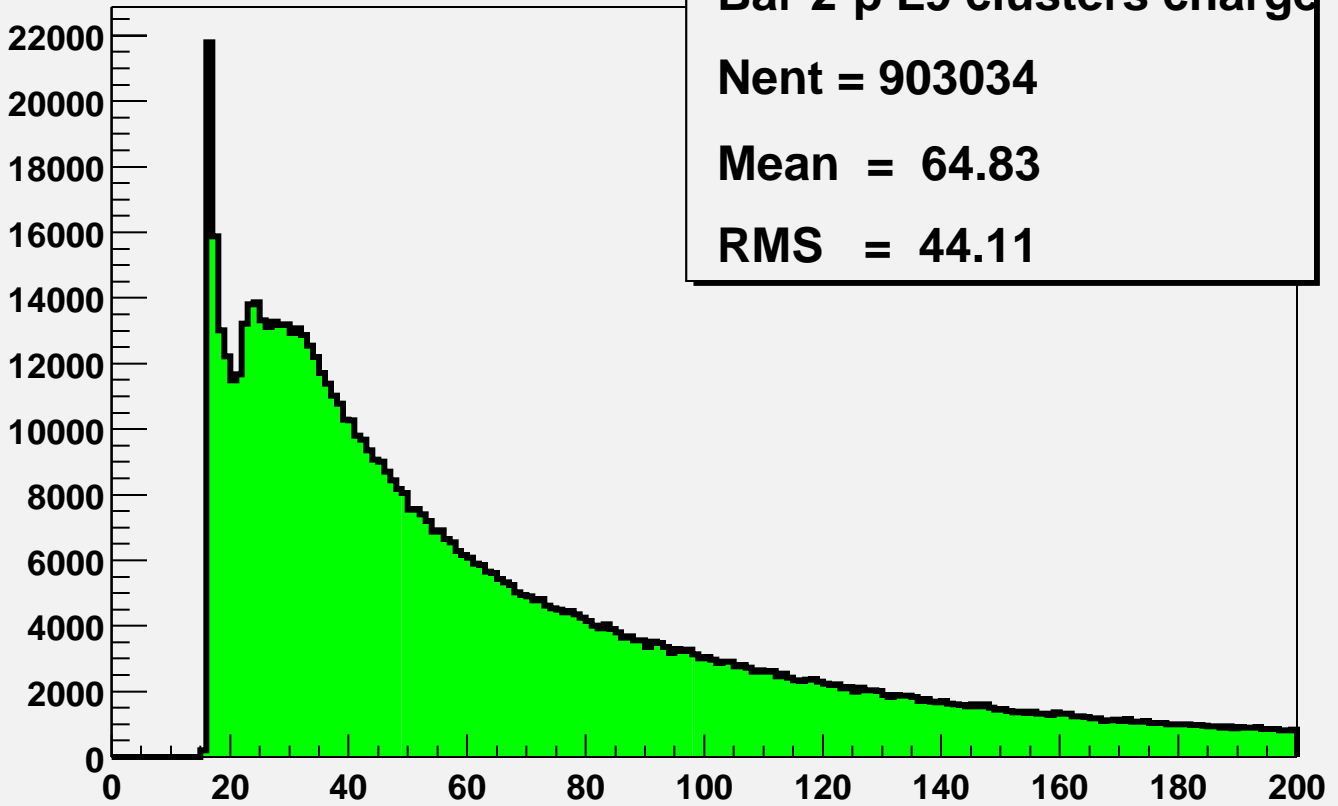
**Bar 2-p L6 clusters charge**



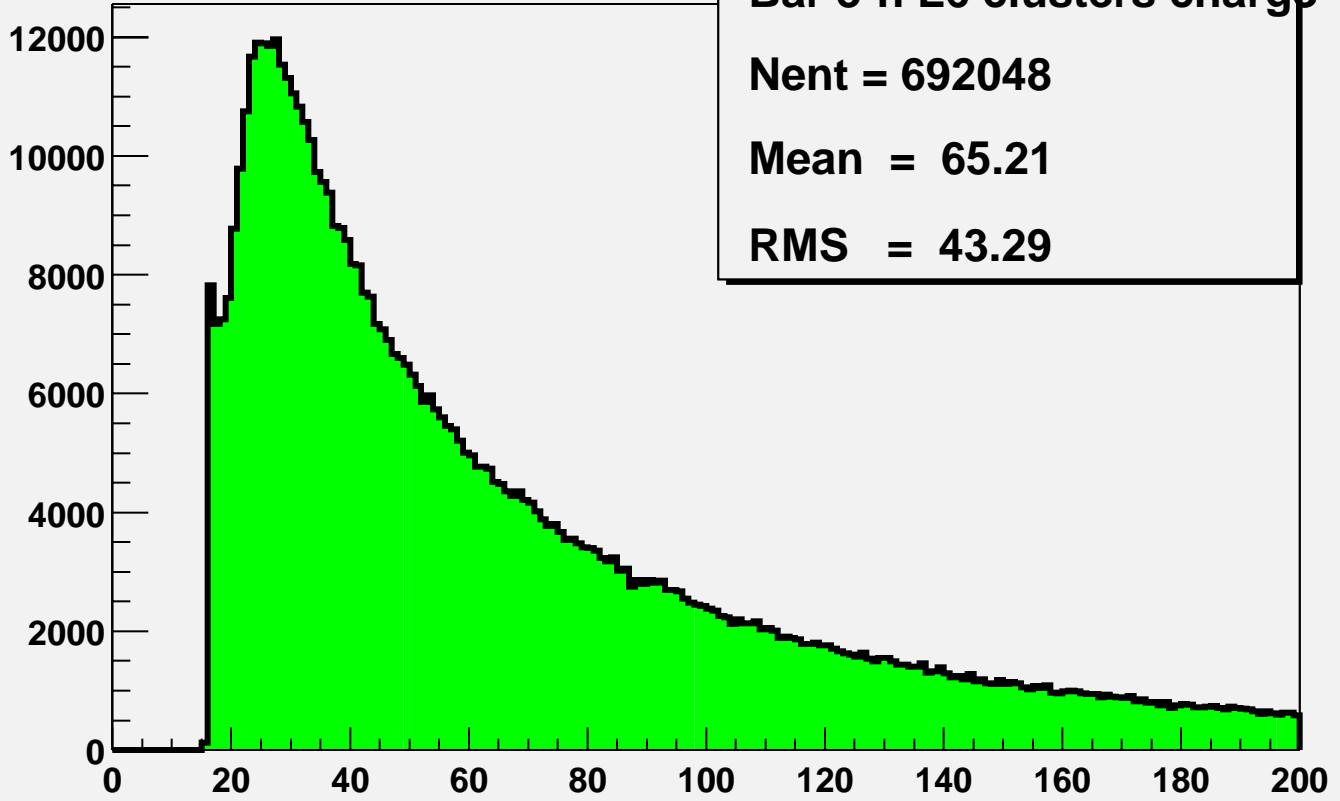
**Bar 2-n L9 clusters charge**



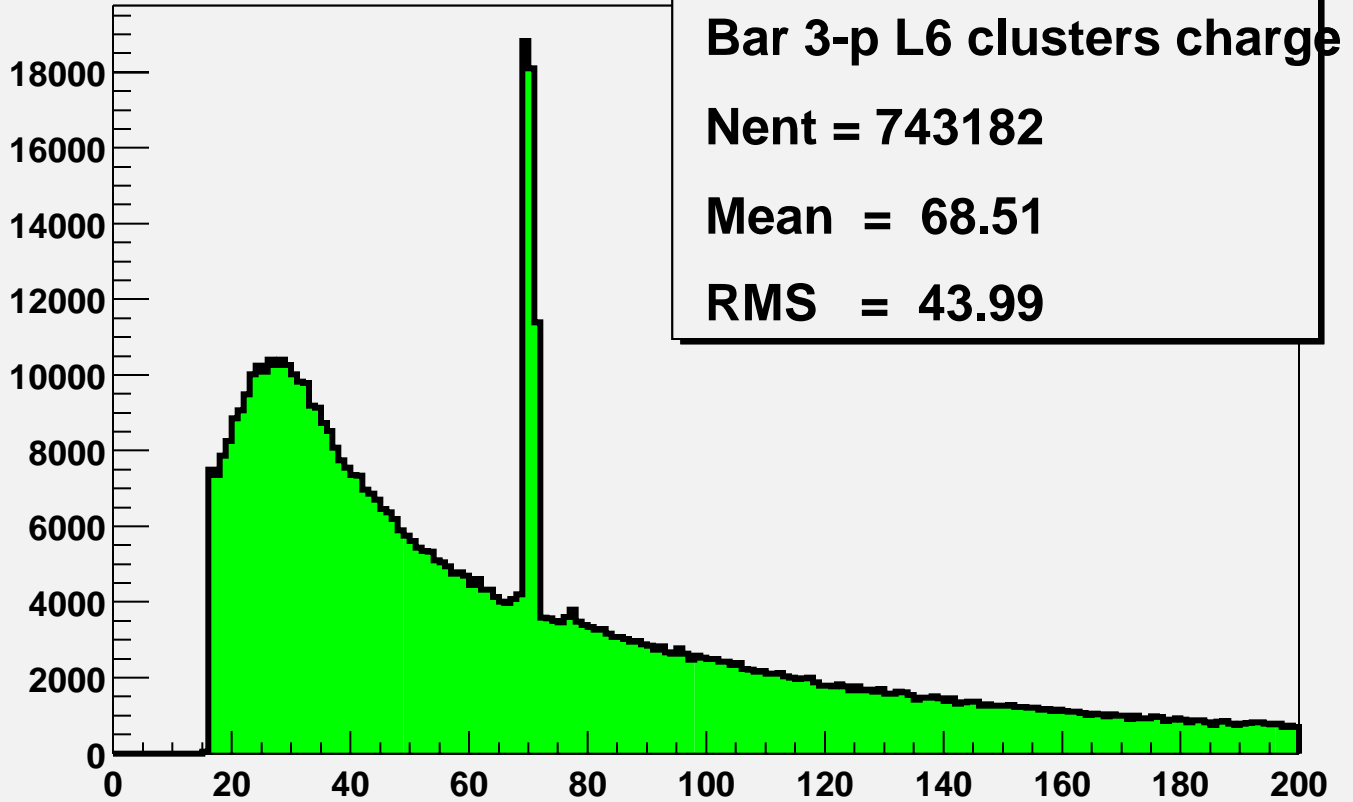
**Bar 2-p L9 clusters charge**



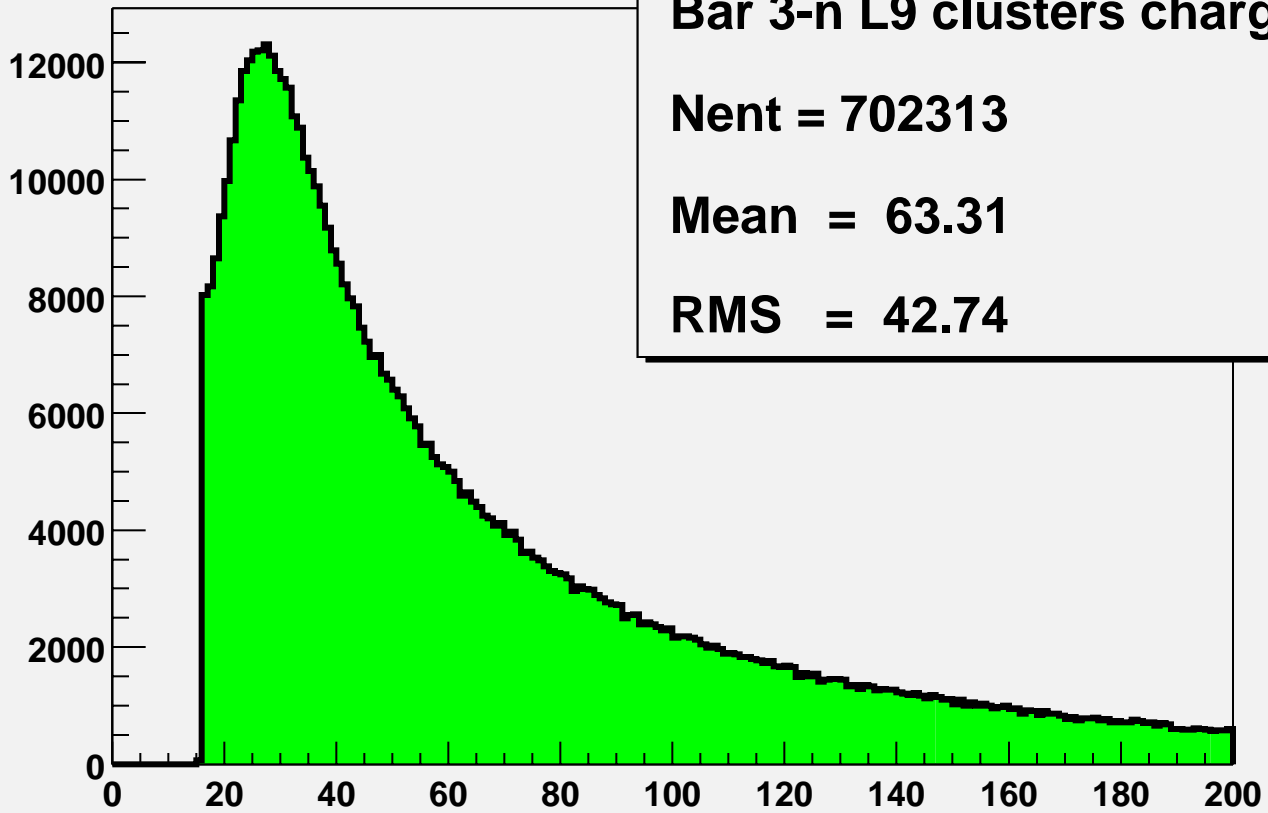
**Bar 3-n L6 clusters charge**



**Bar 3-p L6 clusters charge**



**Bar 3-n L9 clusters charge**



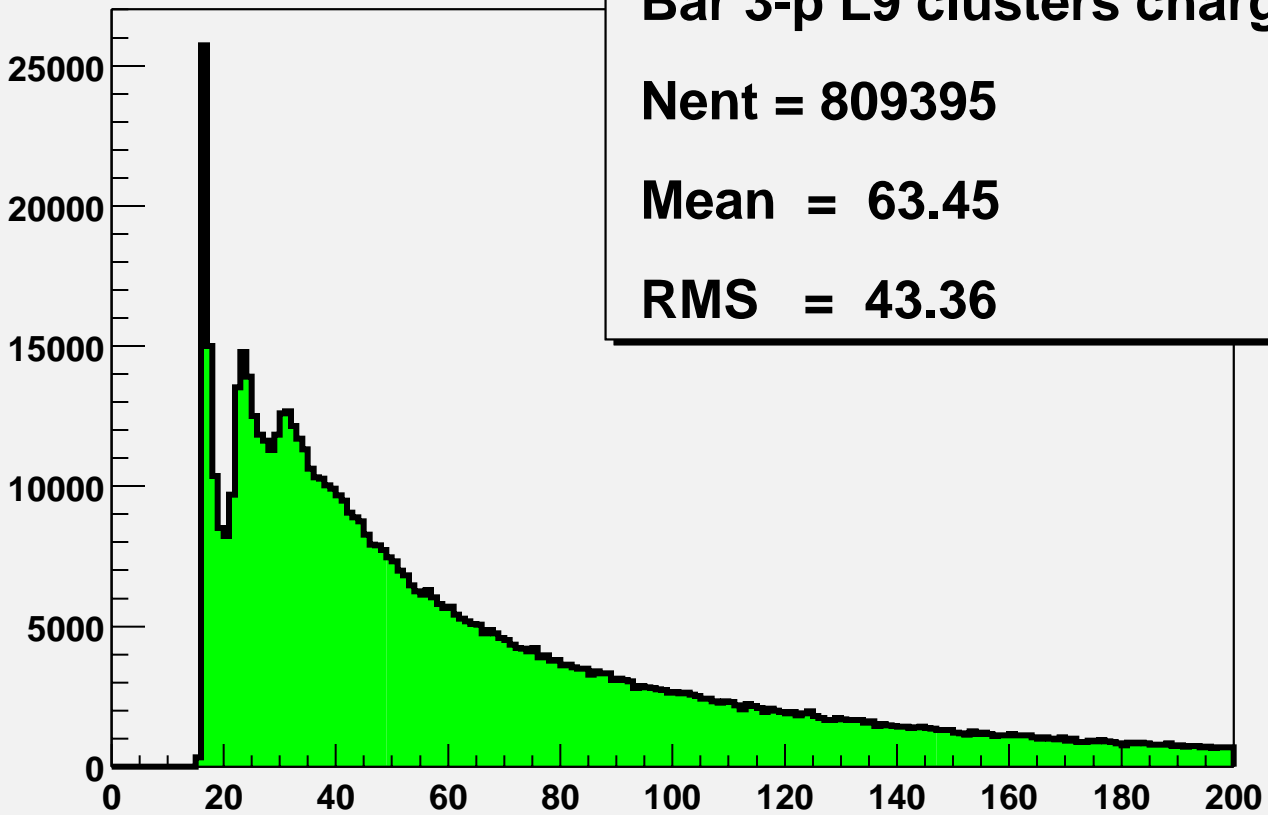
**Bar 3-n L9 clusters charge**

**Nent = 702313**

**Mean = 63.31**

**RMS = 42.74**

**Bar 3-p L9 clusters charge**



**Bar 3-p L9 clusters charge**

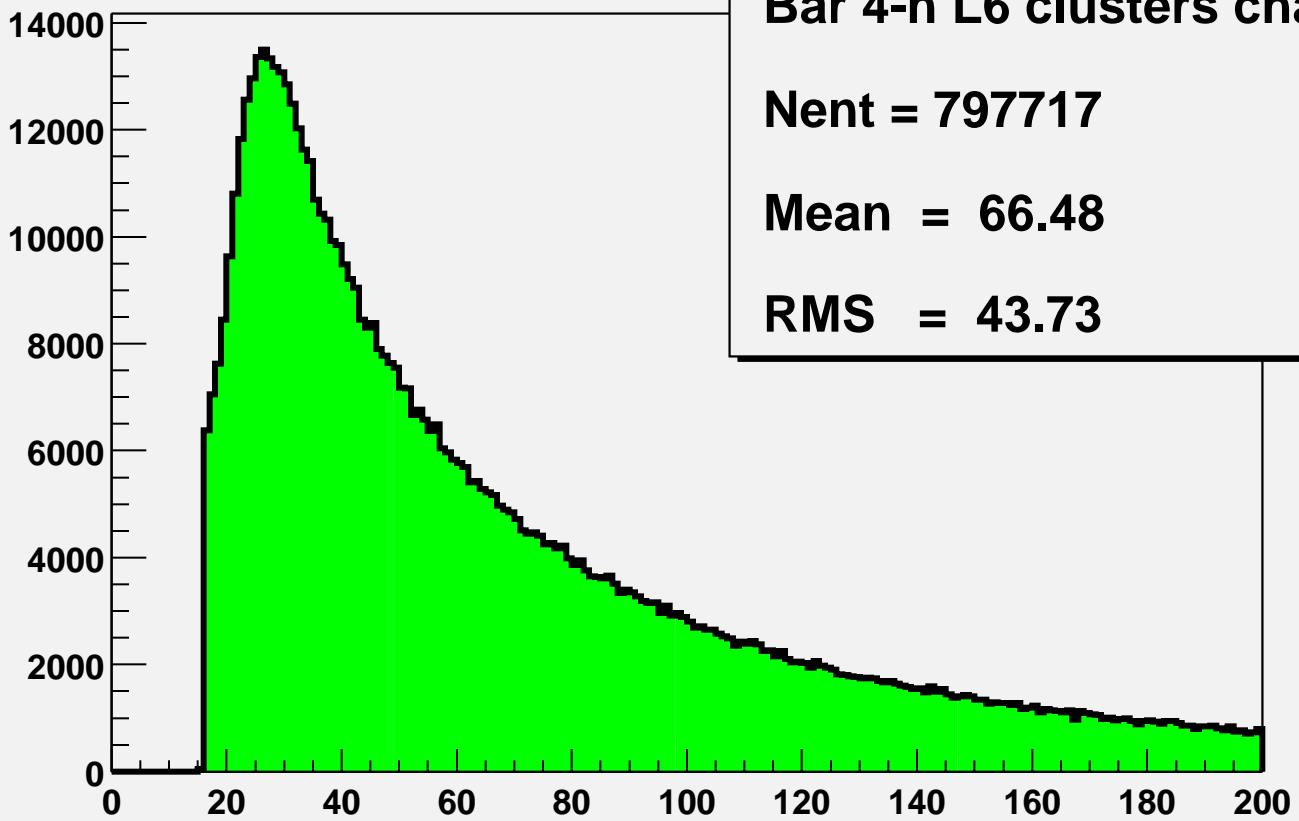
**Nent = 809395**

**Mean = 63.45**

**RMS = 43.36**



**Bar 4-n L6 clusters charge**



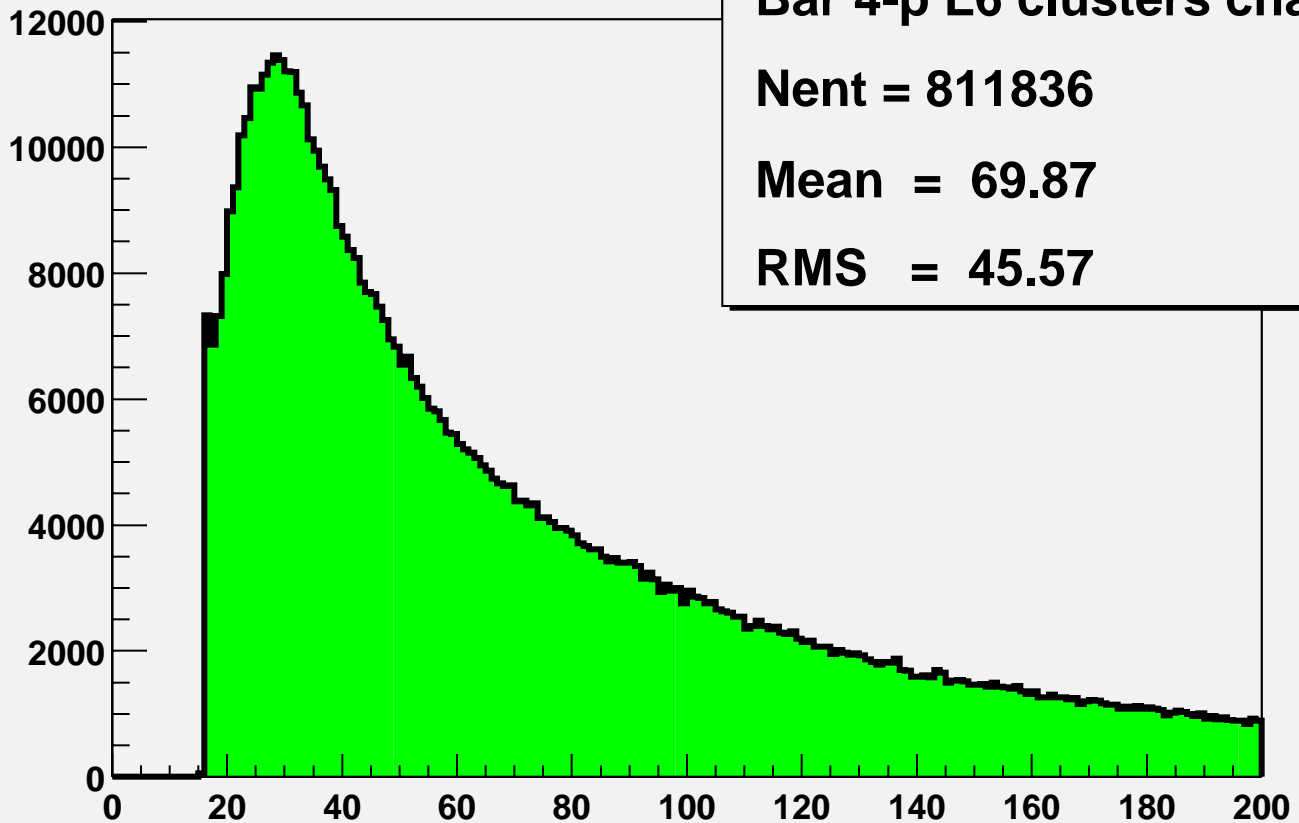
**Bar 4-n L6 clusters charge**

**Nent = 797717**

**Mean = 66.48**

**RMS = 43.73**

**Bar 4-p L6 clusters charge**



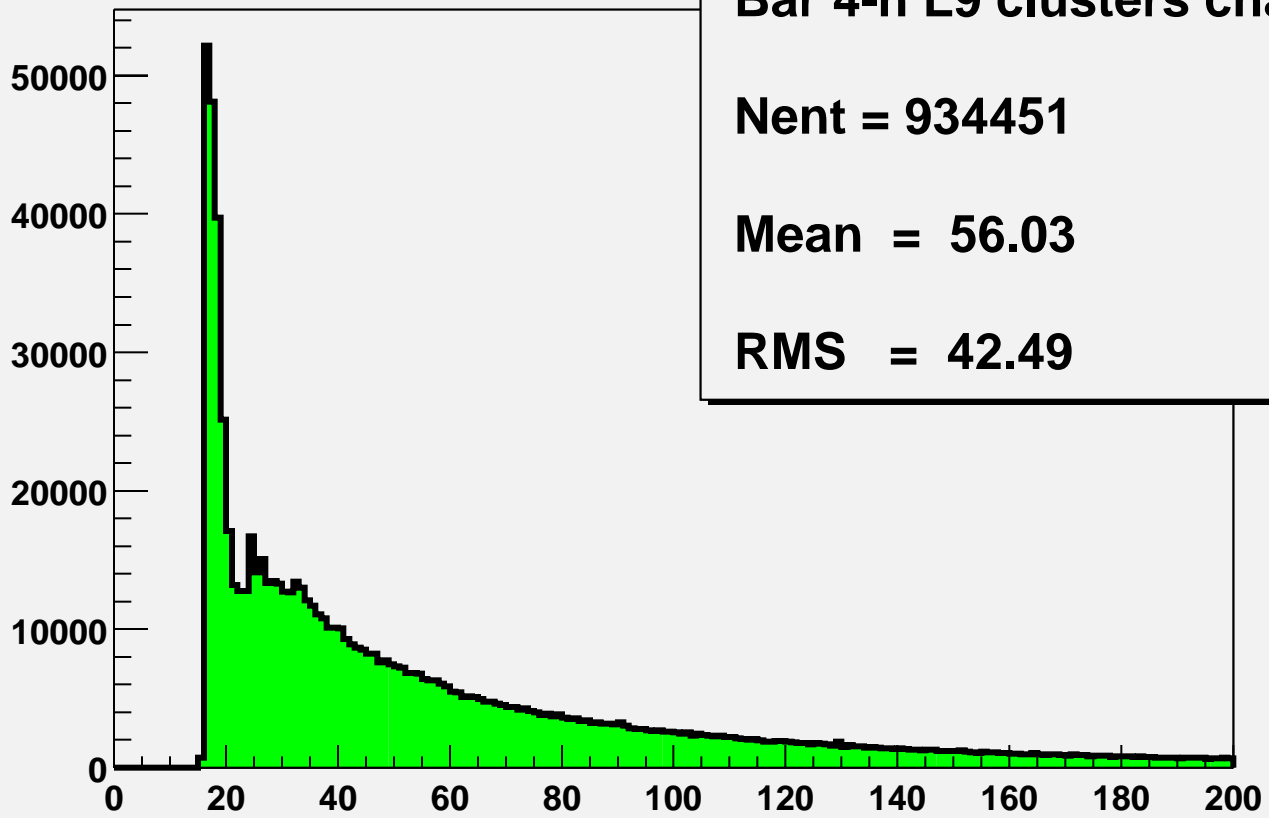
**Bar 4-p L6 clusters charge**

**Nent = 811836**

**Mean = 69.87**

**RMS = 45.57**

**Bar 4-n L9 clusters charge**



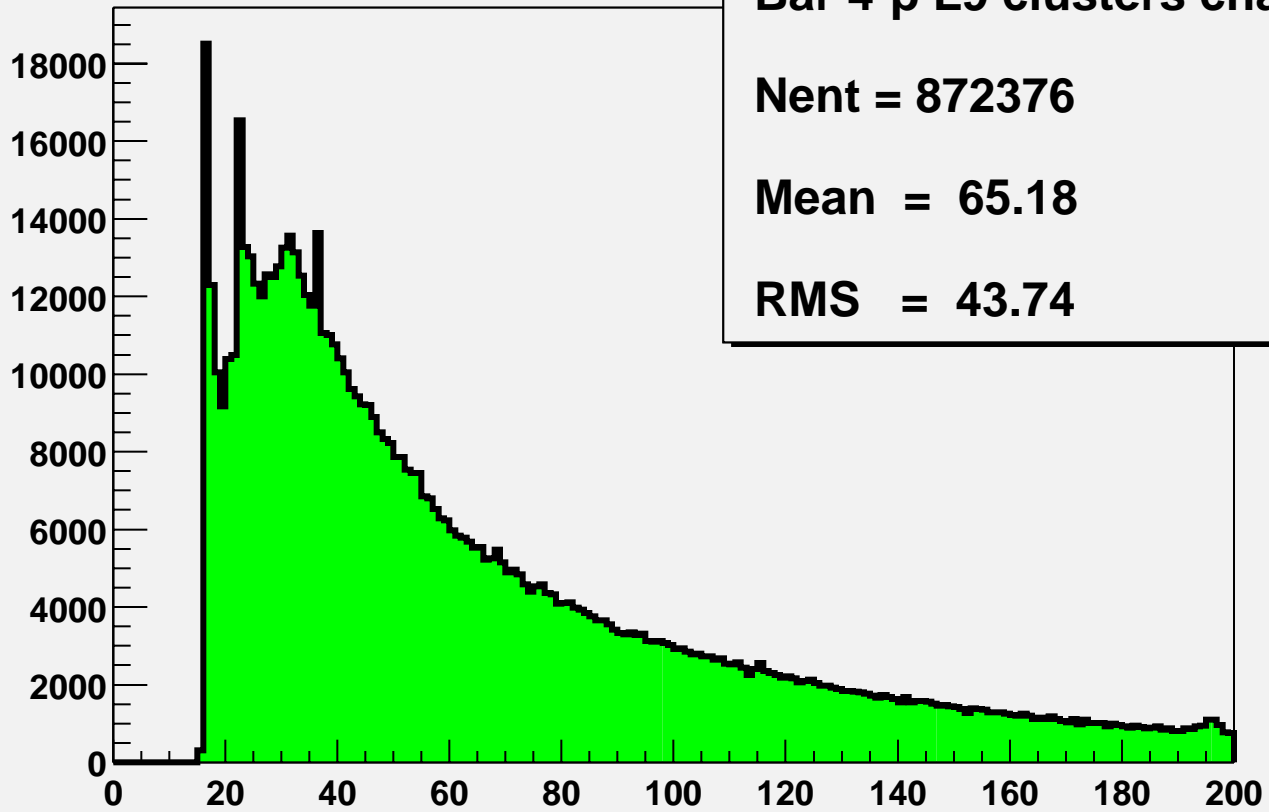
**Bar 4-n L9 clusters charge**

**Nent = 934451**

**Mean = 56.03**

**RMS = 42.49**

**Bar 4-p L9 clusters charge**



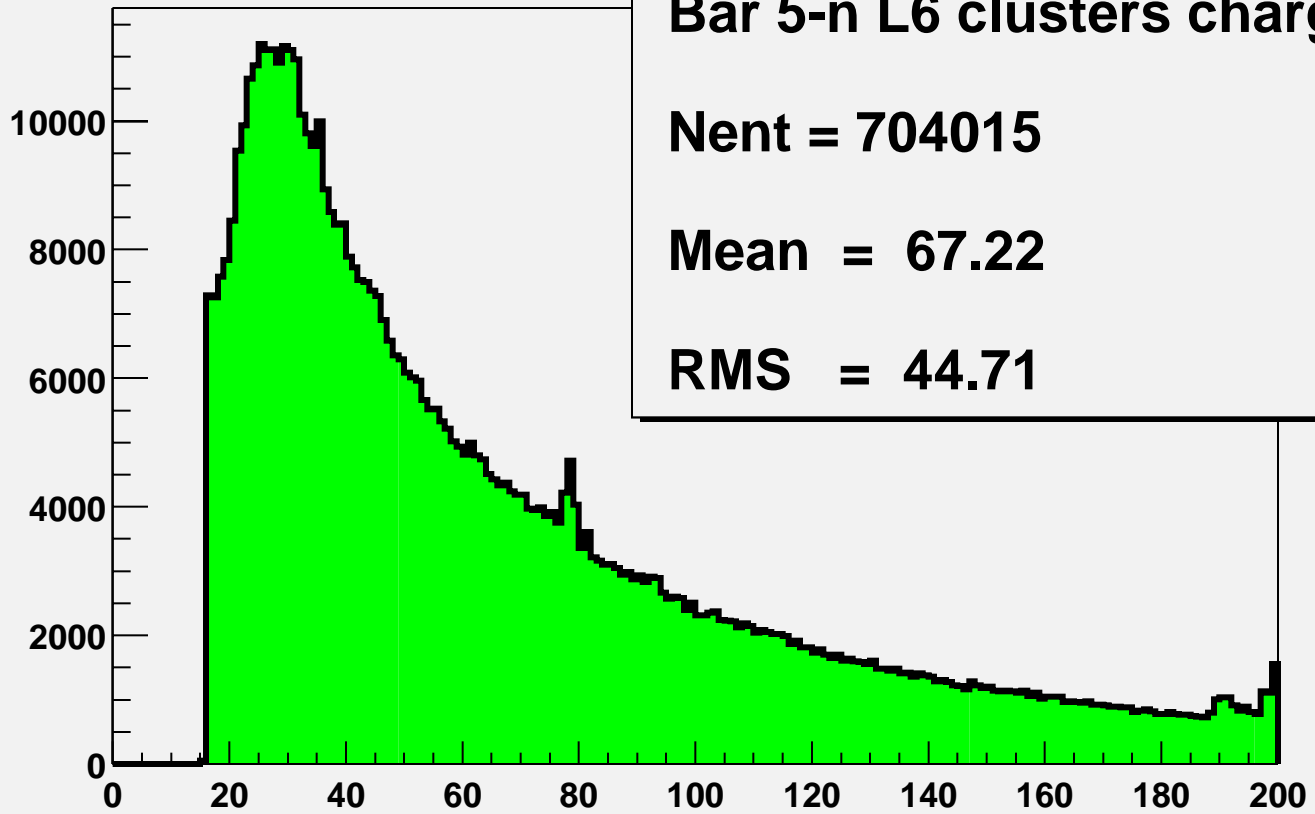
**Bar 4-p L9 clusters charge**

**Nent = 872376**

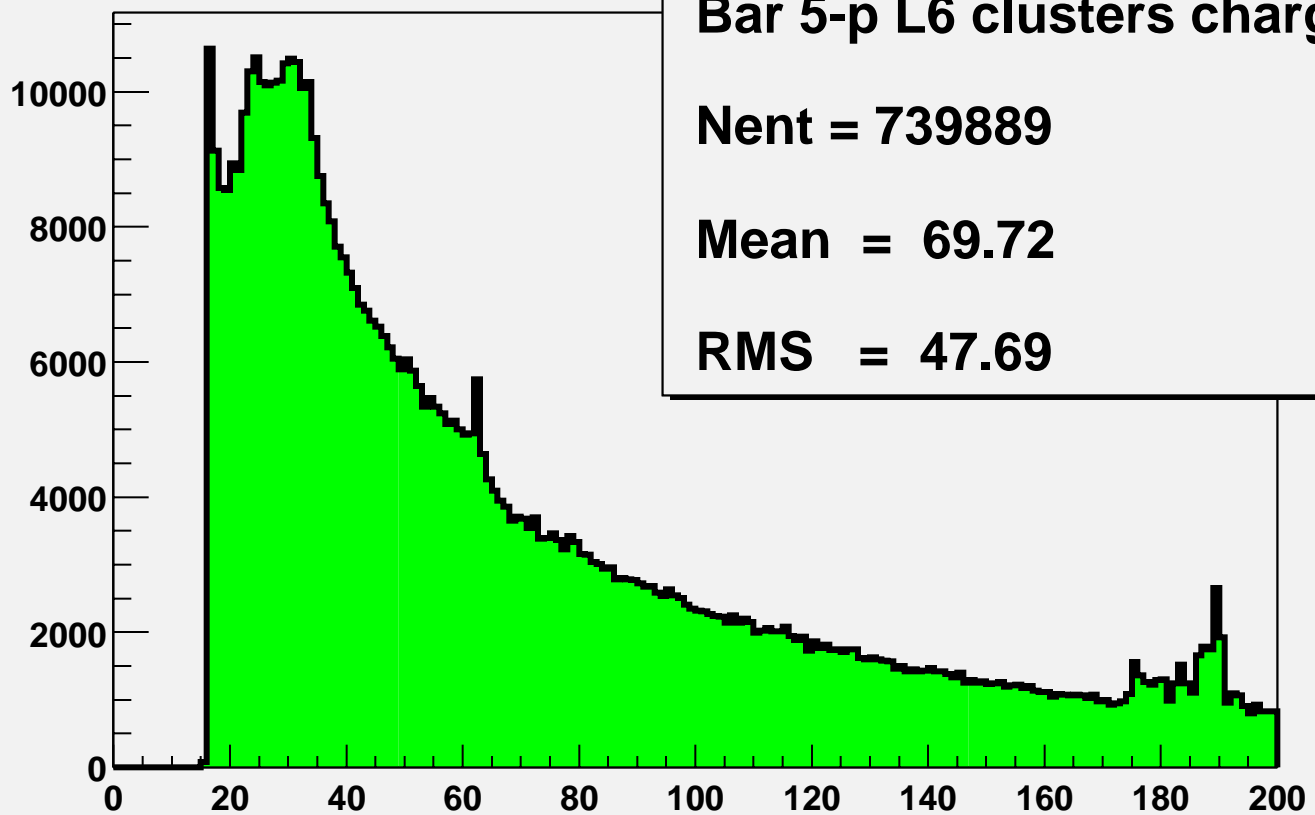
**Mean = 65.18**

**RMS = 43.74**

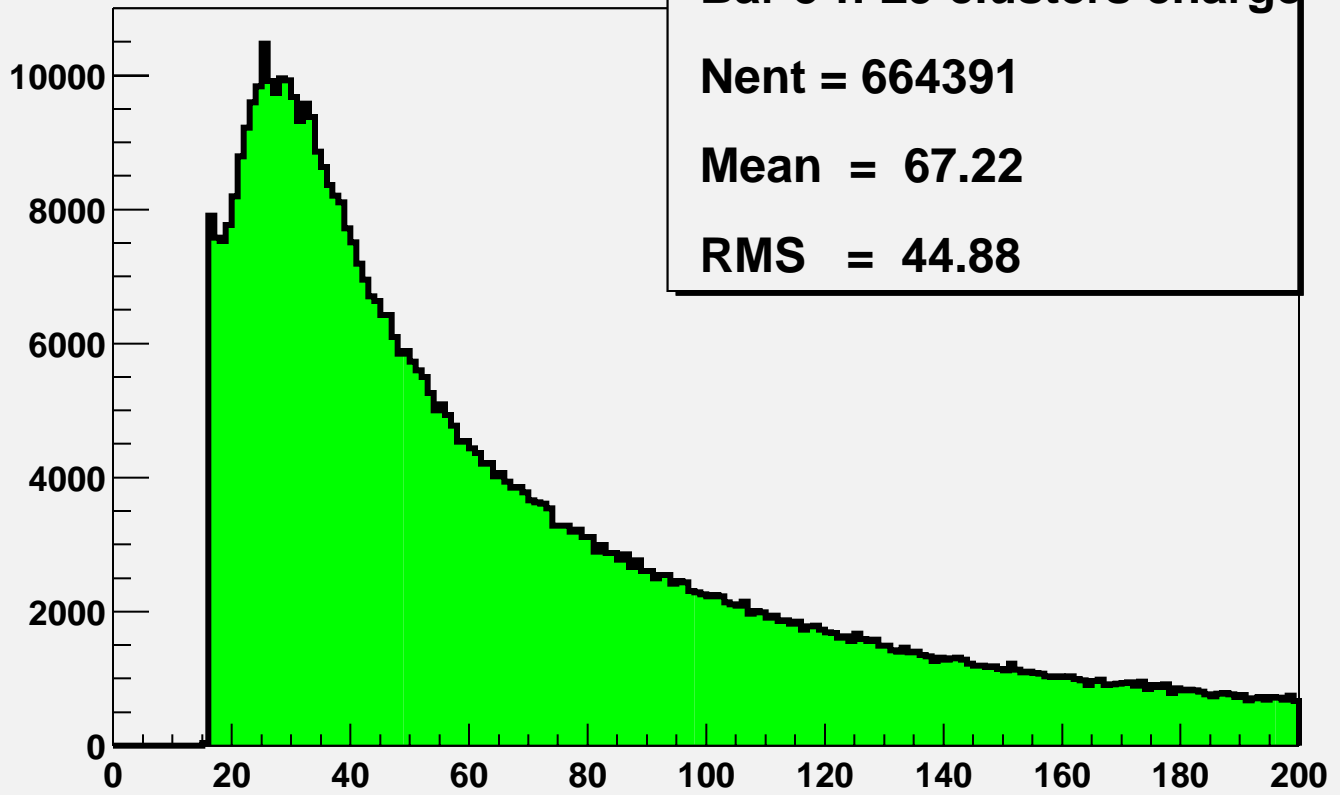
**Bar 5-n L6 clusters charge**



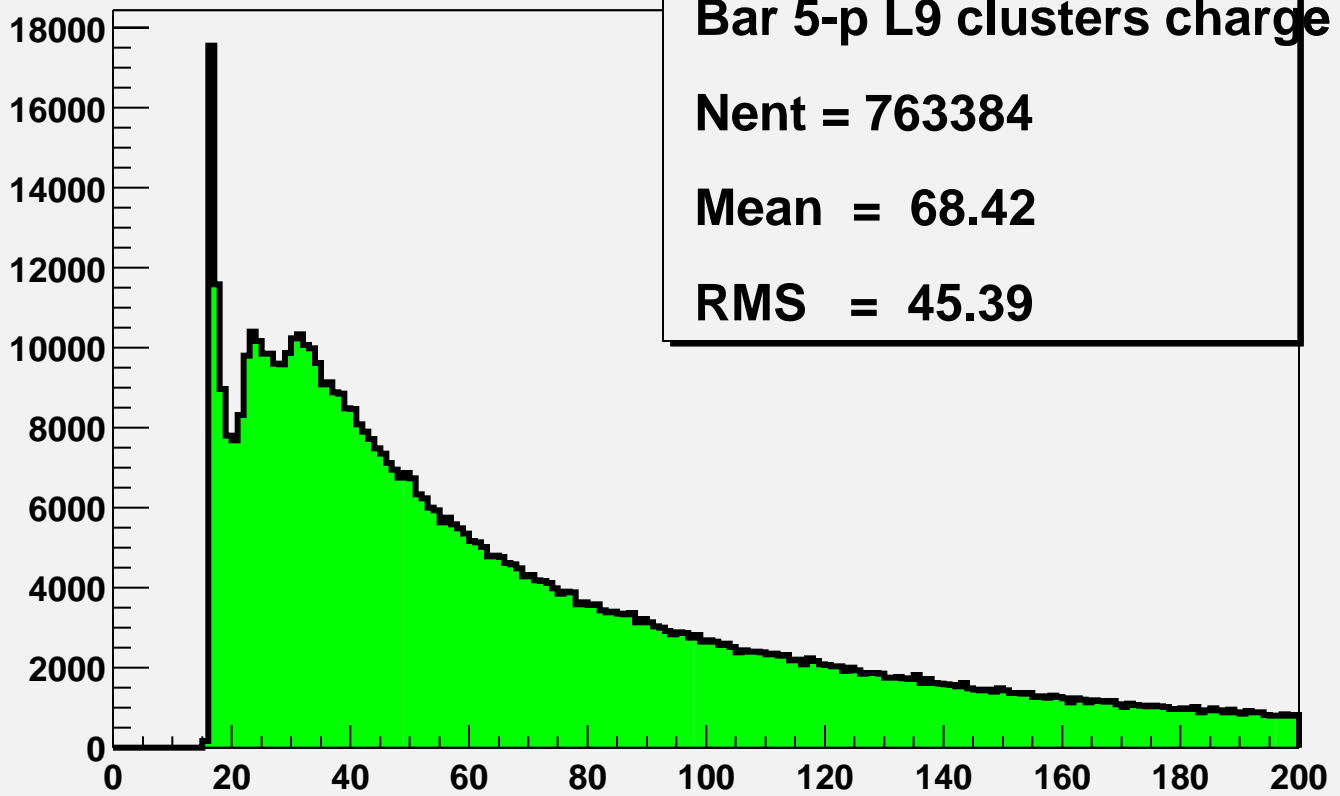
**Bar 5-p L6 clusters charge**



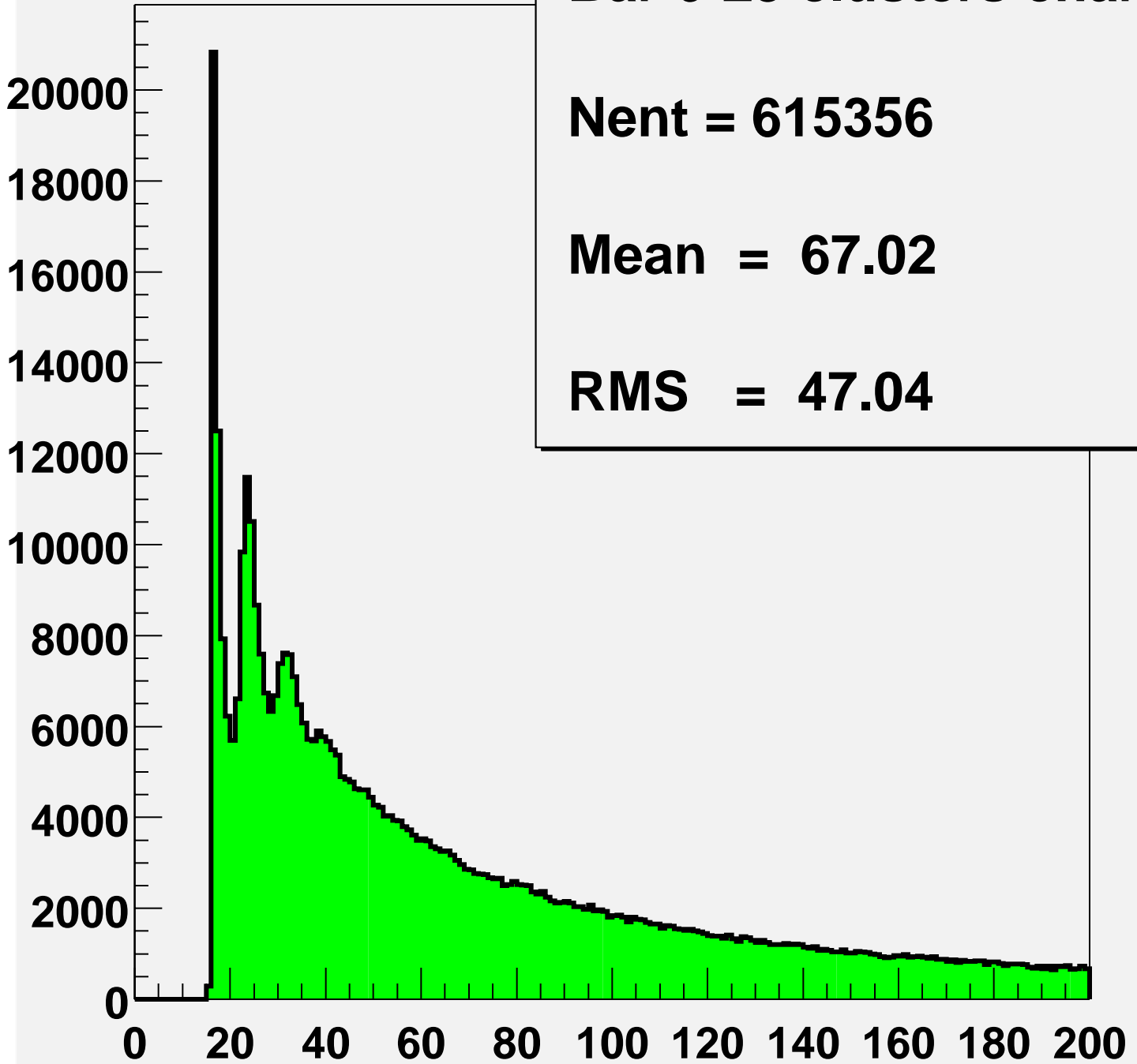
**Bar 5-n L9 clusters charge**



**Bar 5-p L9 clusters charge**



**Bar 6 L3 clusters charge**



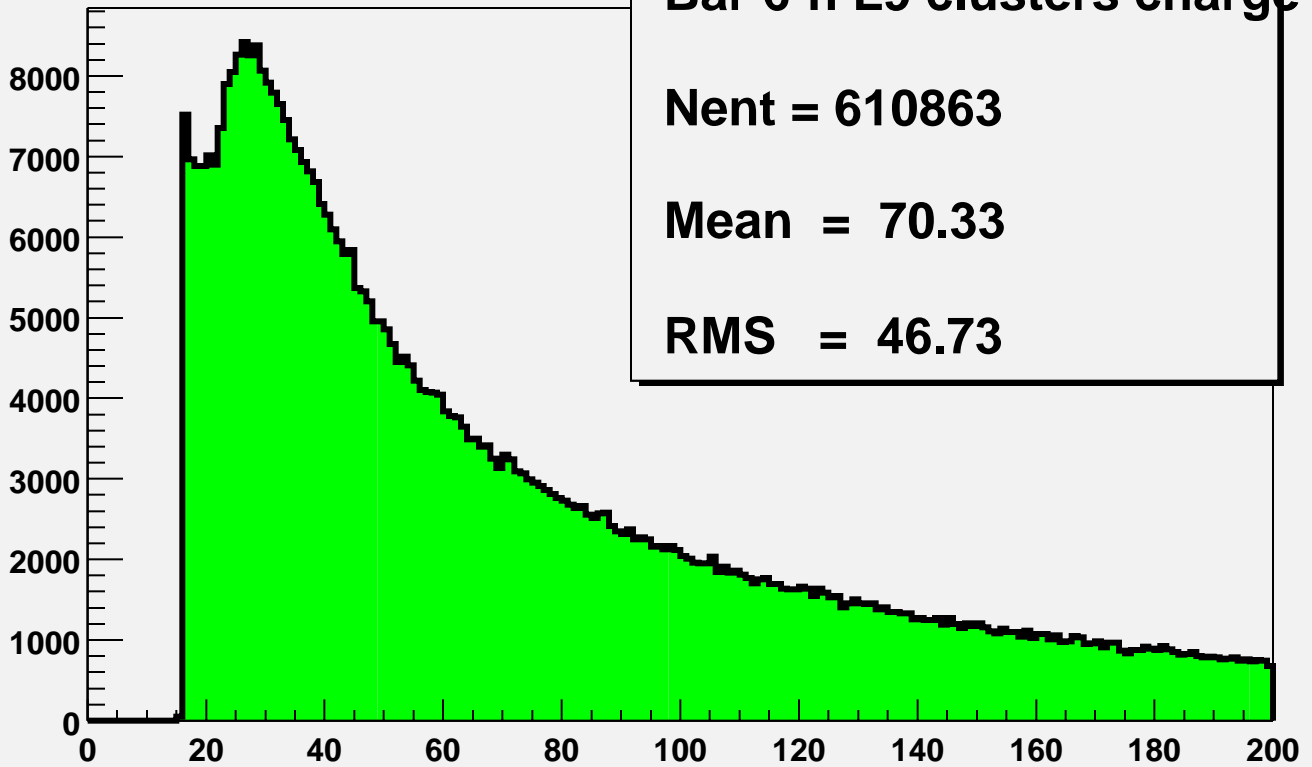
**Bar 6 L3 clusters charge**

**Nent = 615356**

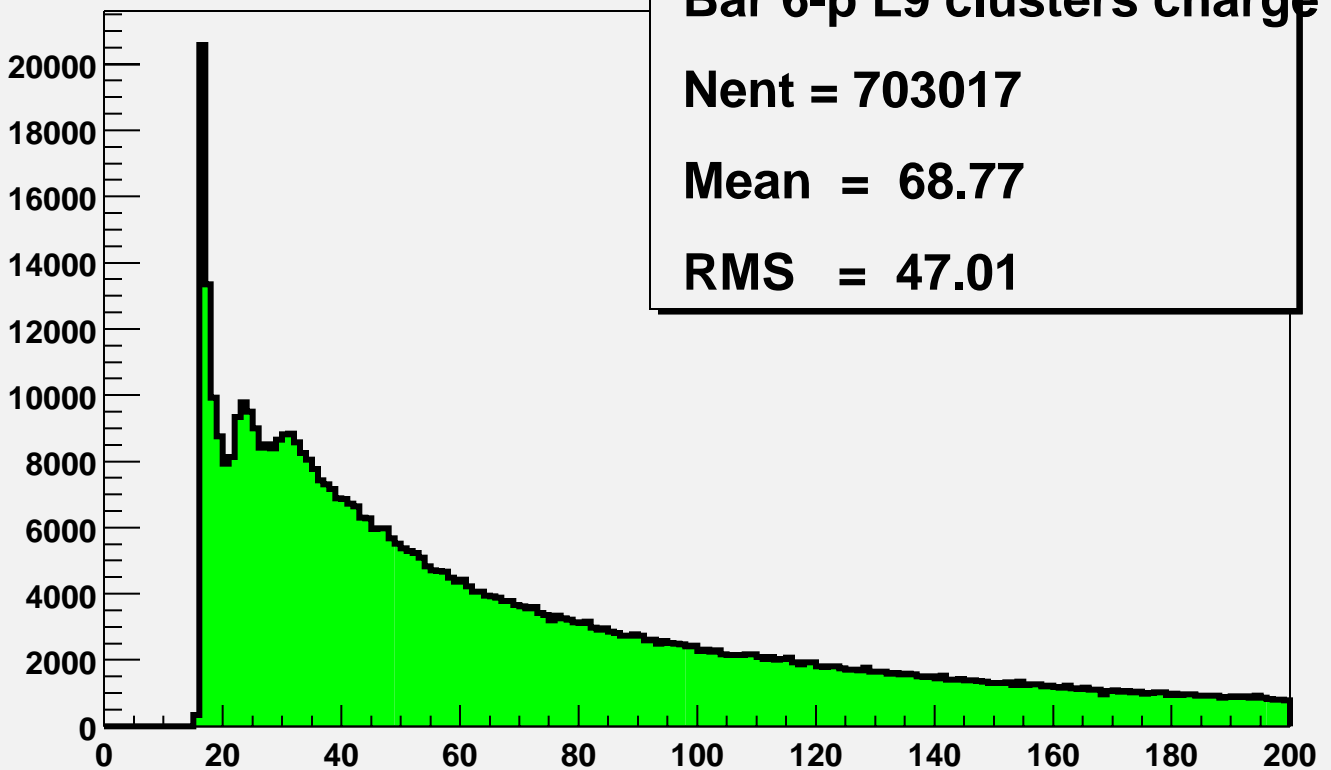
**Mean = 67.02**

**RMS = 47.04**

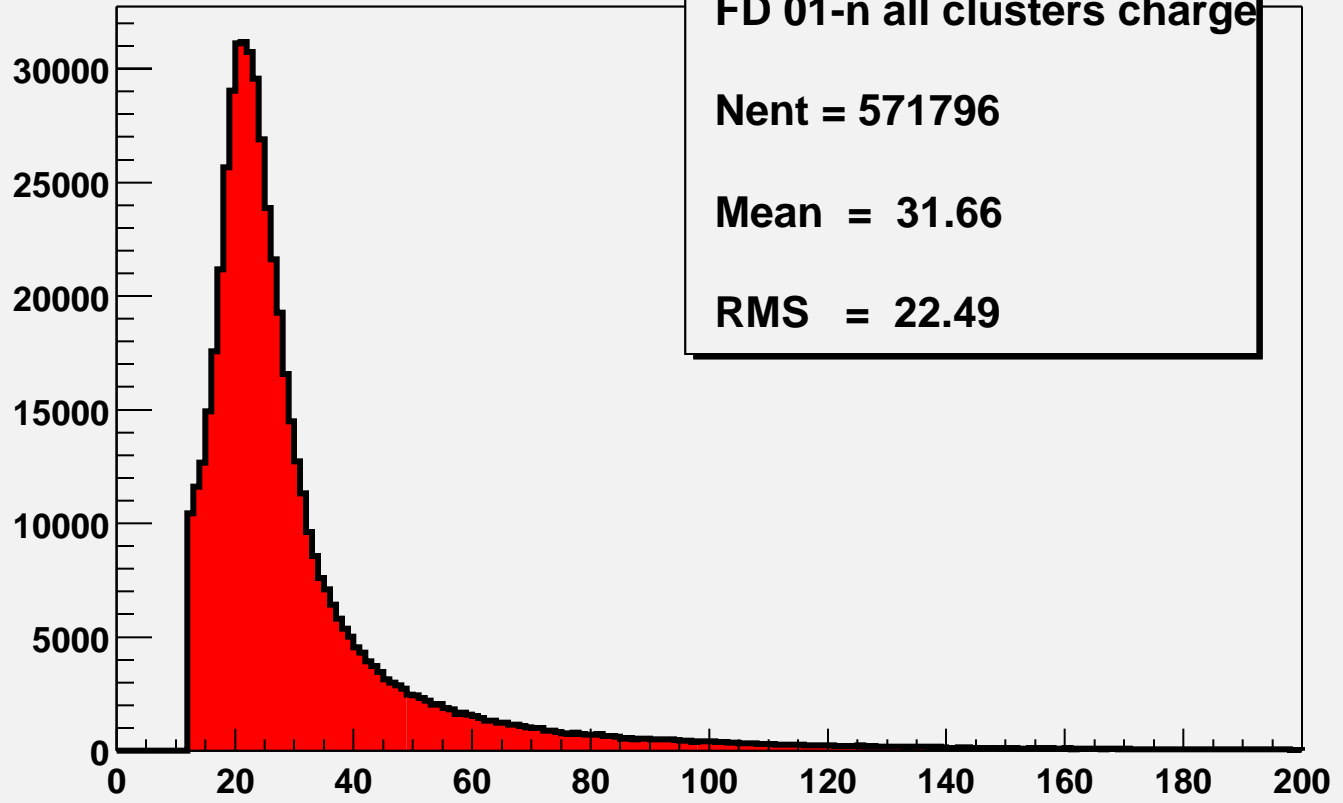
**Bar 6-n L9 clusters charge**



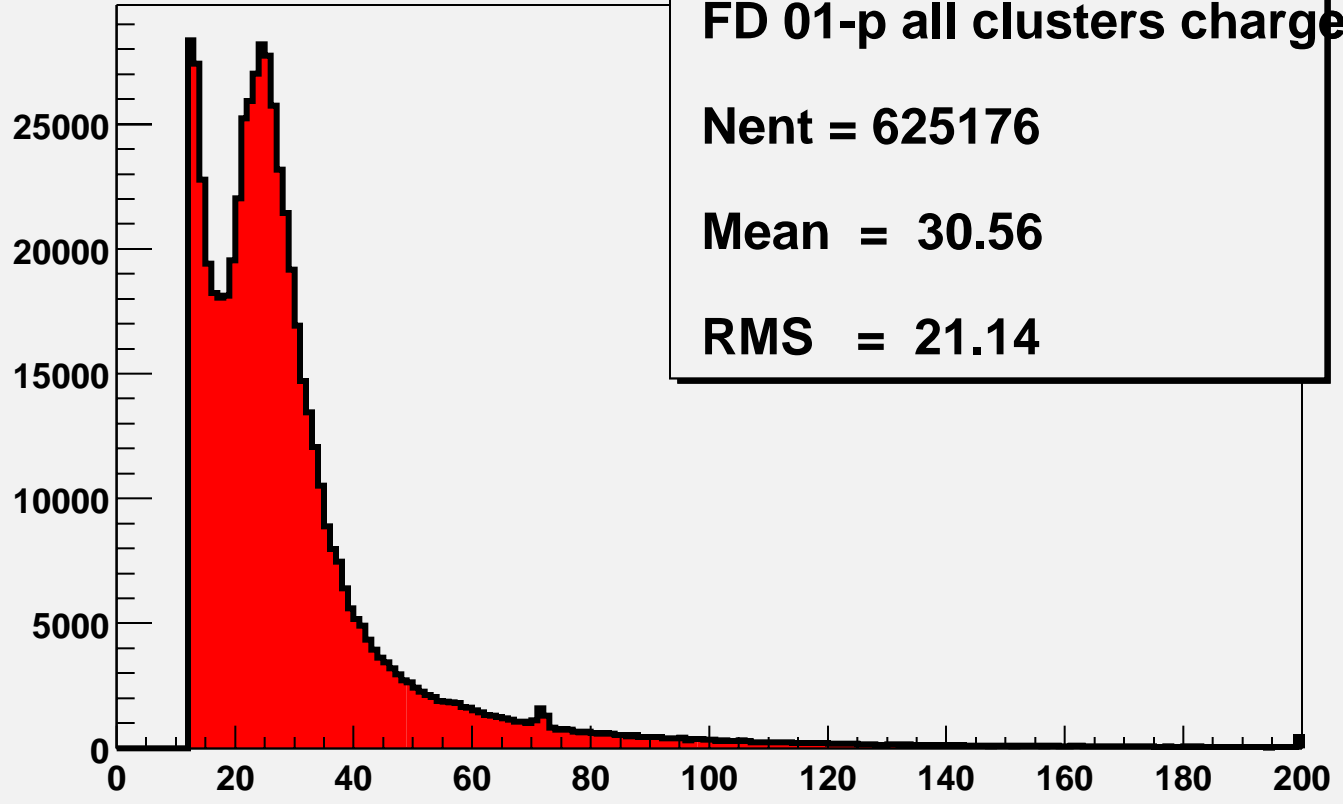
**Bar 6-p L9 clusters charge**



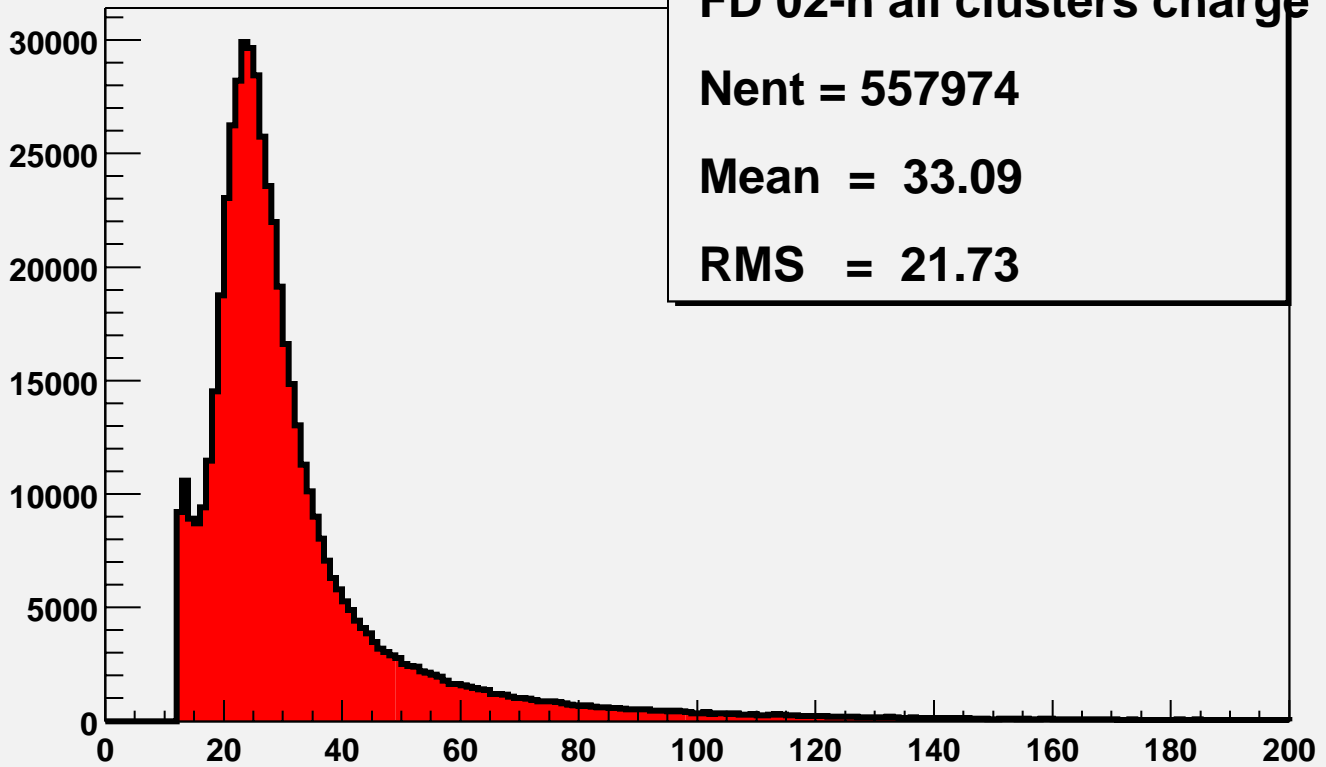
**FD 01-n all clusters charge**



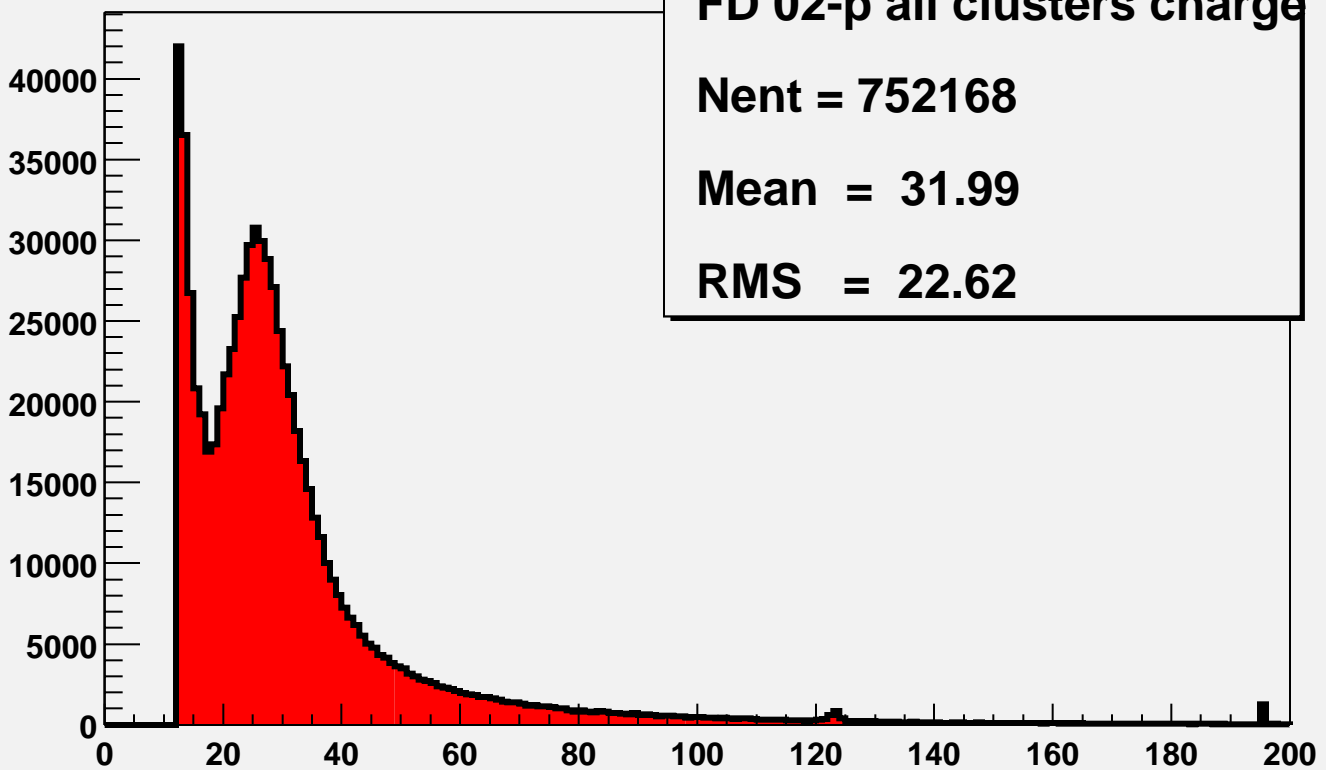
**FD 01-p all clusters charge**



**FD 02-n all clusters charge**

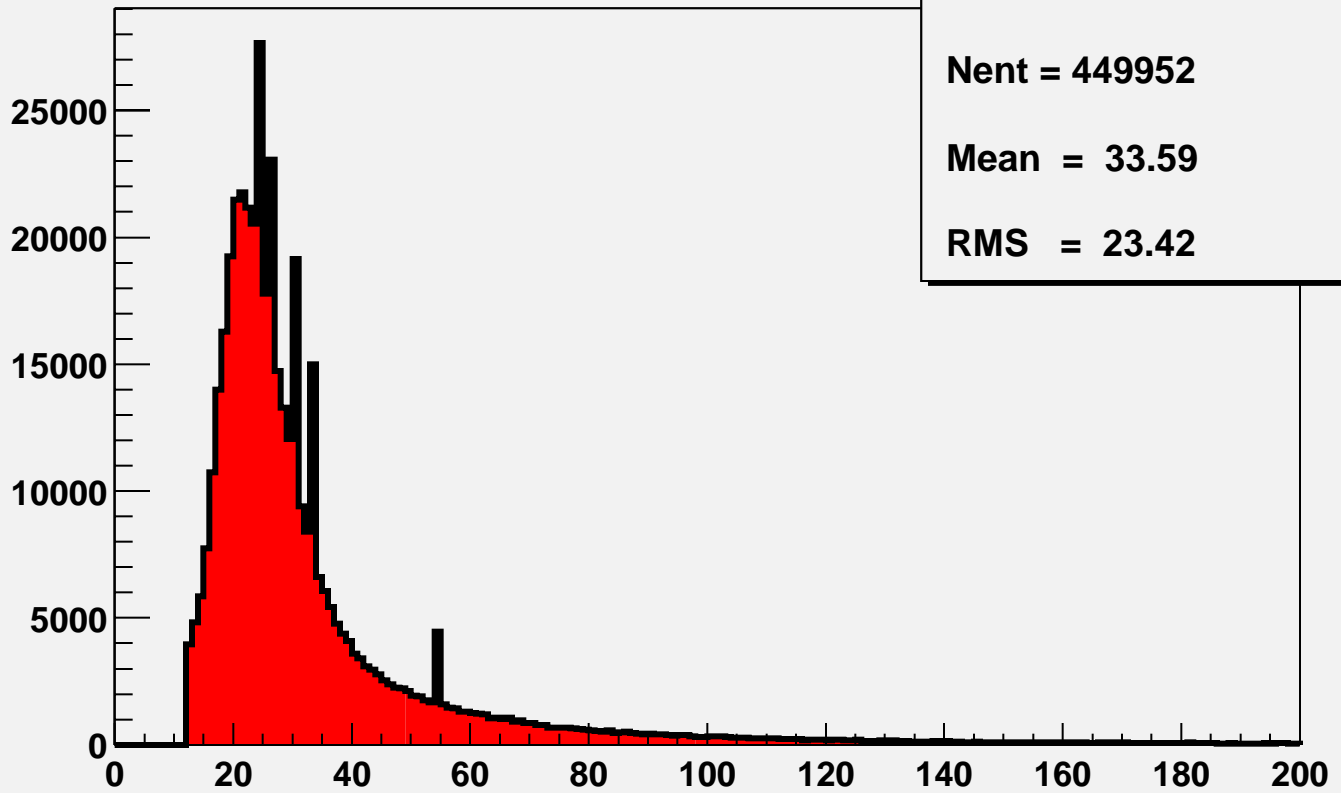


**FD 02-p all clusters charge**





**FD 03-n all clusters charge**



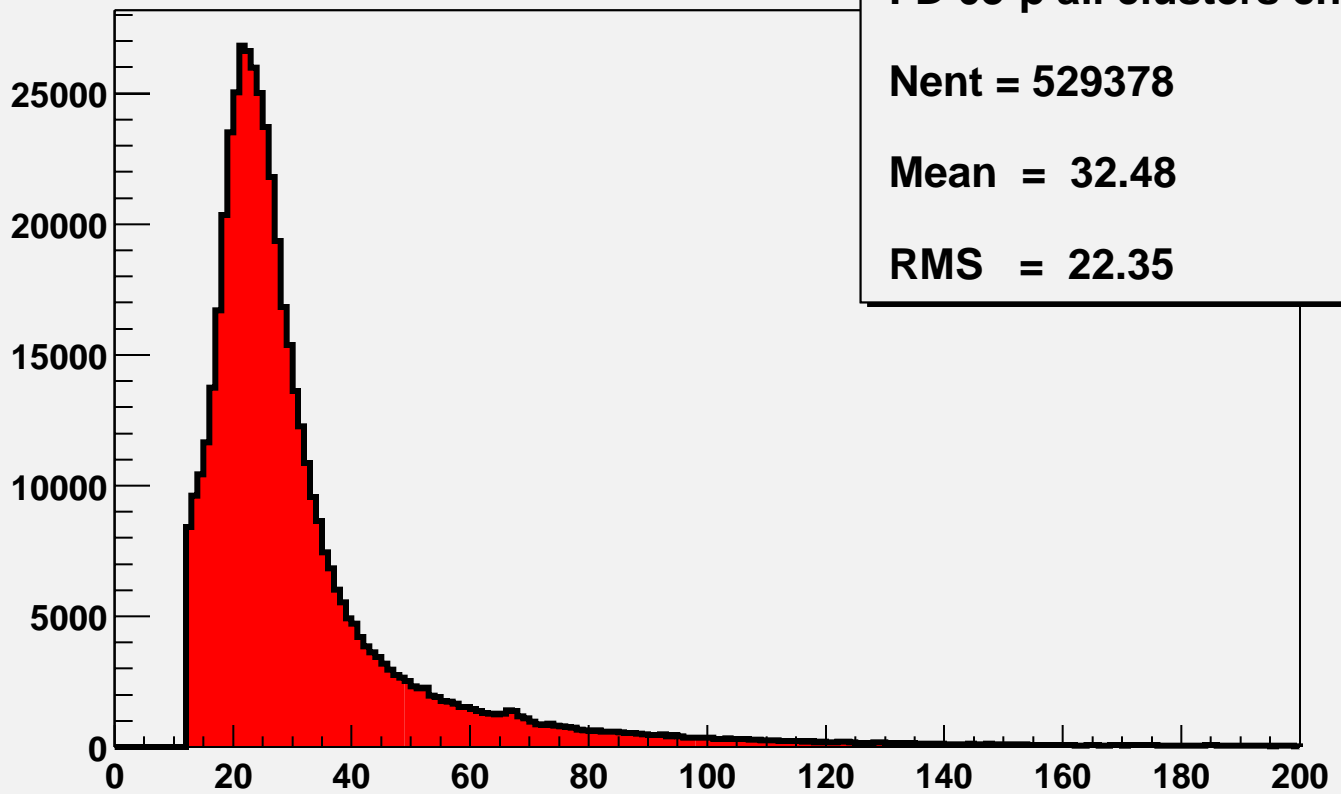
**FD 03-n all clusters charge**

**Nent = 449952**

**Mean = 33.59**

**RMS = 23.42**

**FD 03-p all clusters charge**



**FD 03-p all clusters charge**

**Nent = 529378**

**Mean = 32.48**

**RMS = 22.35**

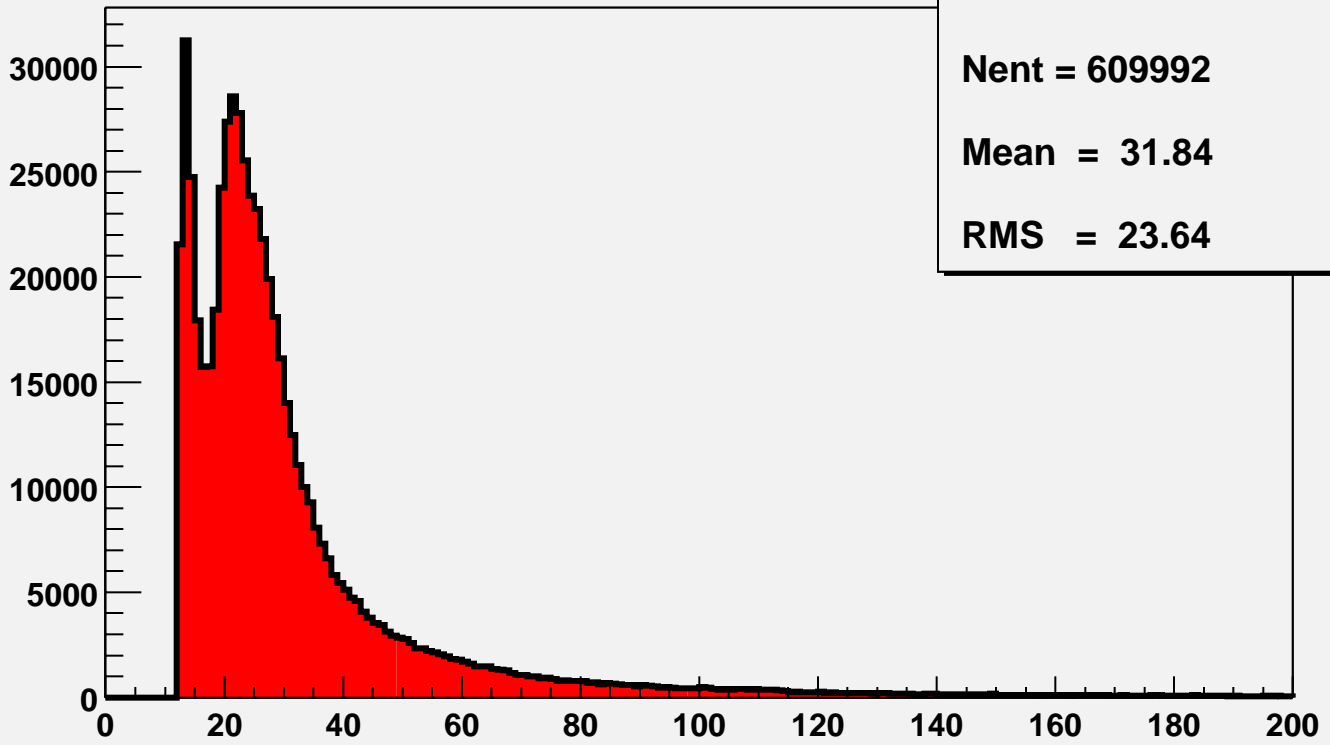
**FD 04-n all clusters charge**

**FD 04-n all clusters charge**

**Nent = 609992**

**Mean = 31.84**

**RMS = 23.64**



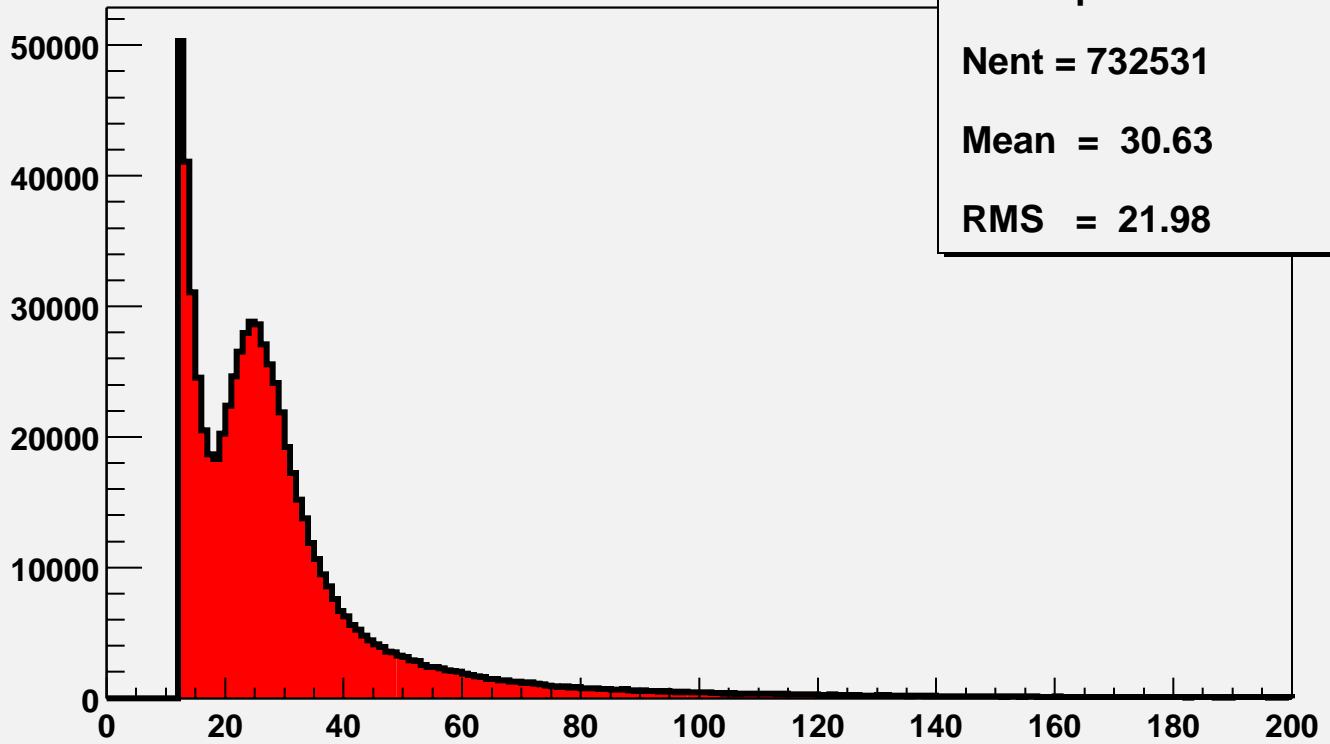
**FD 04-p all clusters charge**

**FD 04-p all clusters charge**

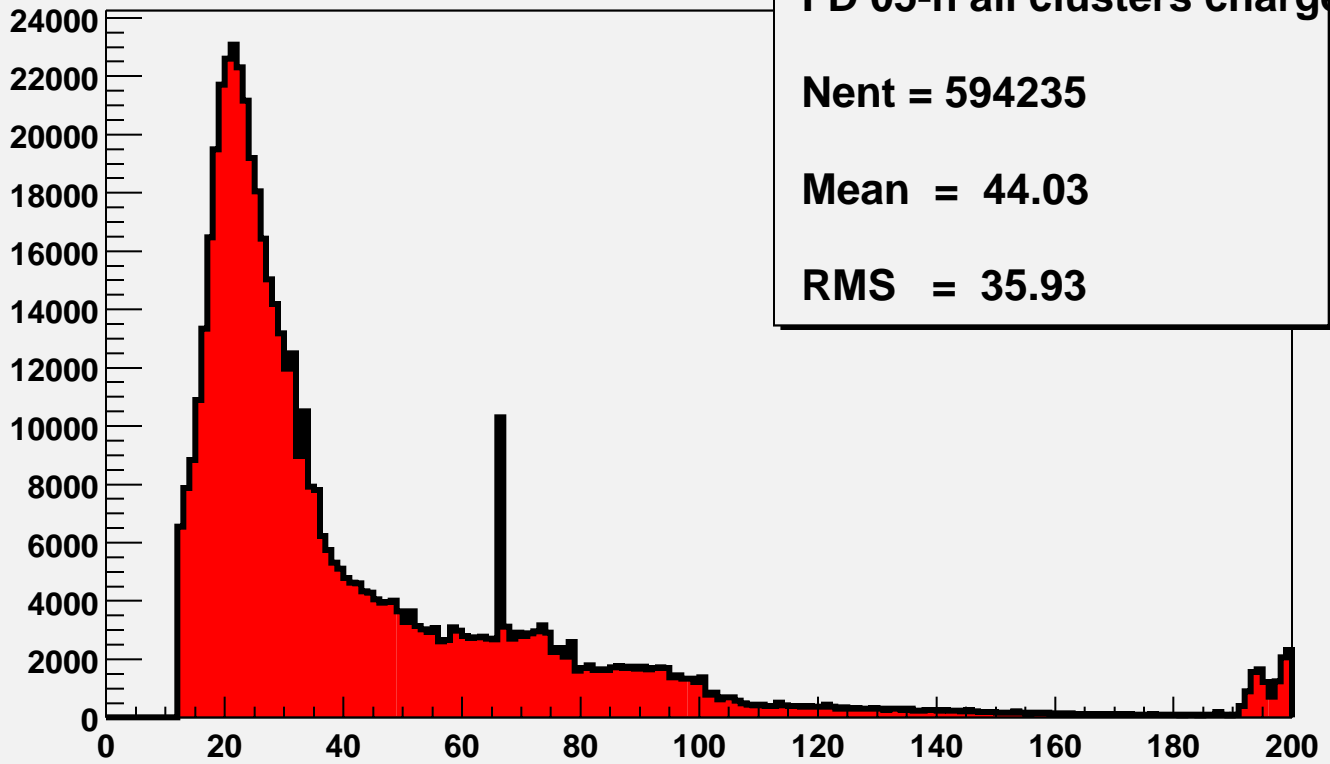
**Nent = 732531**

**Mean = 30.63**

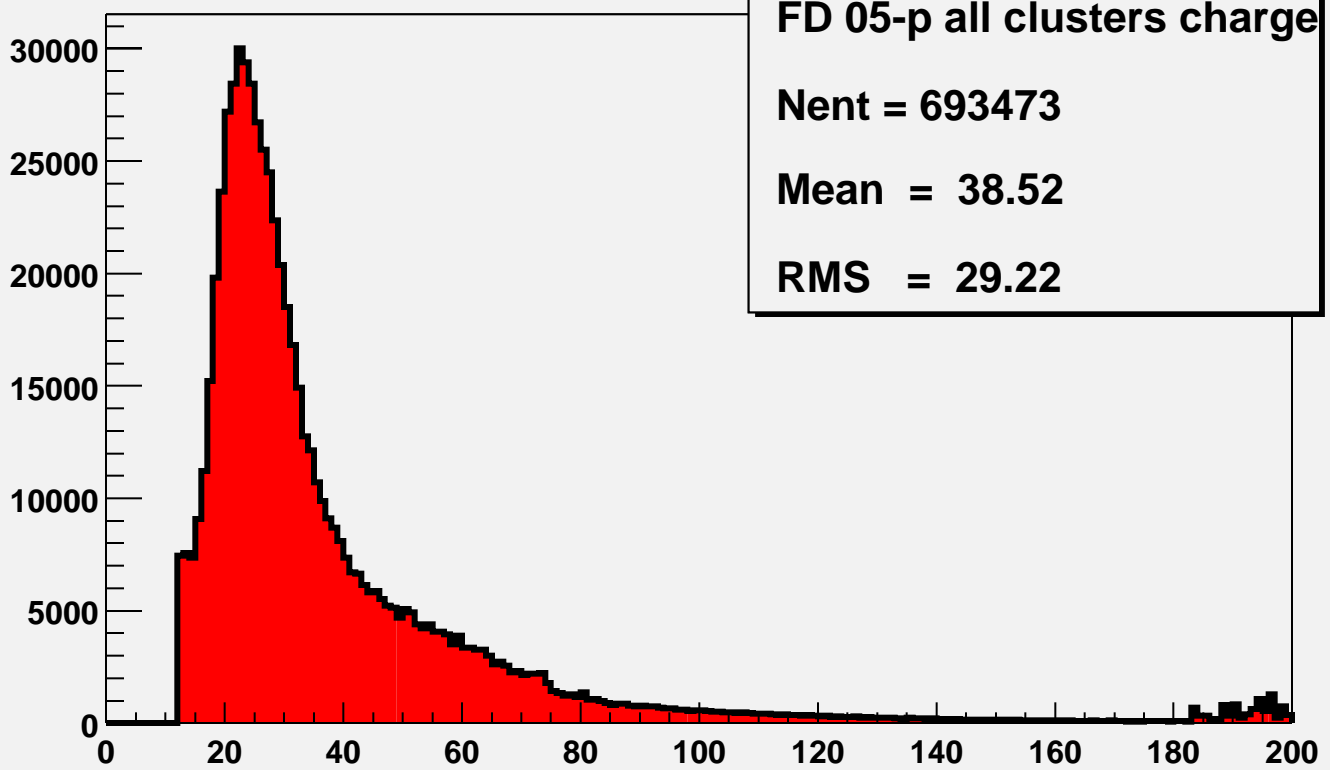
**RMS = 21.98**



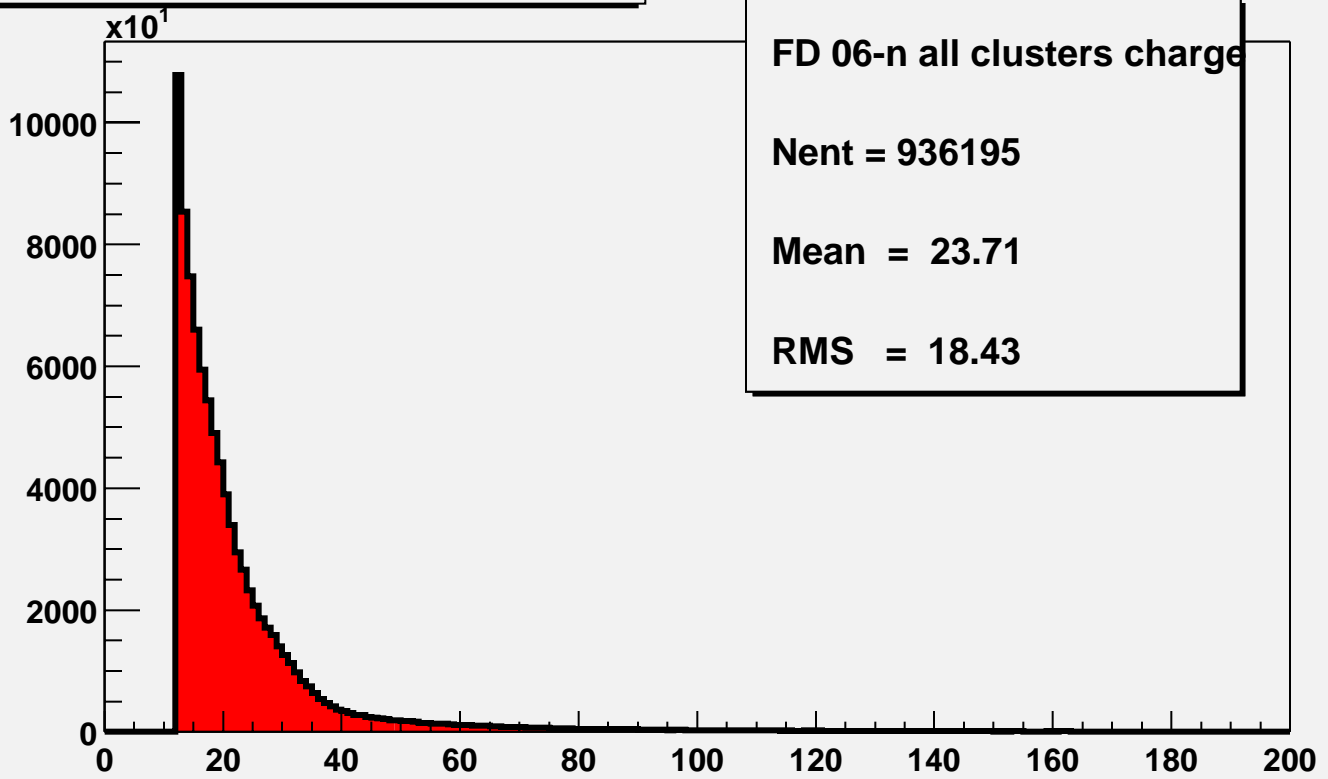
**FD 05-n all clusters charge**



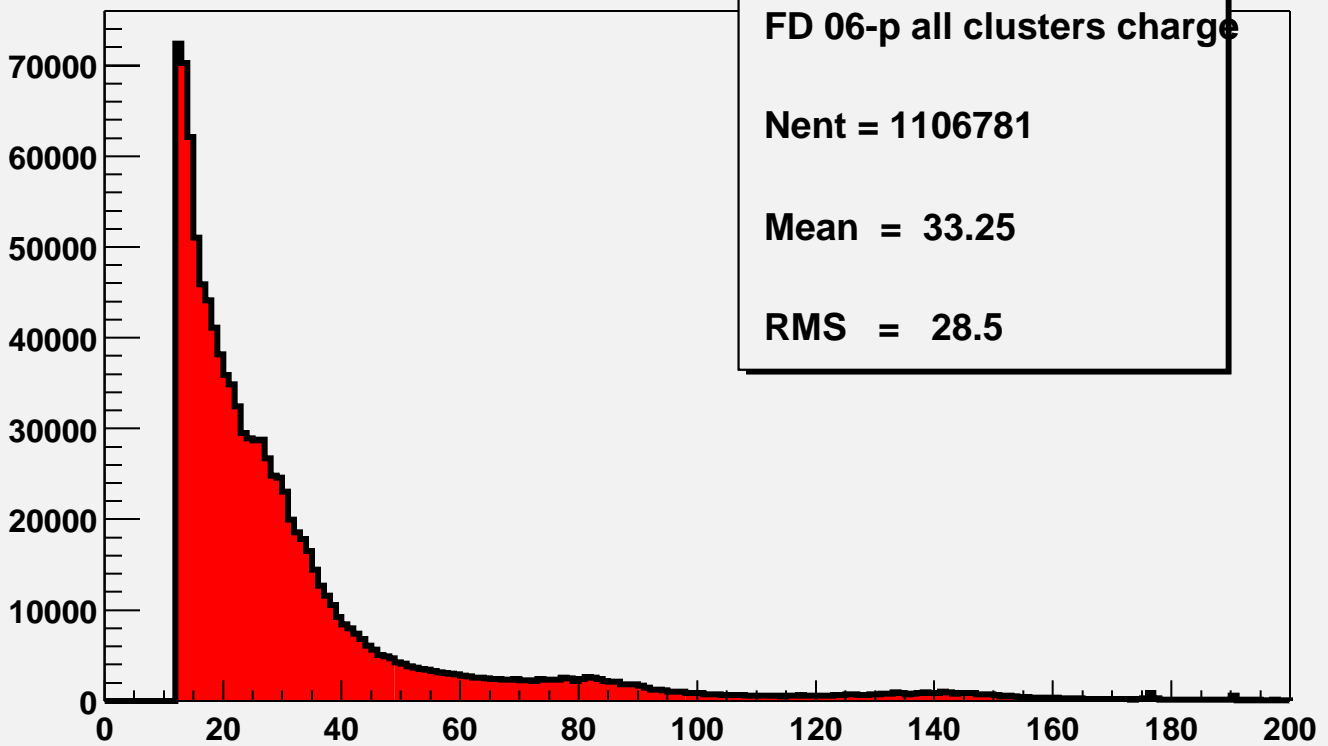
**FD 05-p all clusters charge**



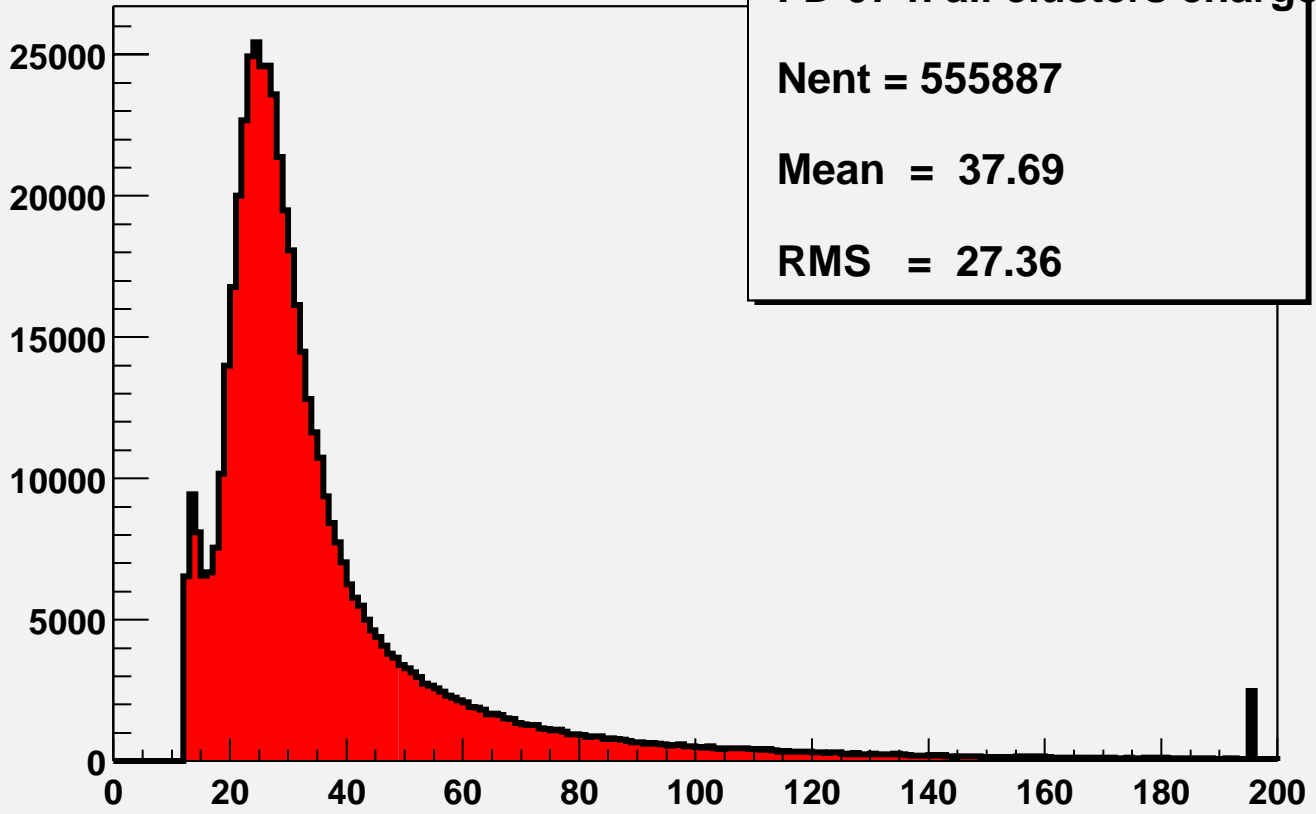
**FD 06-n all clusters charge**



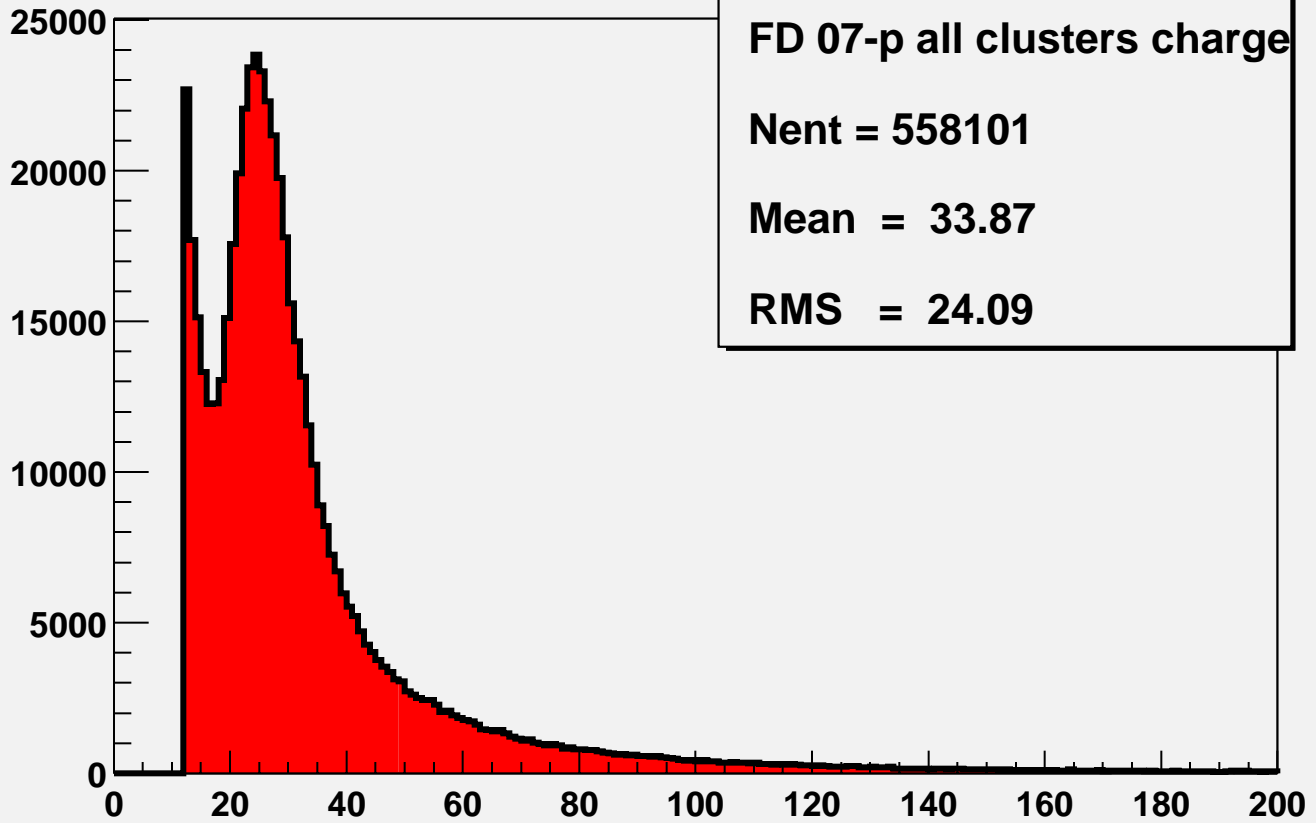
**FD 06-p all clusters charge**



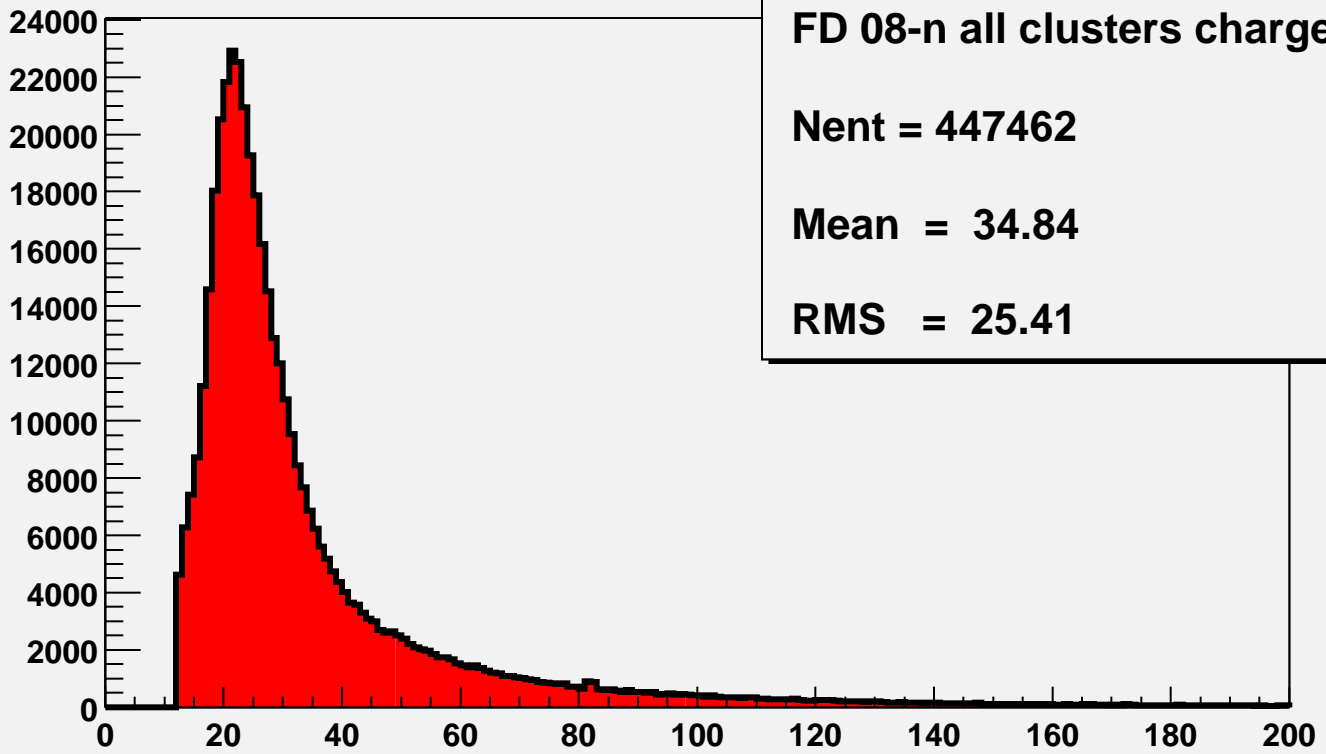
**FD 07-n all clusters charge**



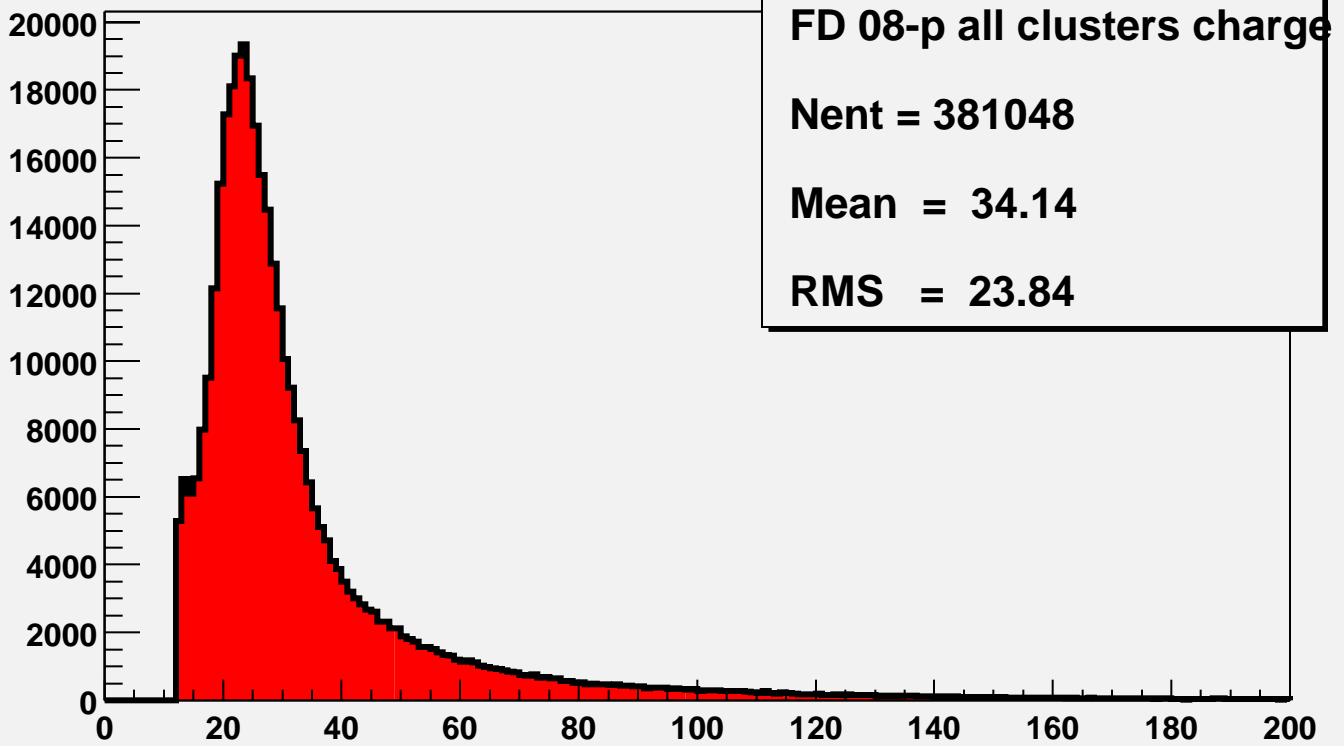
**FD 07-p all clusters charge**



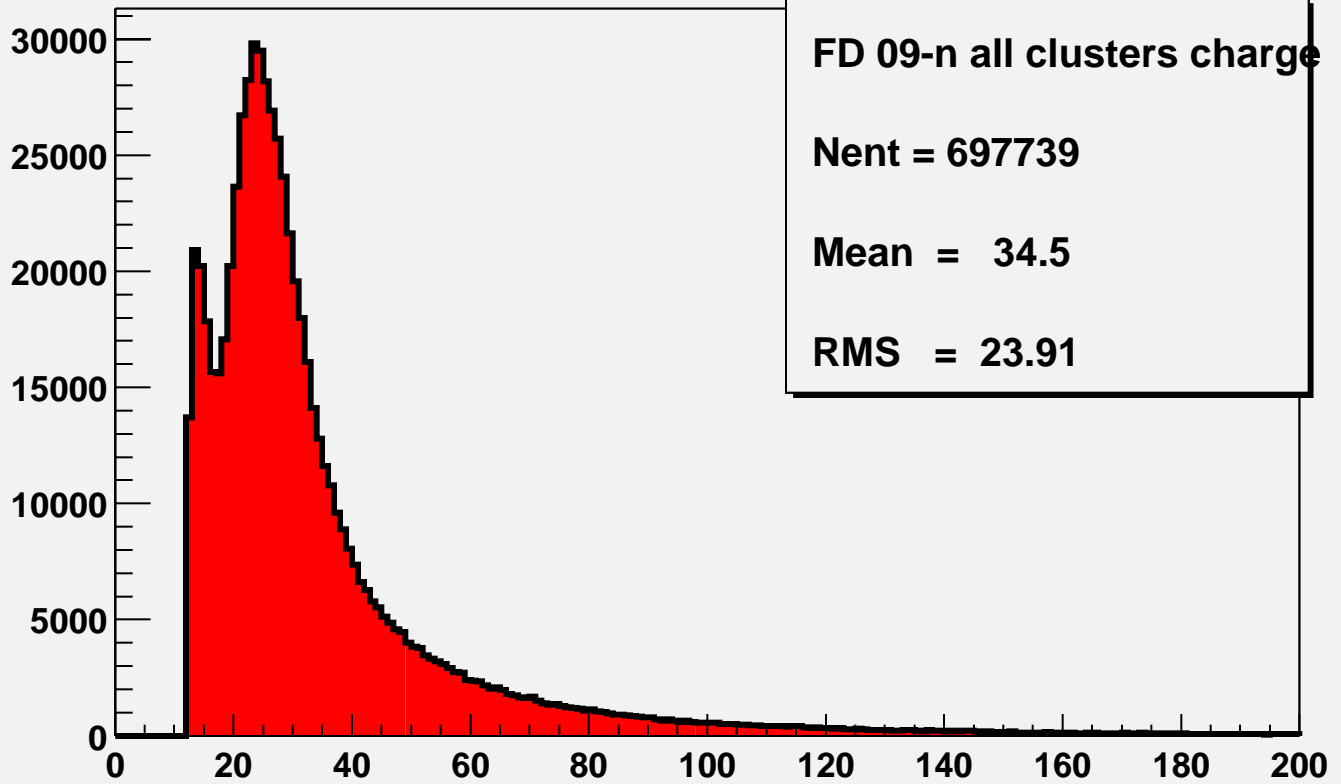
**FD 08-n all clusters charge**



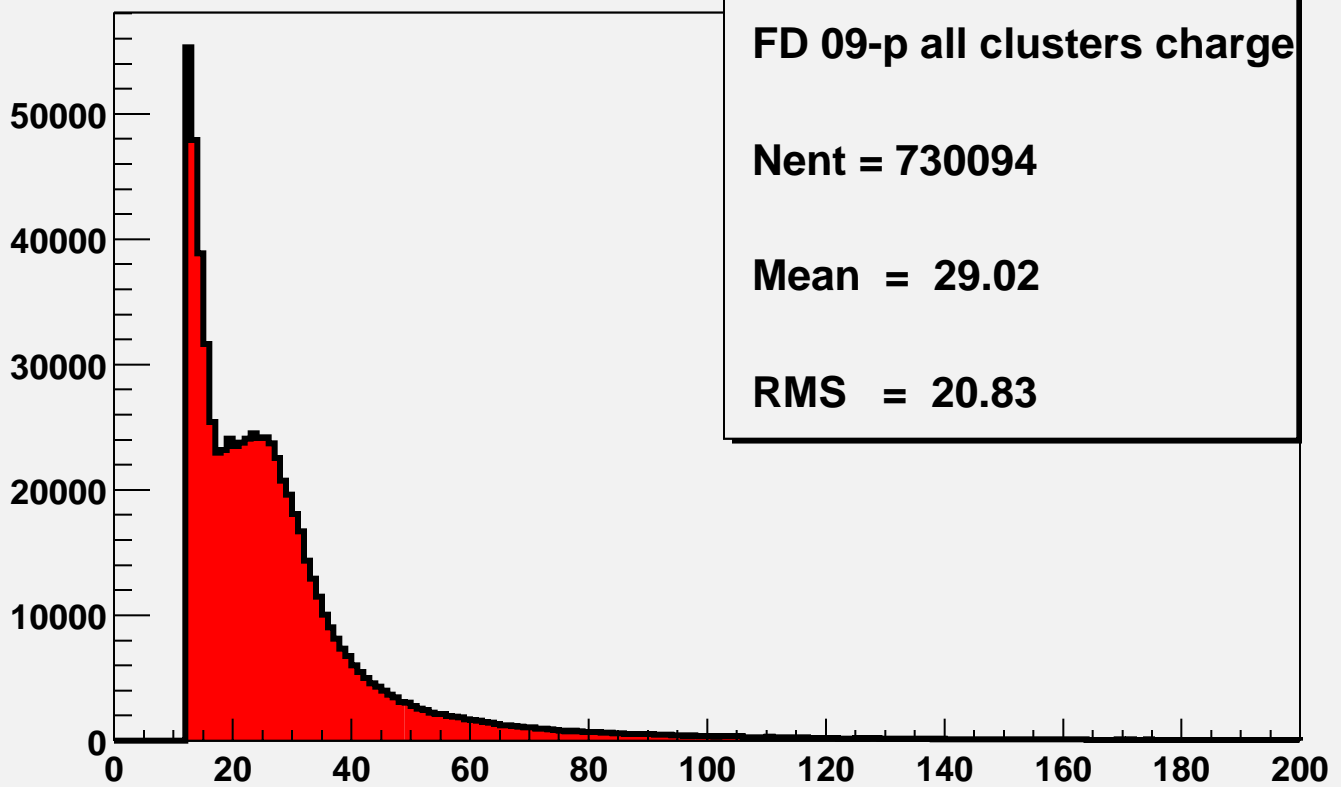
**FD 08-p all clusters charge**



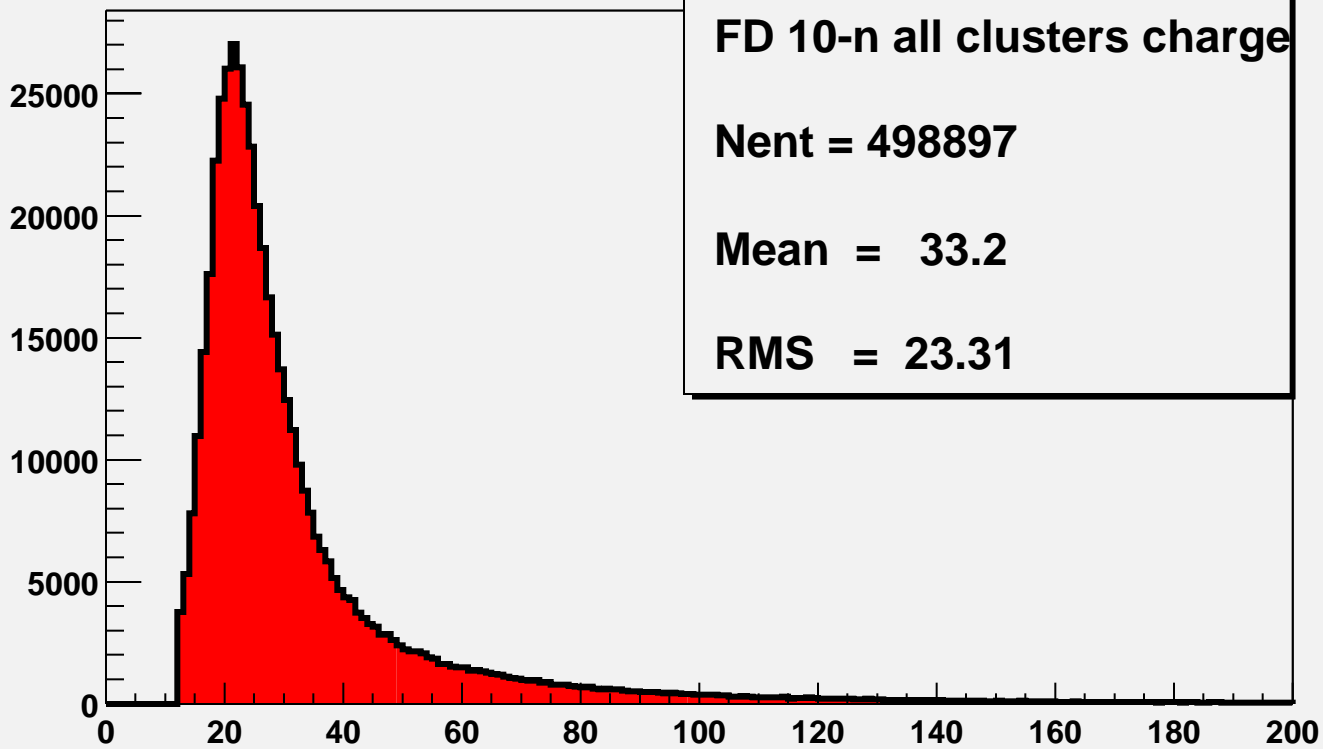
**FD 09-n all clusters charge**



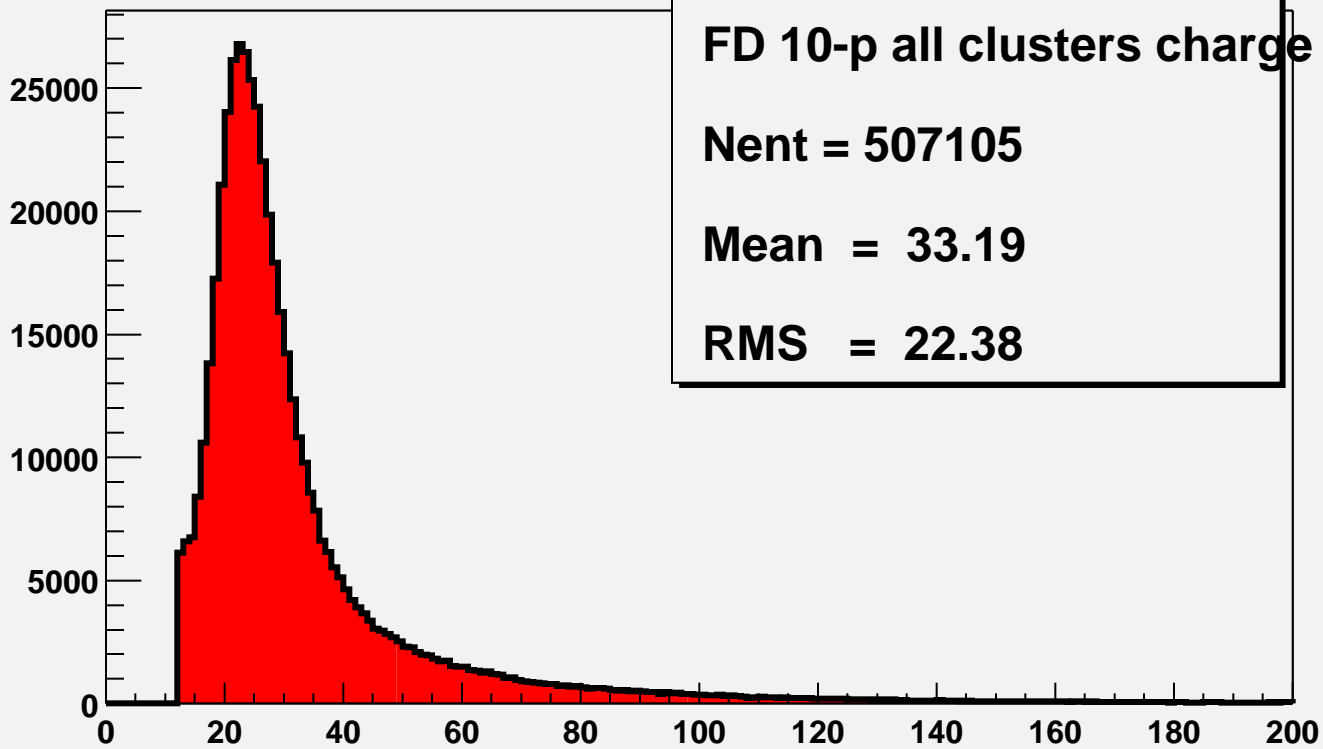
**FD 09-p all clusters charge**



**FD 10-n all clusters charge**

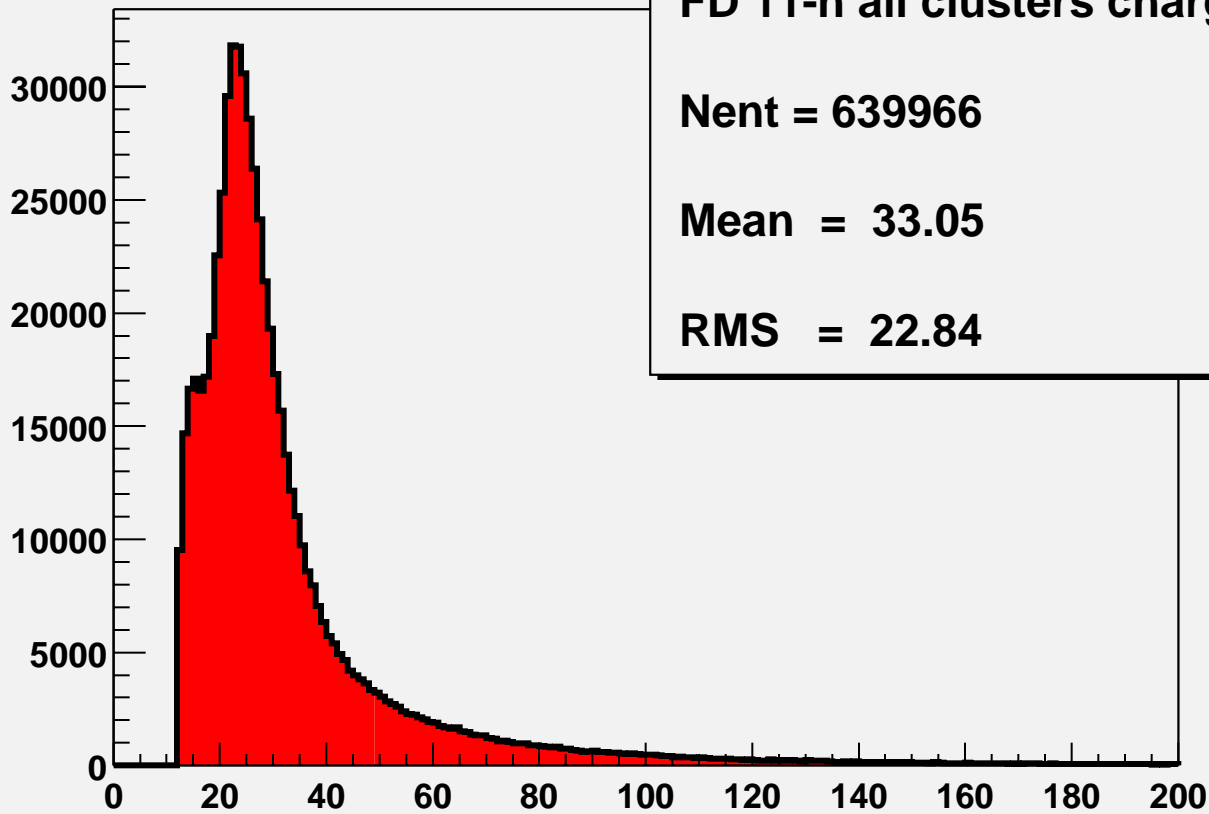


**FD 10-p all clusters charge**





**FD 11-n all clusters charge**



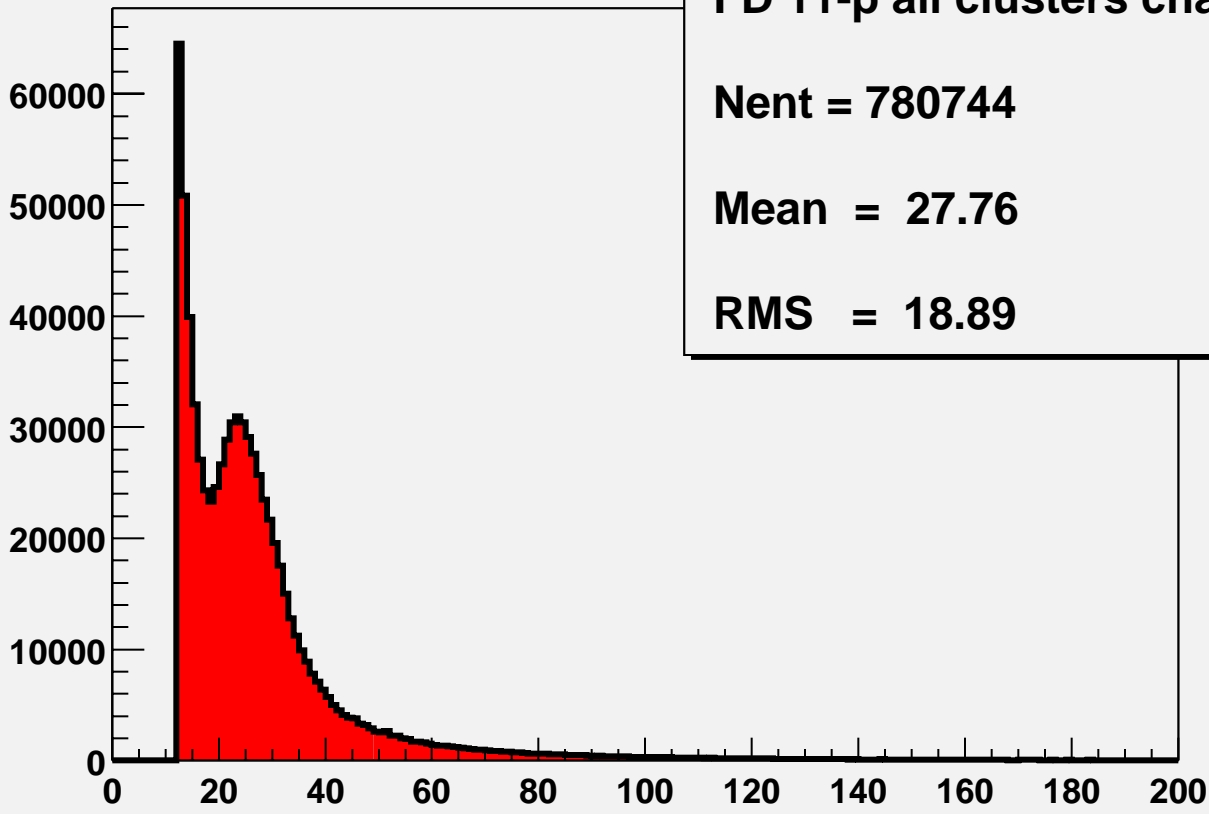
**FD 11-n all clusters charge**

**Nent = 639966**

**Mean = 33.05**

**RMS = 22.84**

**FD 11-p all clusters charge**



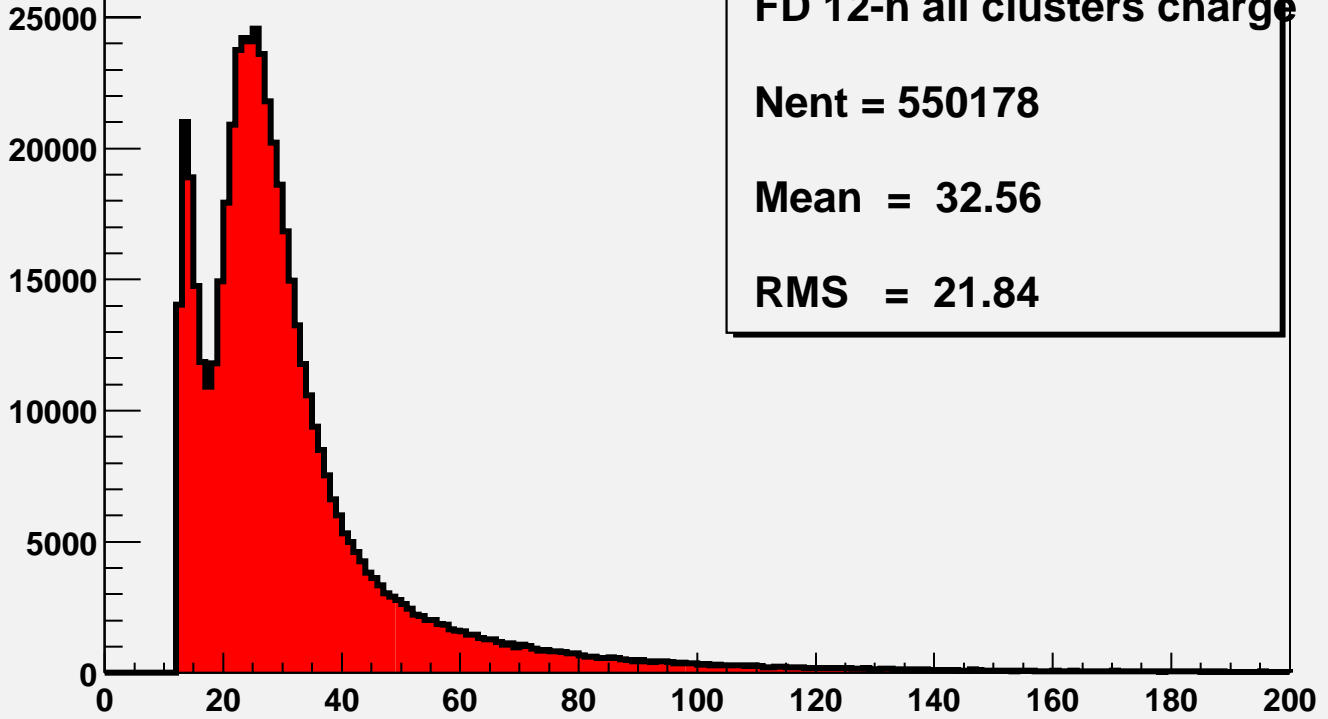
**FD 11-p all clusters charge**

**Nent = 780744**

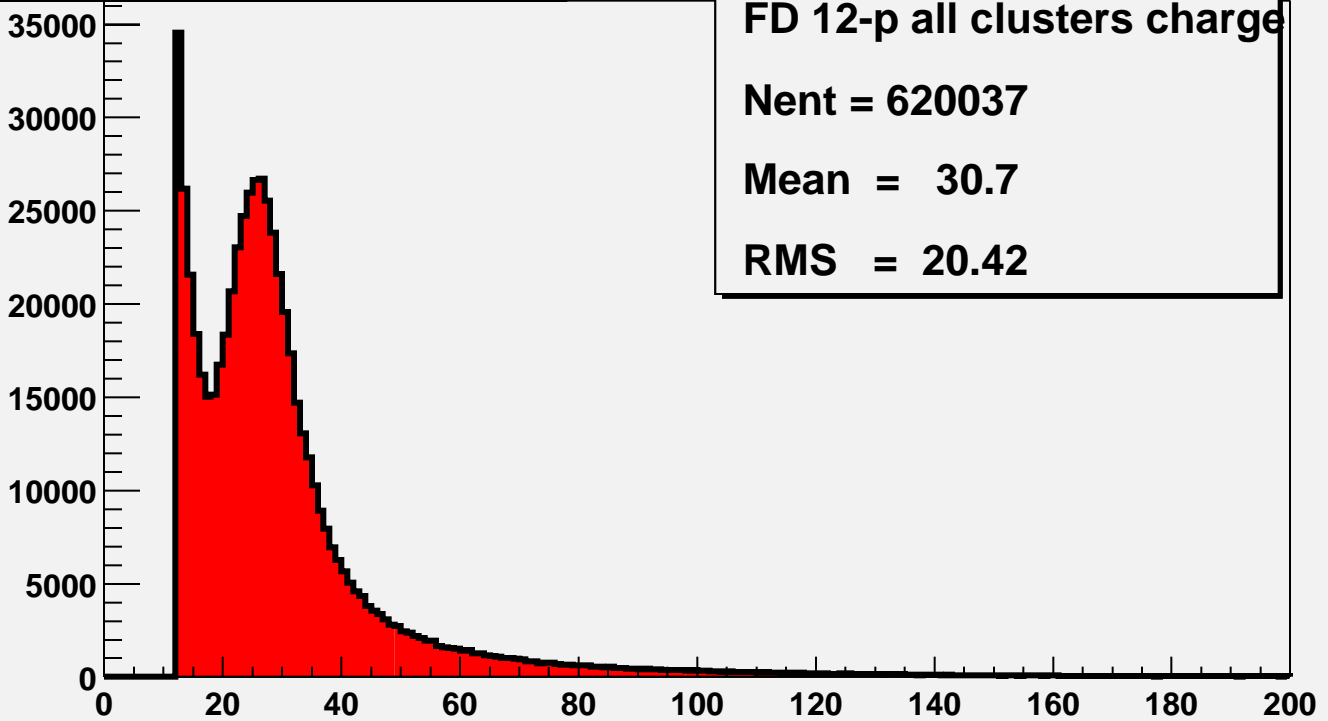
**Mean = 27.76**

**RMS = 18.89**

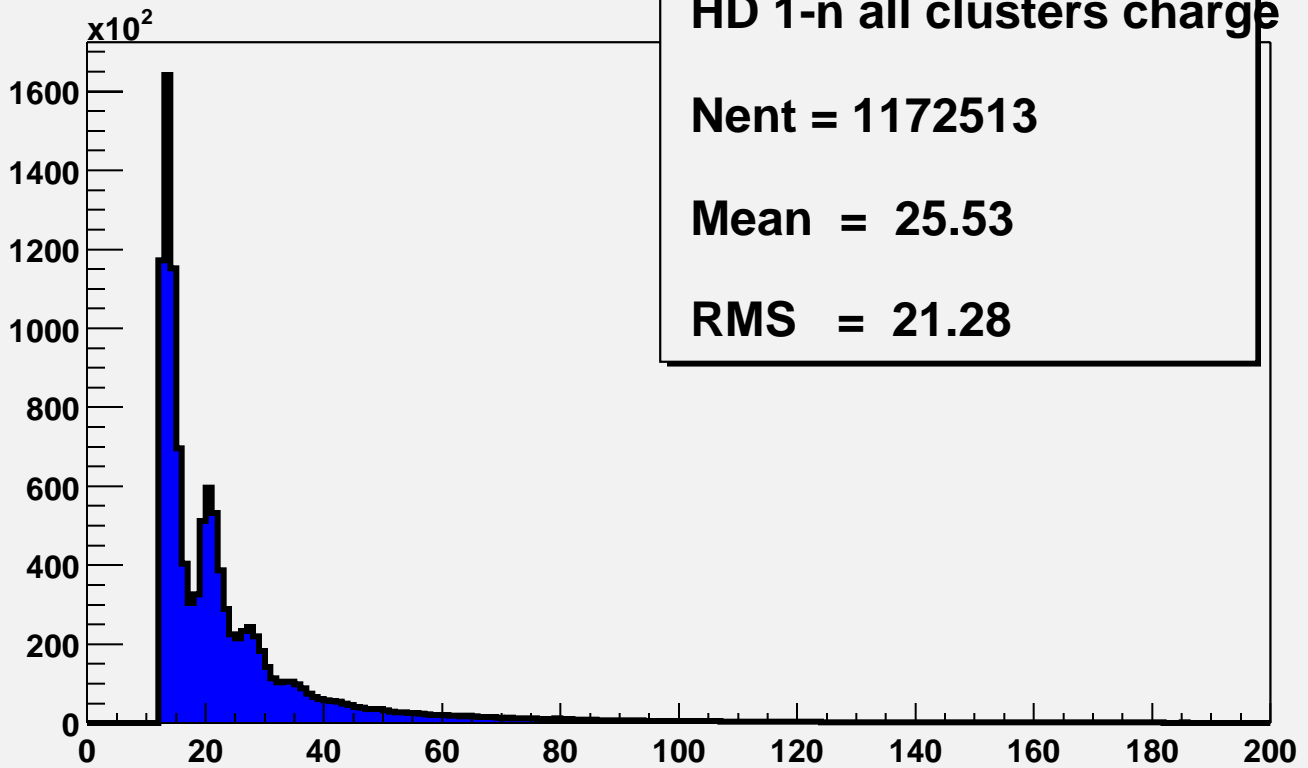
**FD 12-n all clusters charge**



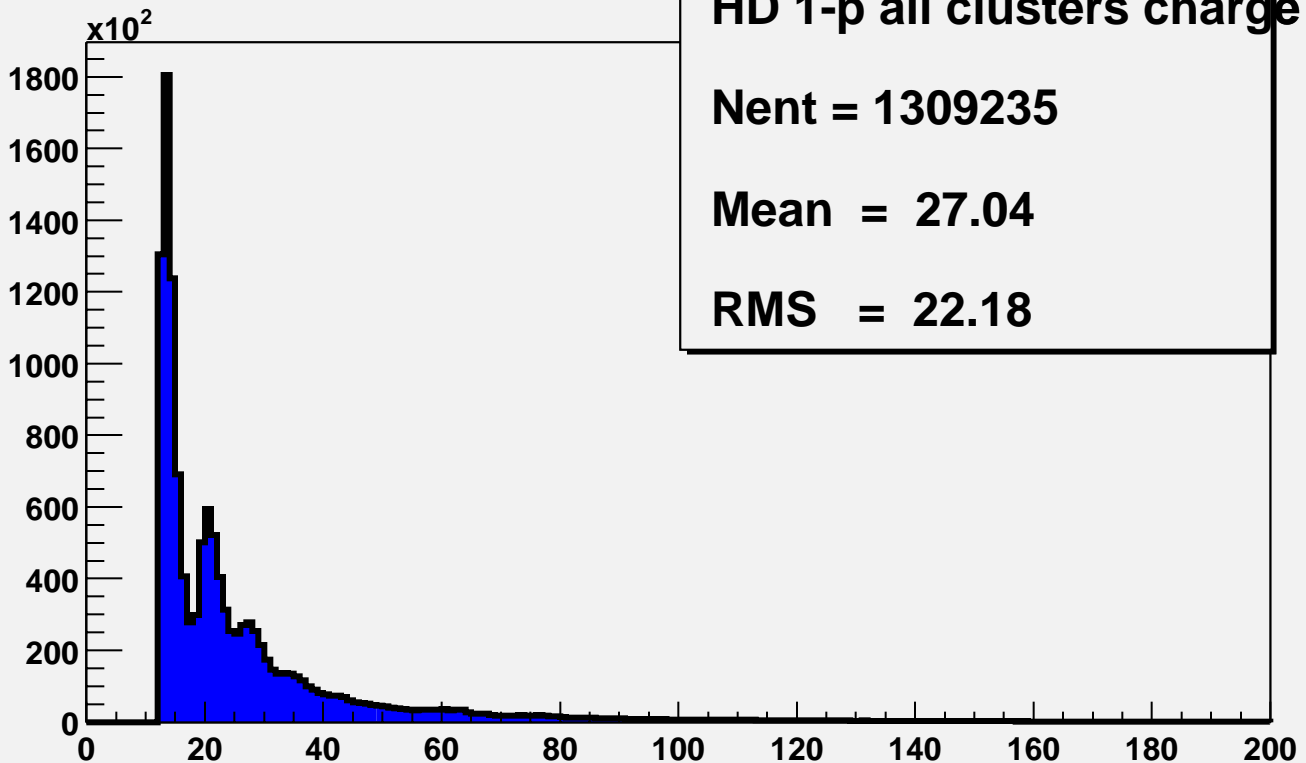
**FD 12-p all clusters charge**



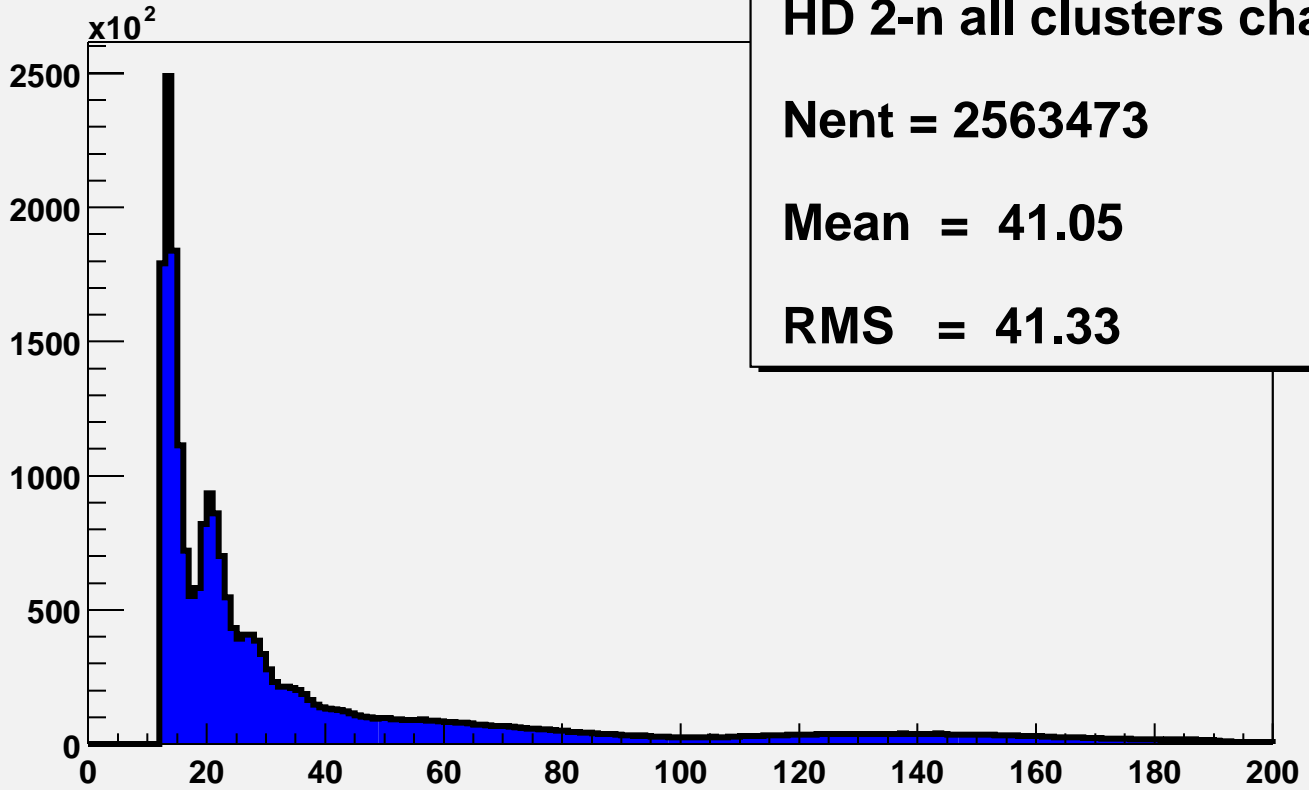
**HD 1-n all clusters charge**



**HD 1-p all clusters charge**



**HD 2-n all clusters charge**



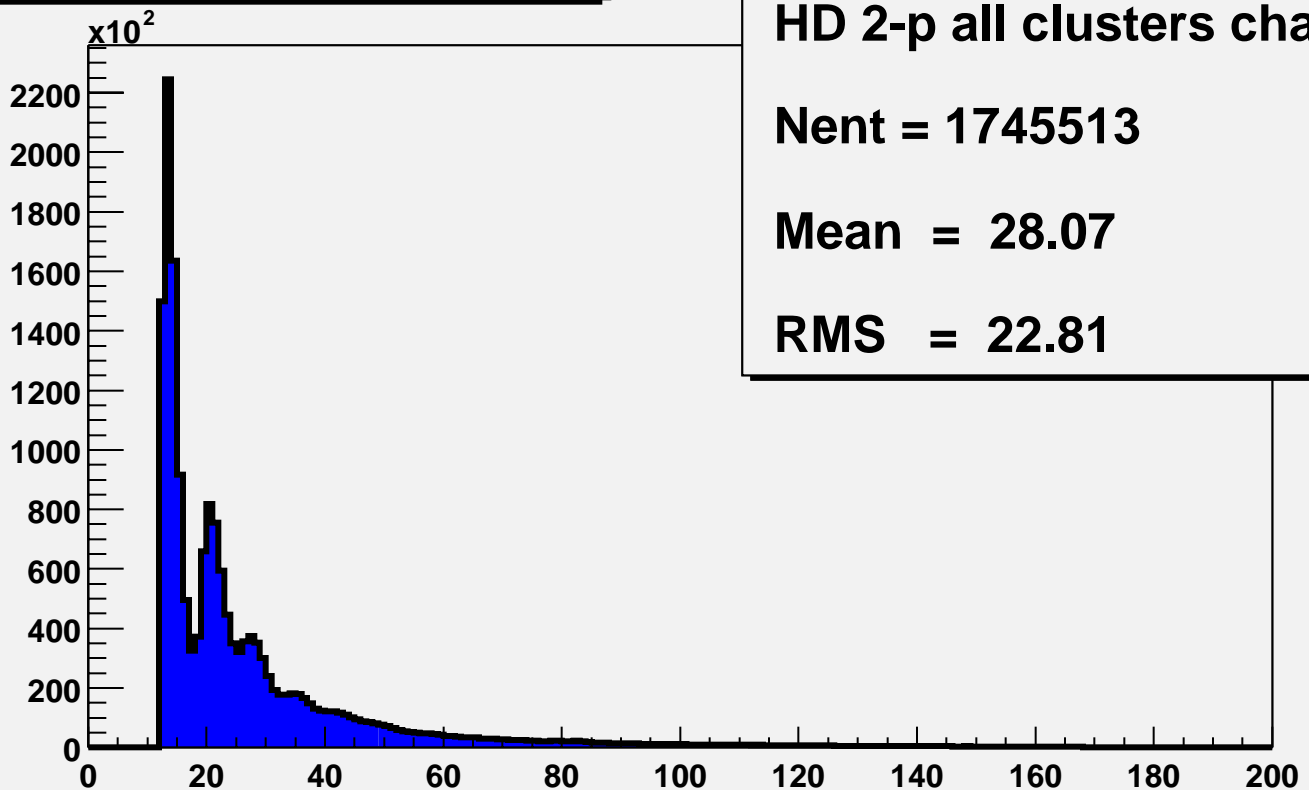
**HD 2-n all clusters charge**

**Nent = 2563473**

**Mean = 41.05**

**RMS = 41.33**

**HD 2-p all clusters charge**



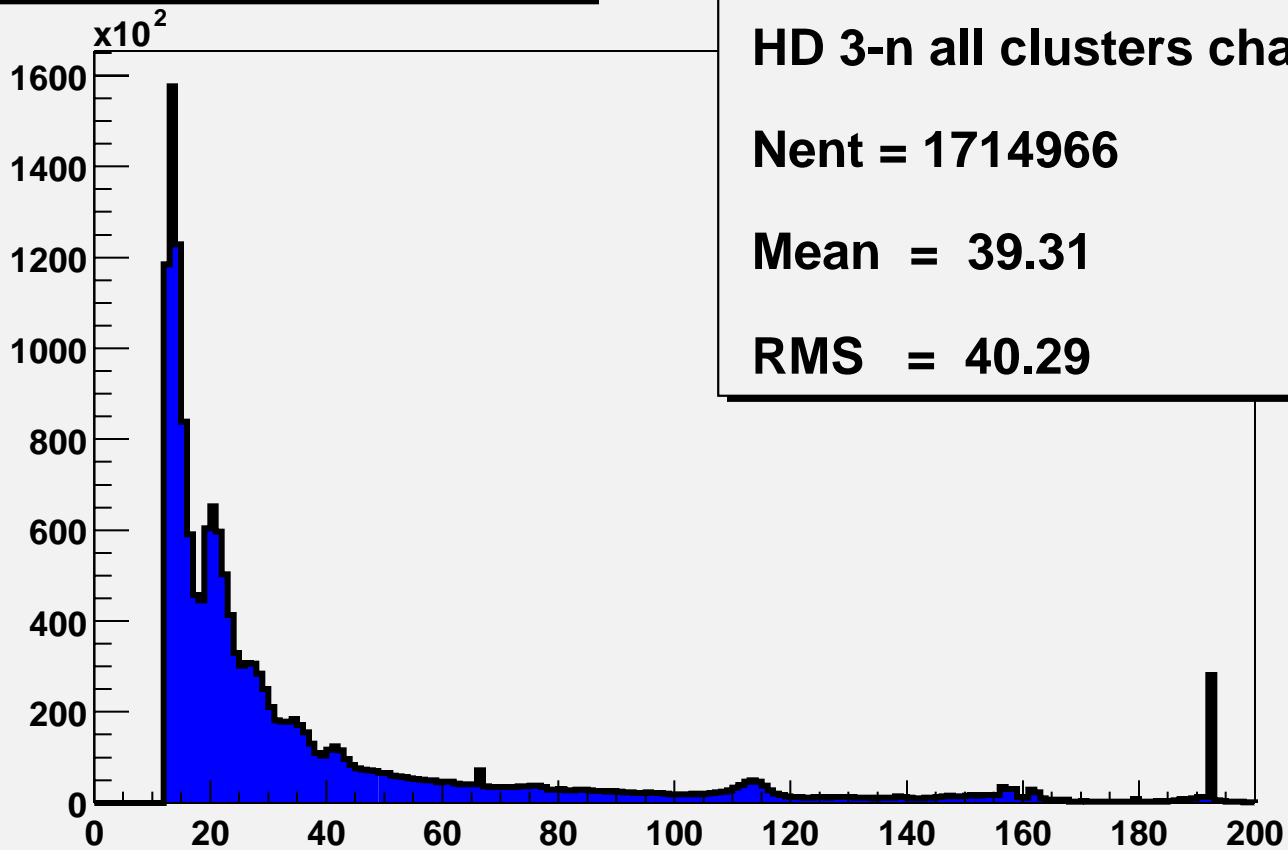
**HD 2-p all clusters charge**

**Nent = 1745513**

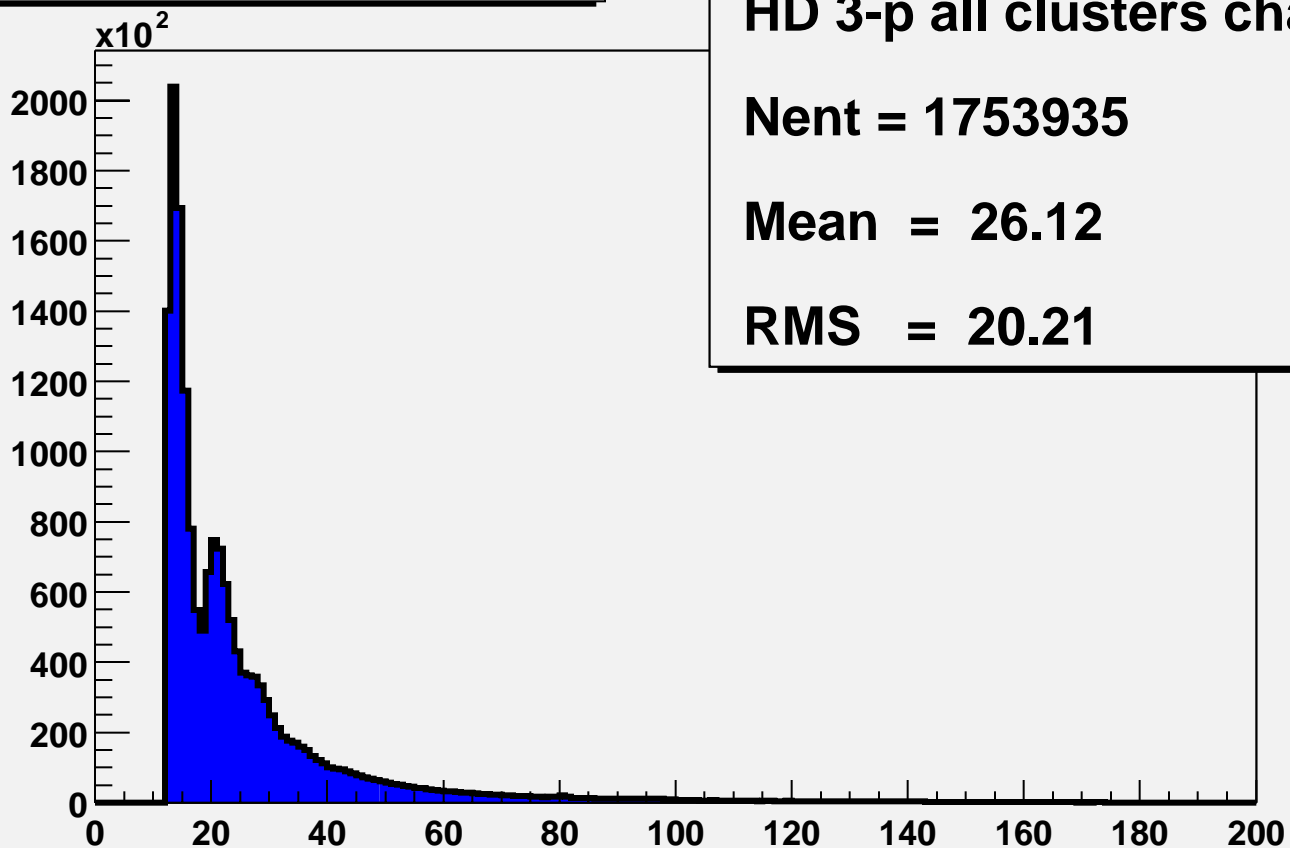
**Mean = 28.07**

**RMS = 22.81**

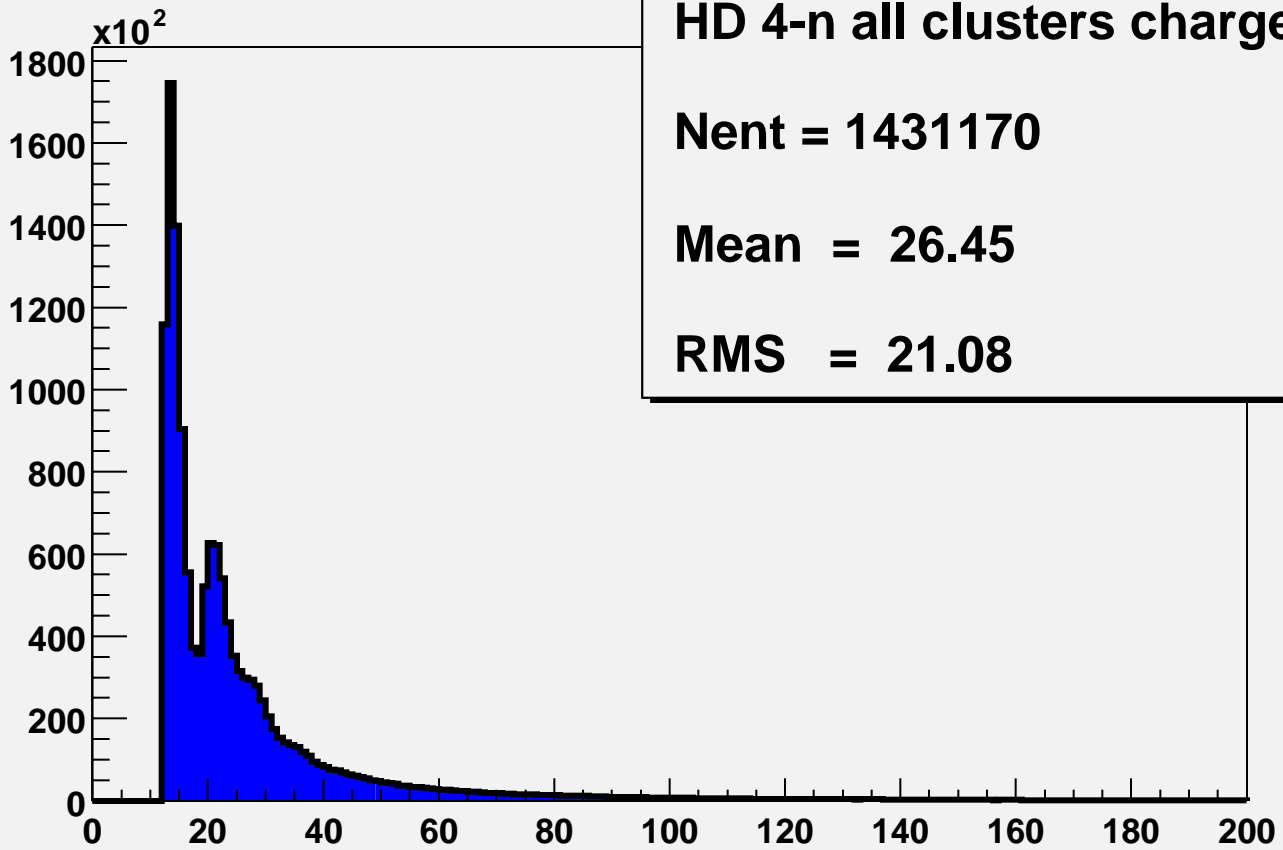
### HD 3-n all clusters charge



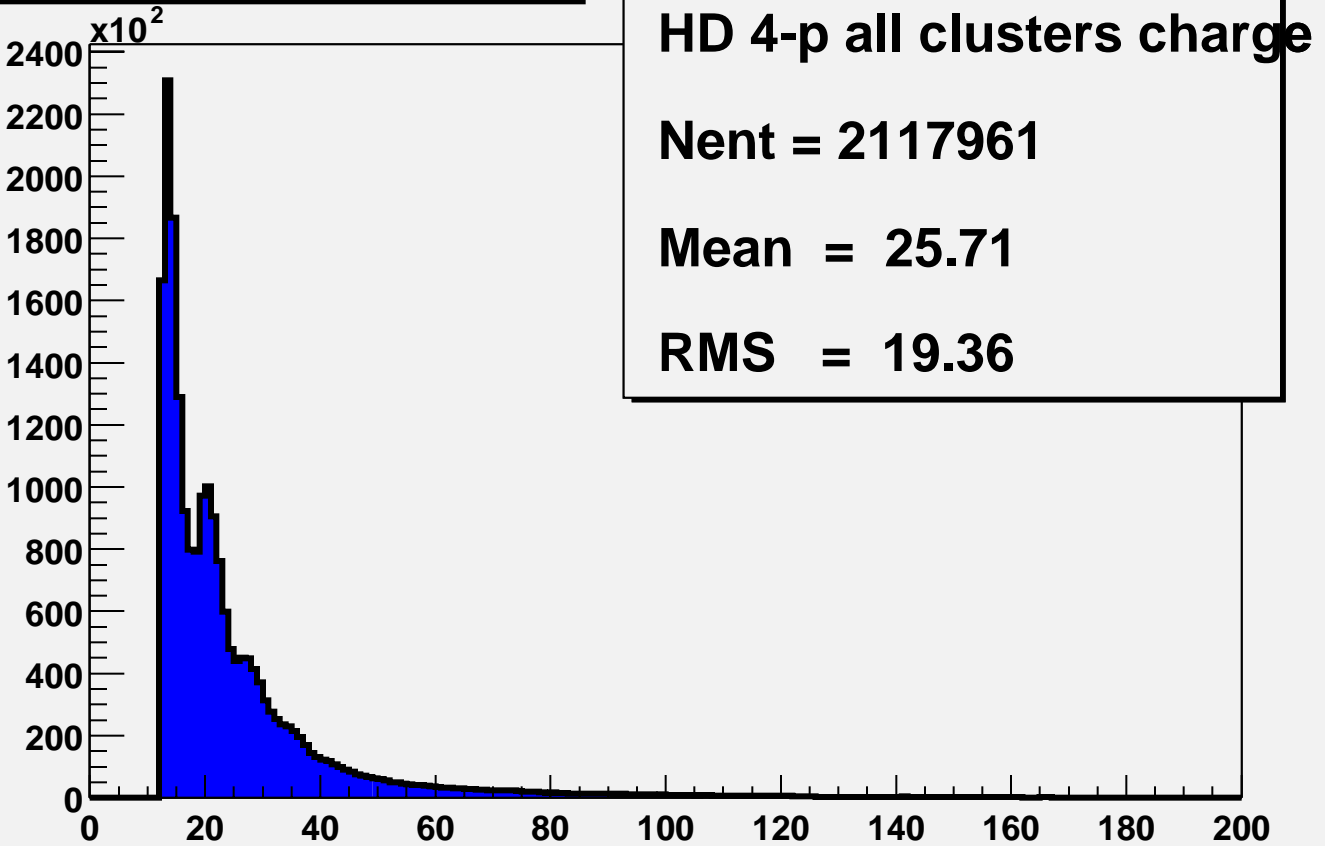
### HD 3-p all clusters charge



**HD 4-n all clusters charge**



**HD 4-p all clusters charge**



# Set 2

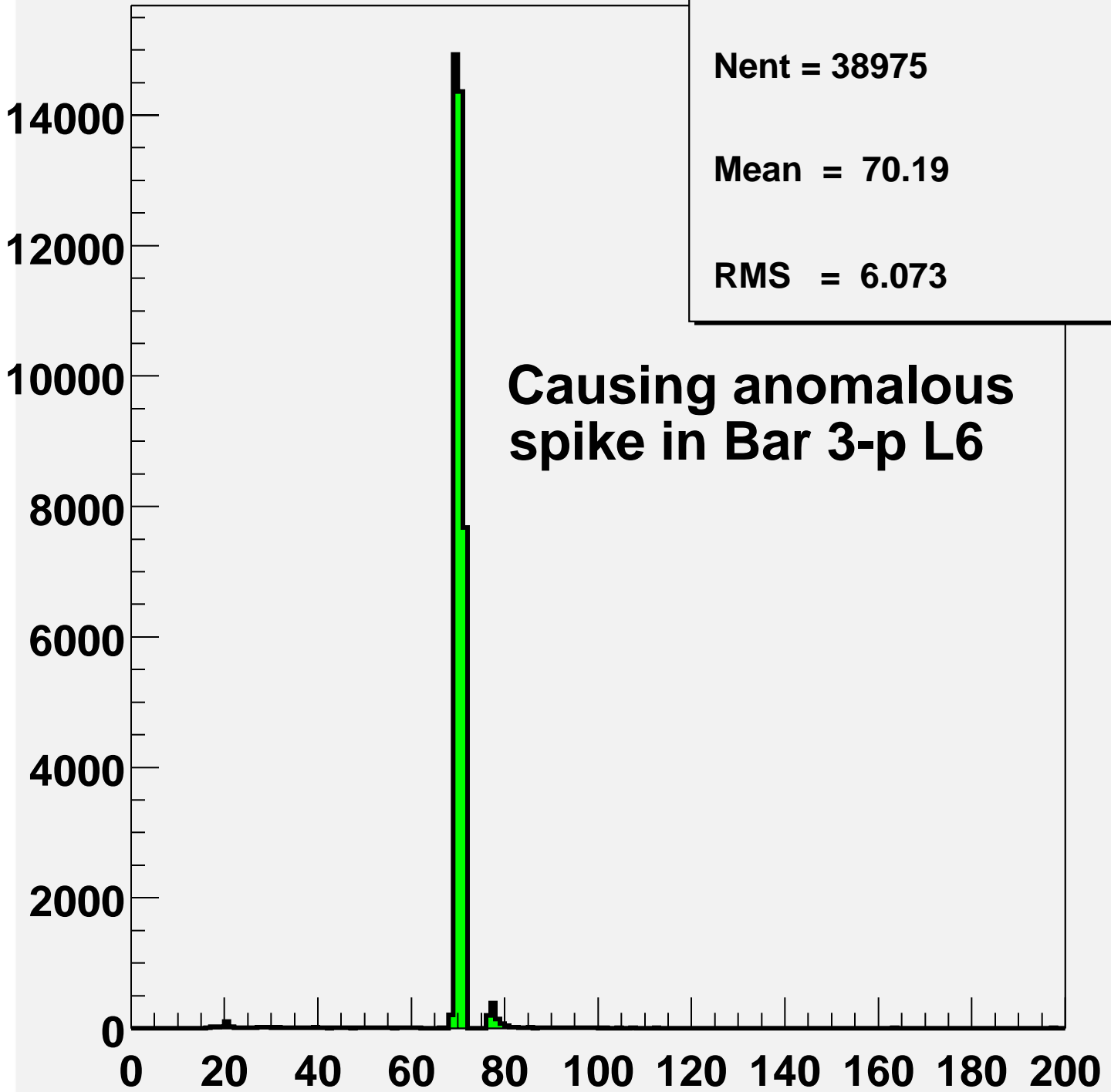
**Bar 3-5-10-p cluster charge**

**Bar 3-5-10-p cluster charge**

**Nent = 38975**

**Mean = 70.19**

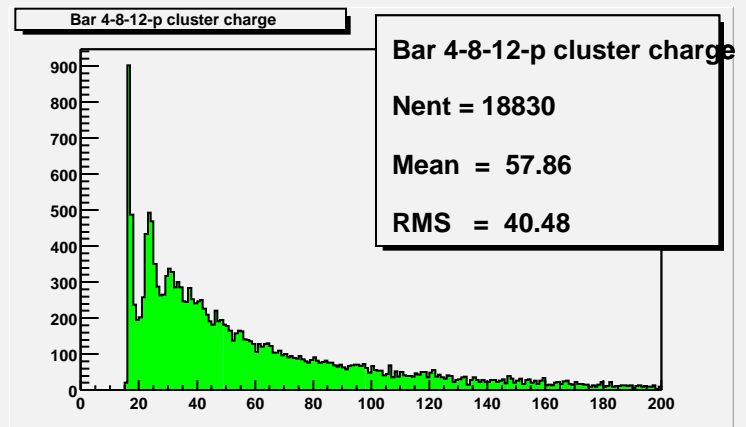
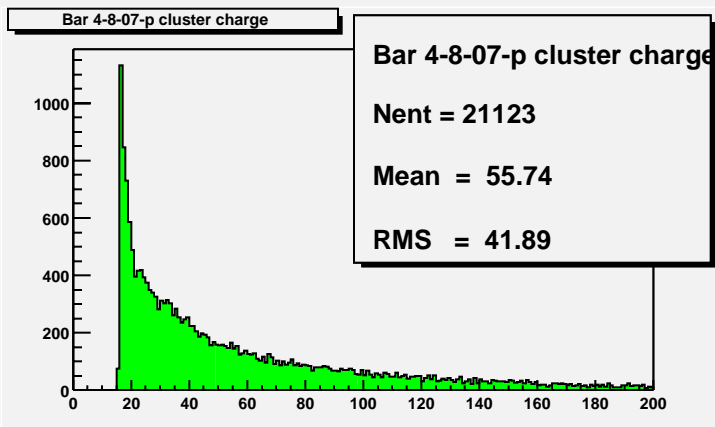
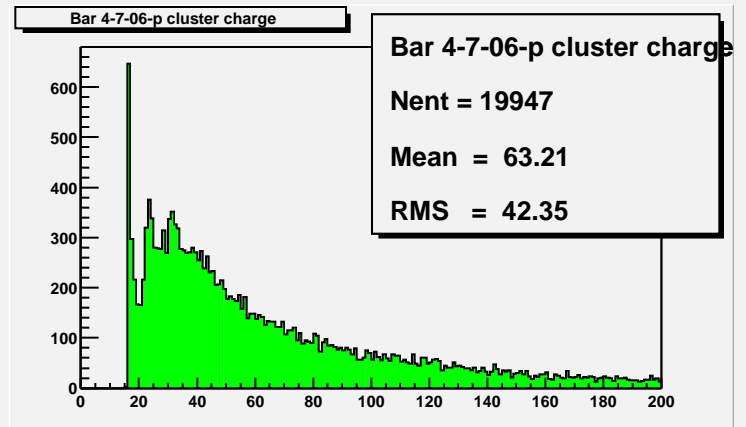
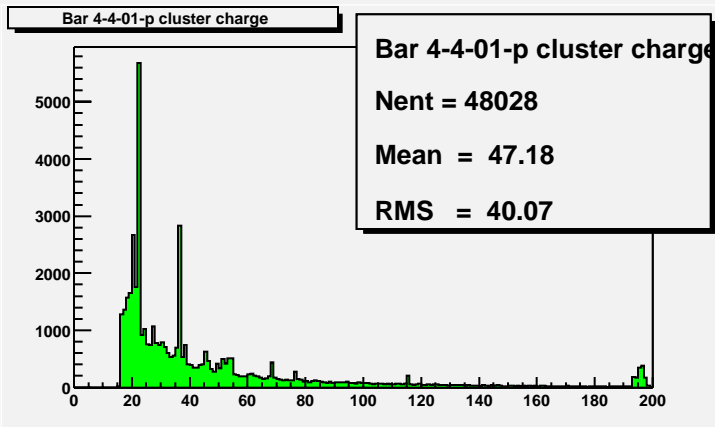
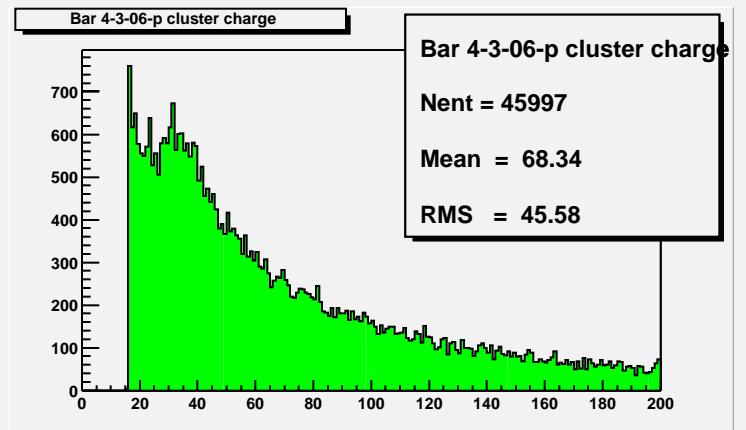
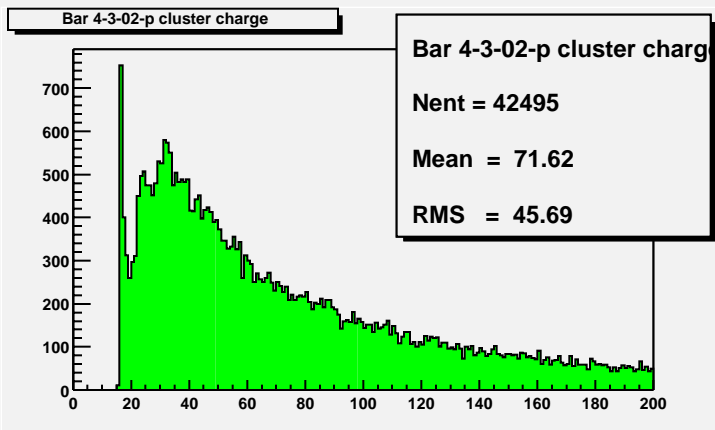
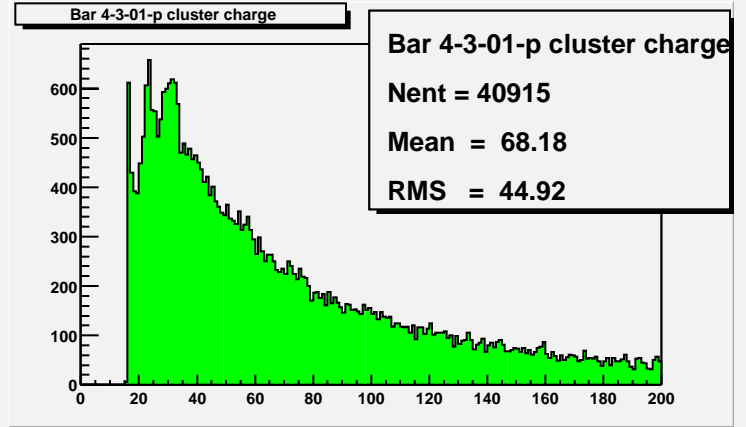
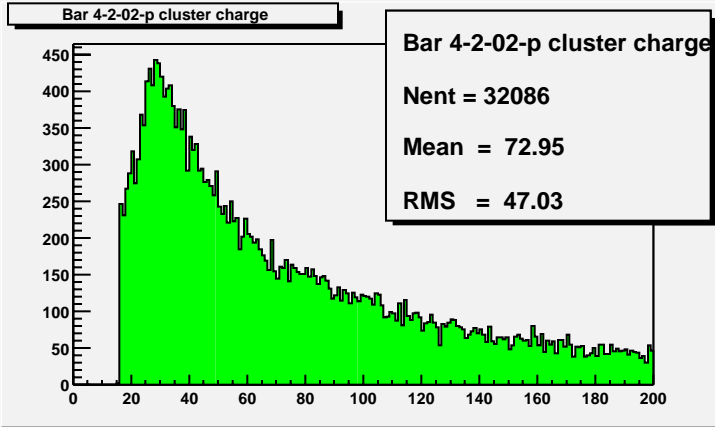
**RMS = 6.073**



**Causing anomalous  
spike in Bar 3-p L6**



Causing spikes in 4-p L9. Many such device contribute to the overall cluster distribution. Below are some typical ones.



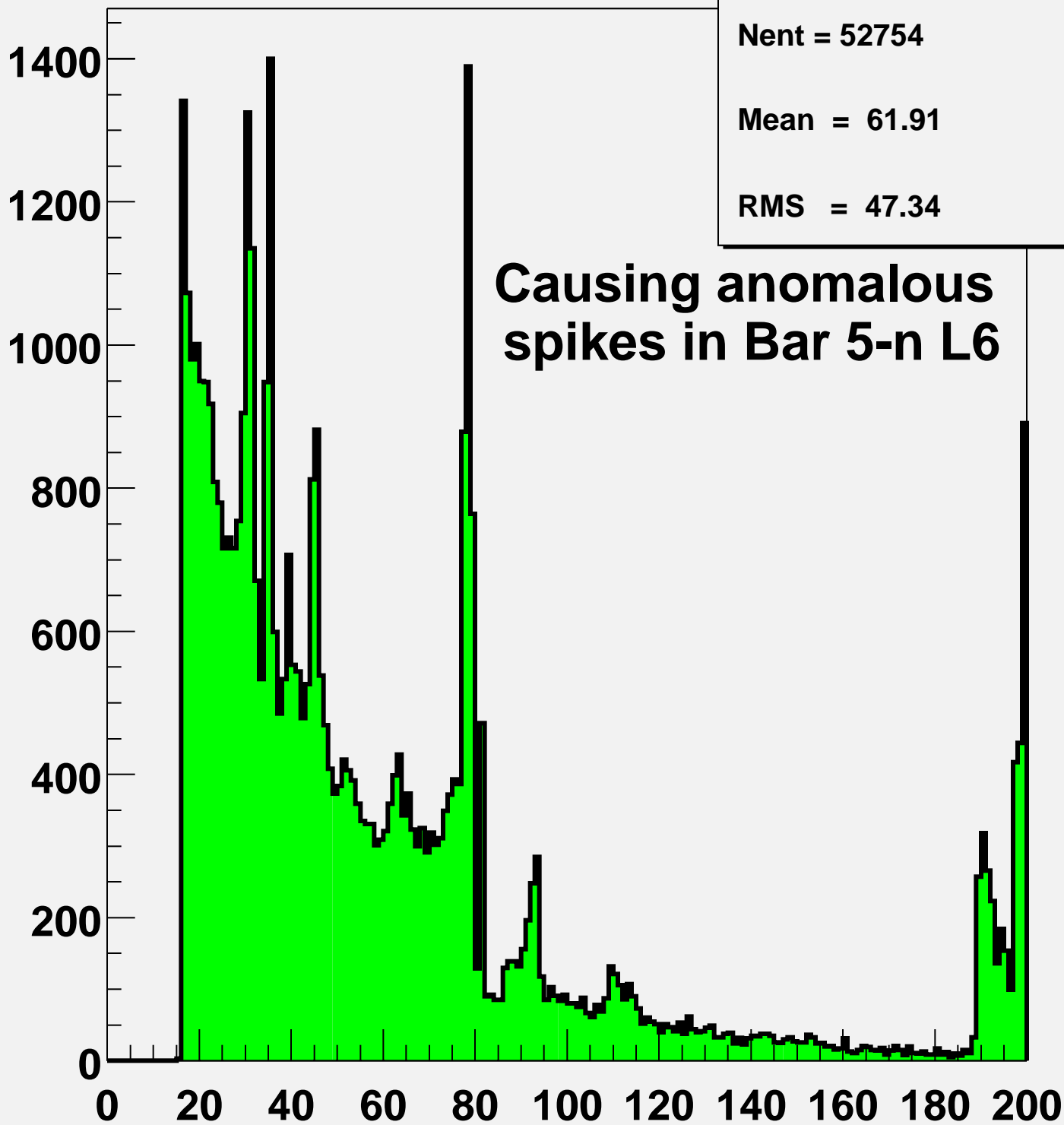
# Bar 5-1-03-n cluster charge

Bar 5-1-03-n cluster charge

Nent = 52754

Mean = 61.91

RMS = 47.34



Causing anomalous spikes in Bar 5-n L6

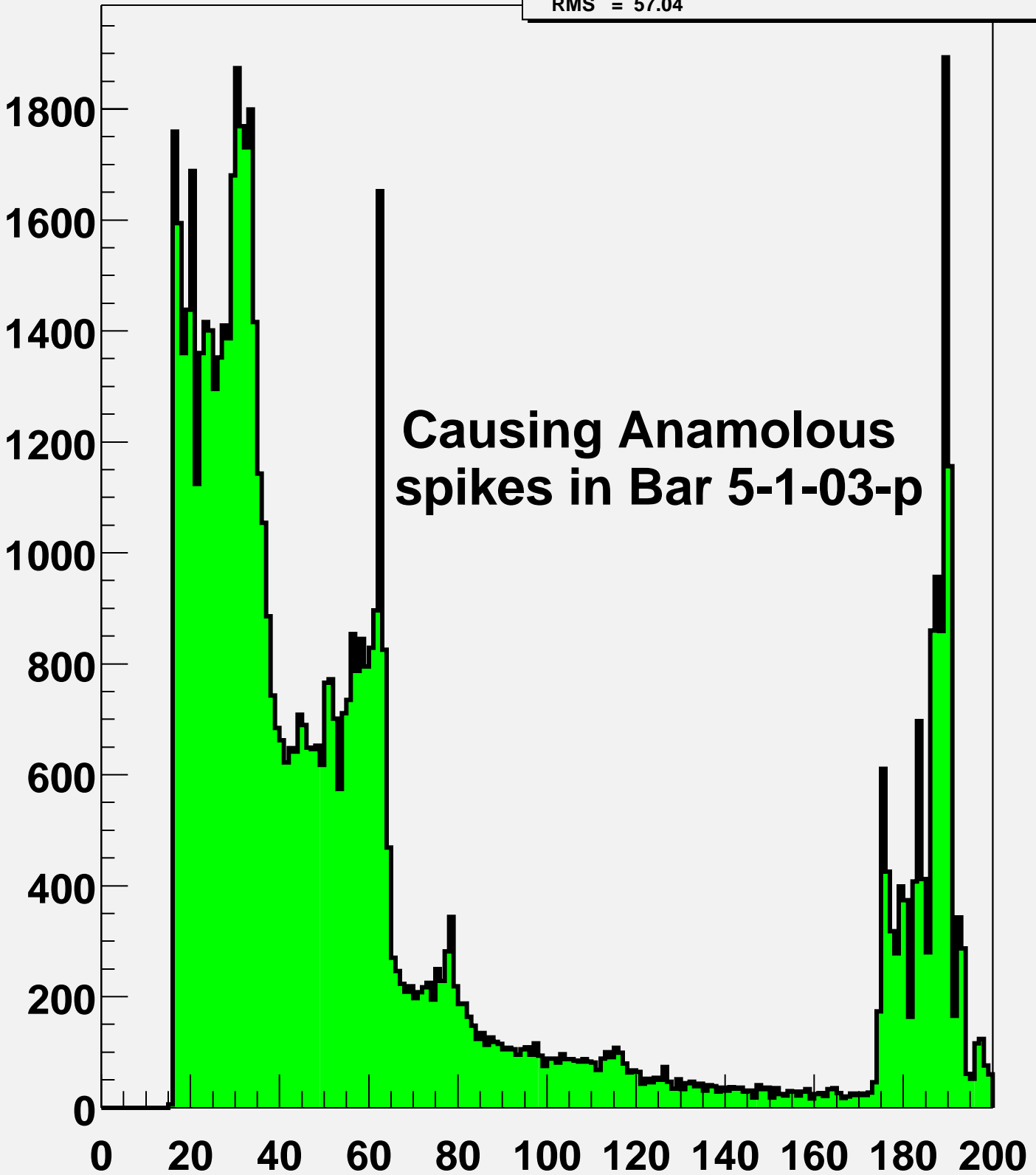
# Bar 5-1-03-p cluster charge

Bar 5-1-03-p cluster charge

Nent = 77940

Mean = 68.08

RMS = 57.04



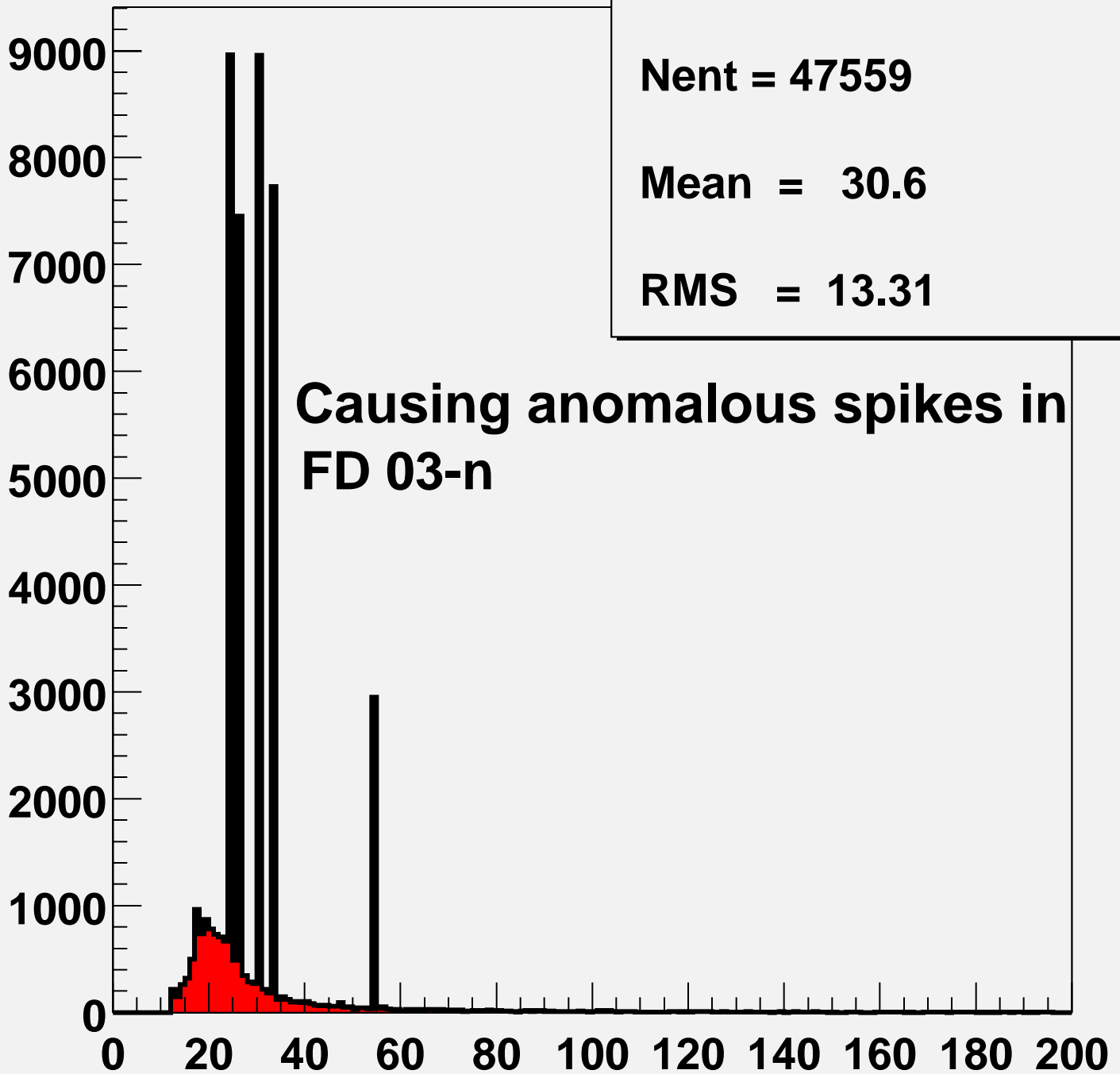
**FD 03-07-n cluster charge**

**FD 03-07-n cluster charge**

**Nent = 47559**

**Mean = 30.6**

**RMS = 13.31**



**FD 05-07-n cluster charge**

**FD 05-07-n cluster charge**

**Nent = 118765**

**Mean = 54.32**

**RMS = 31.79**

**Causing anomalous peak  
in FD 05-n**

