# Update of the temperature correction

ECAL Lab Meeting
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# Data set

Same as in the 03.04 ECAL Lab Meeting “Update of the temperature correction” presentation:

- Measurement point: position(x,y) = (0 mm,0 mm)
- Initial setup before modifications of the tile holders
- Date: 08.02.2015; 15.02.2015;  19.02.2015

# Update on data selection

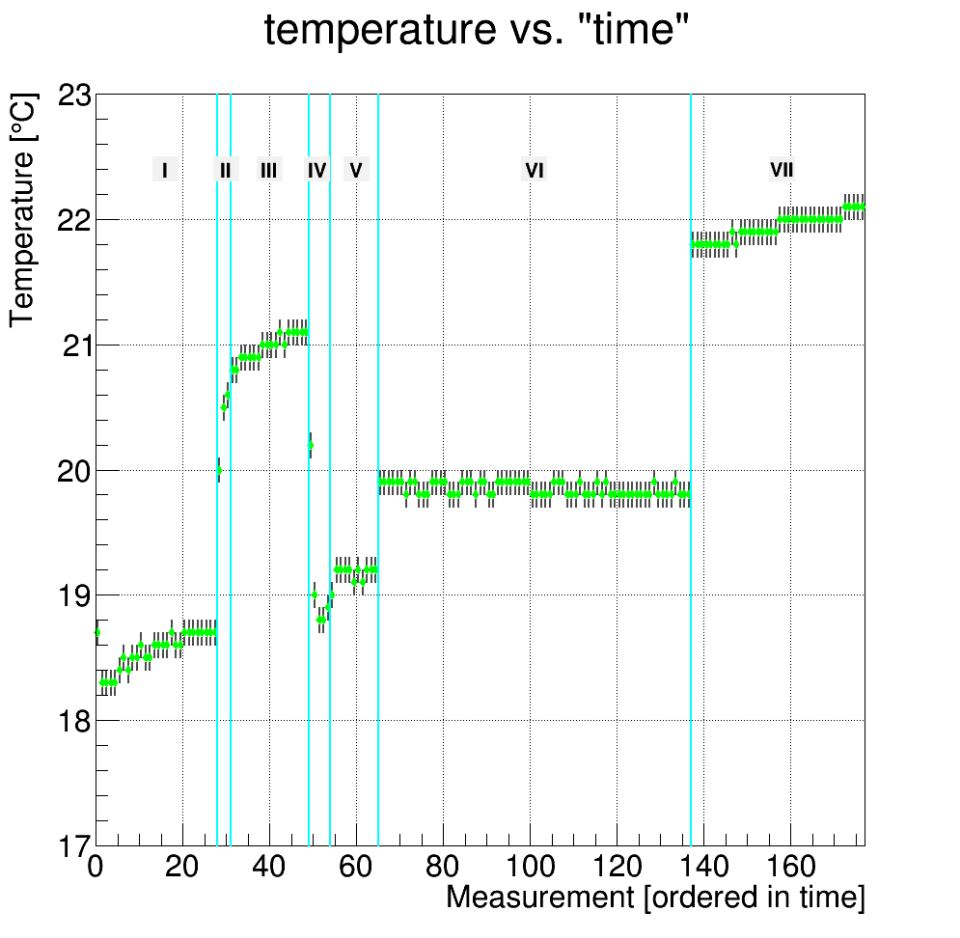
The measurement was rejected if:

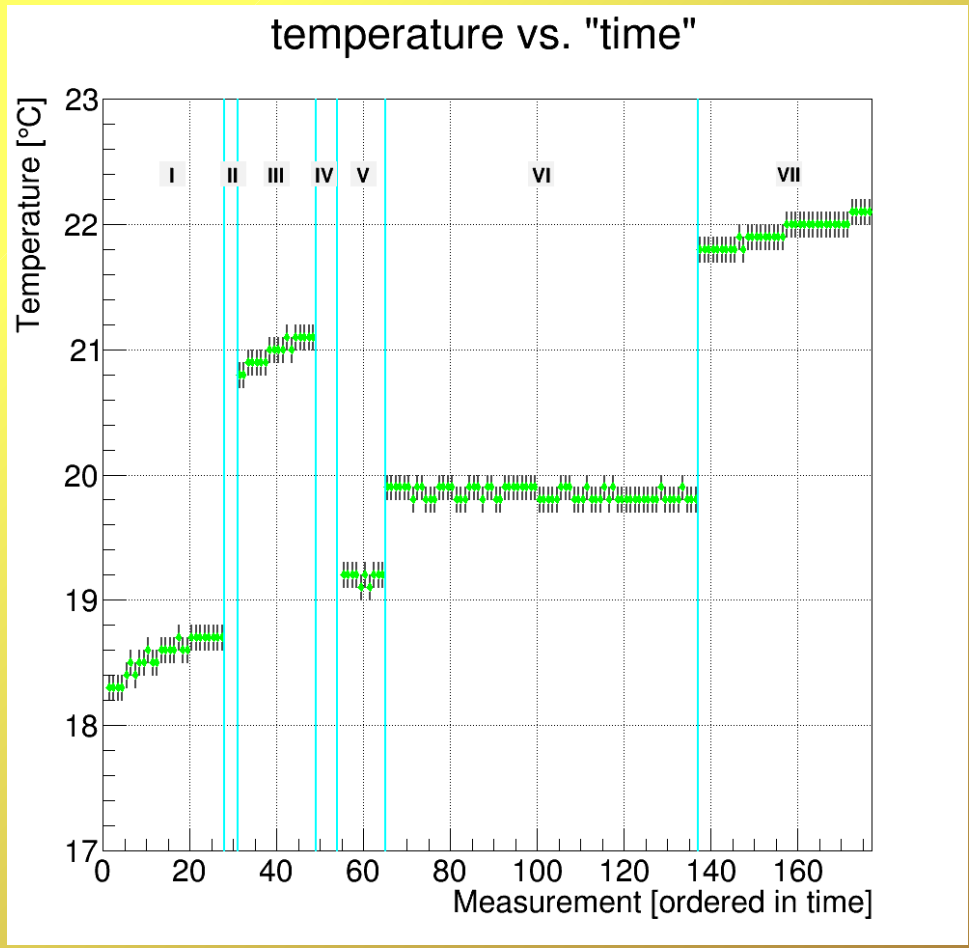
- High temperature gradient within a measurement
- Low number of triggers
- The begin of the VII. Run

Single events were rejected if:

- the pedestal contains a charge value comparable to signal

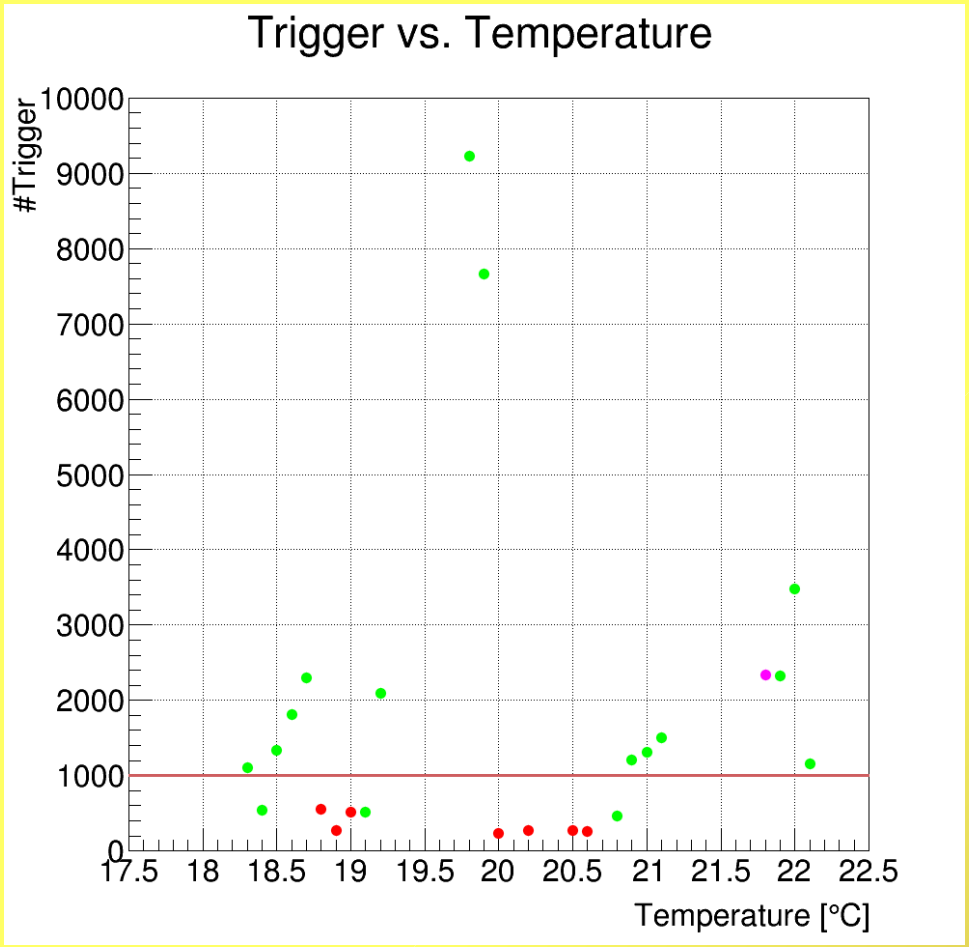
# High temperature gradient within a measurement

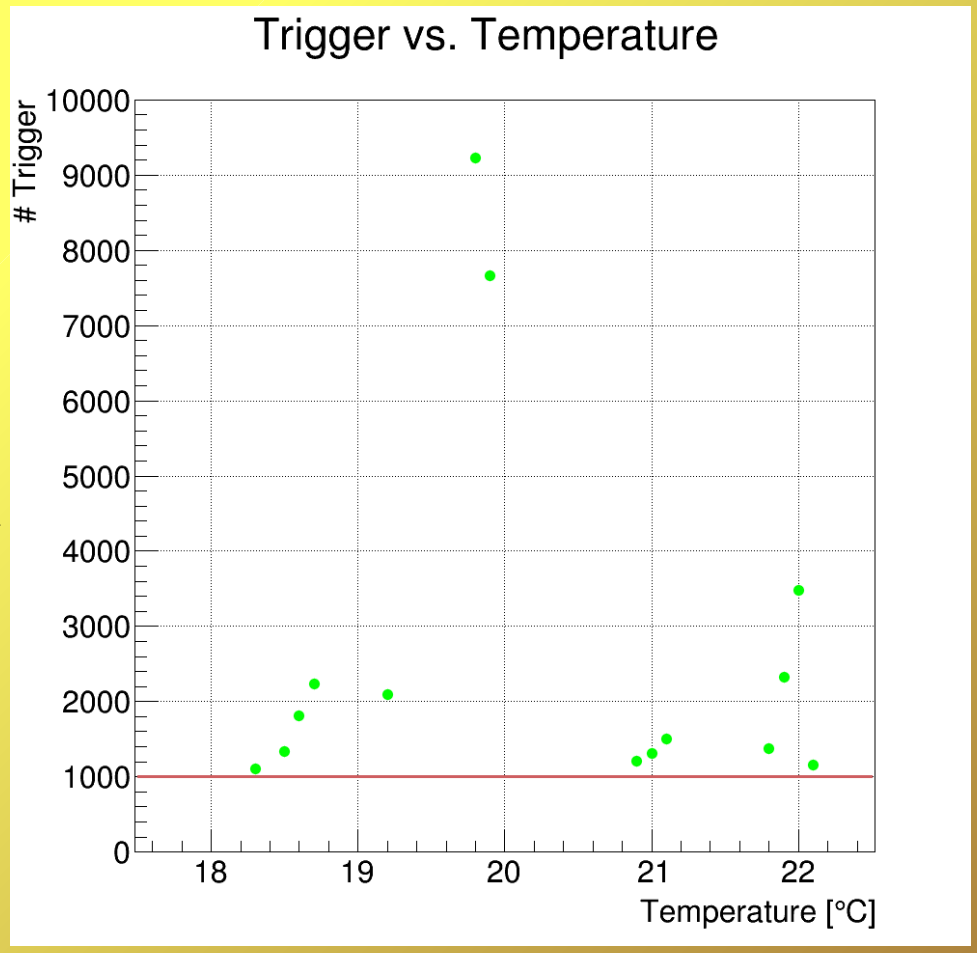



II run, IV run and the first file of the I run are removed

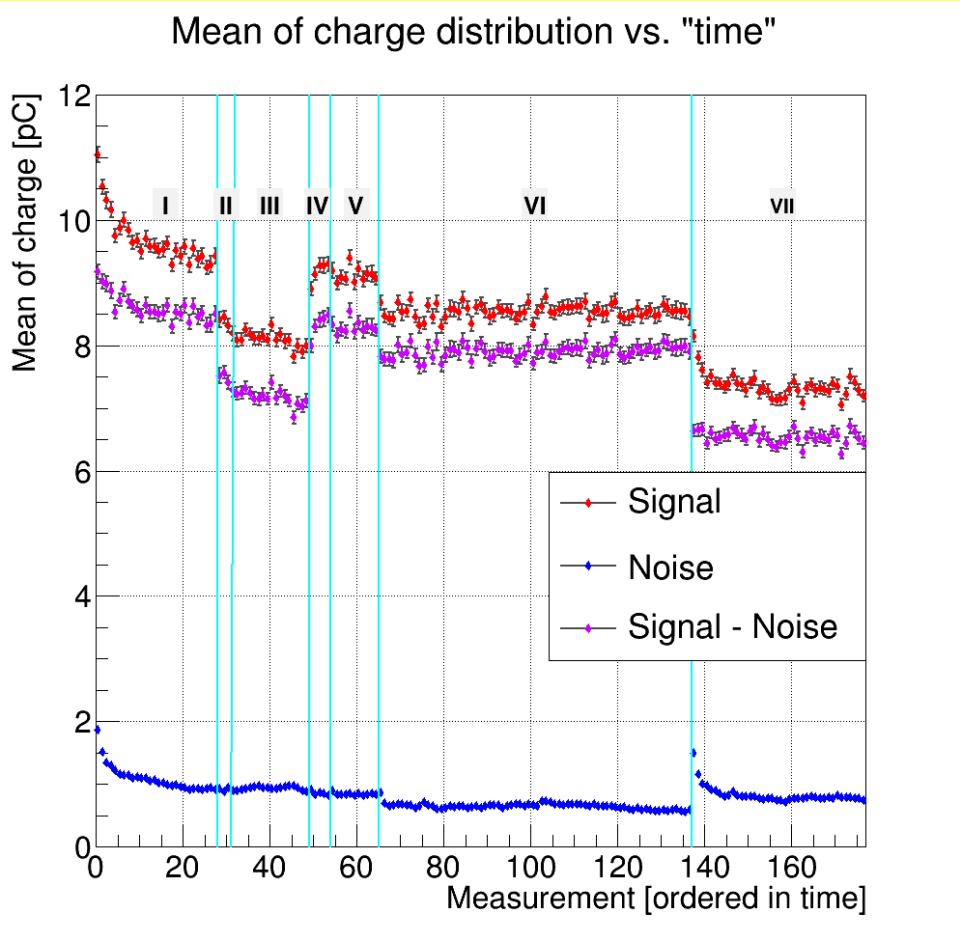
# Low number of triggers

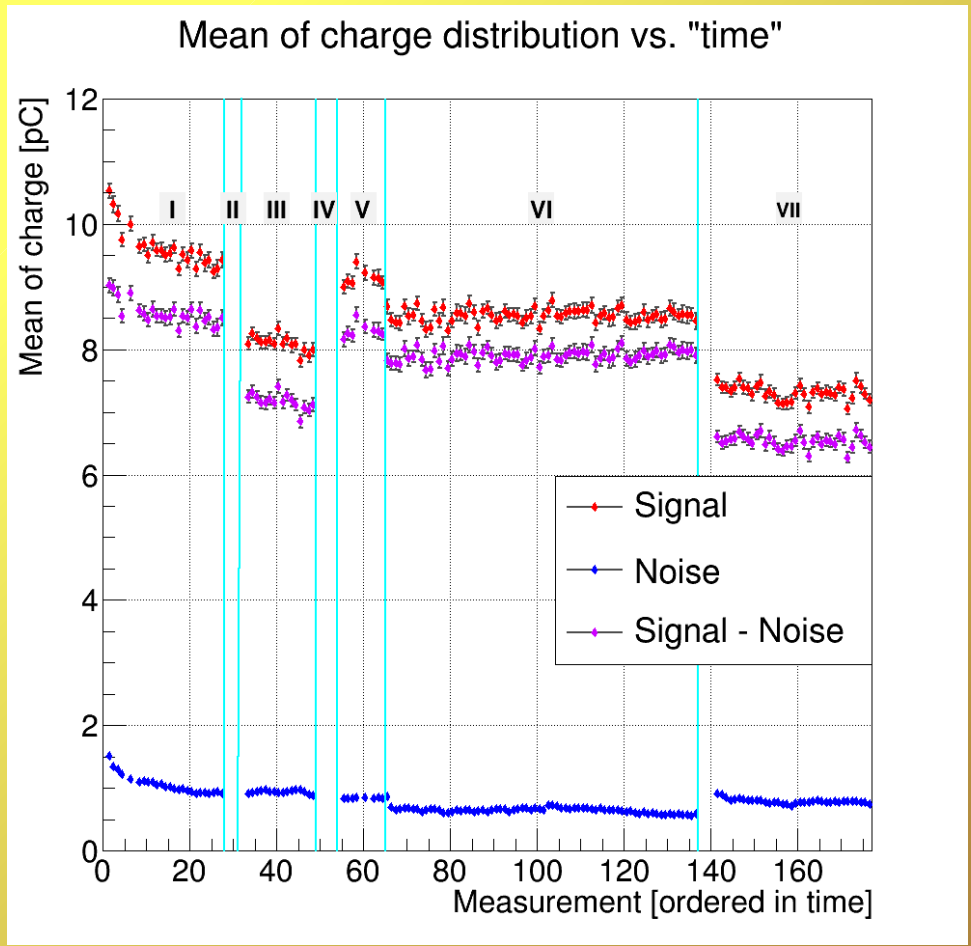



7/10 points are already rejected because of the temperature gradient
In the right figure all types of the modifications are applied

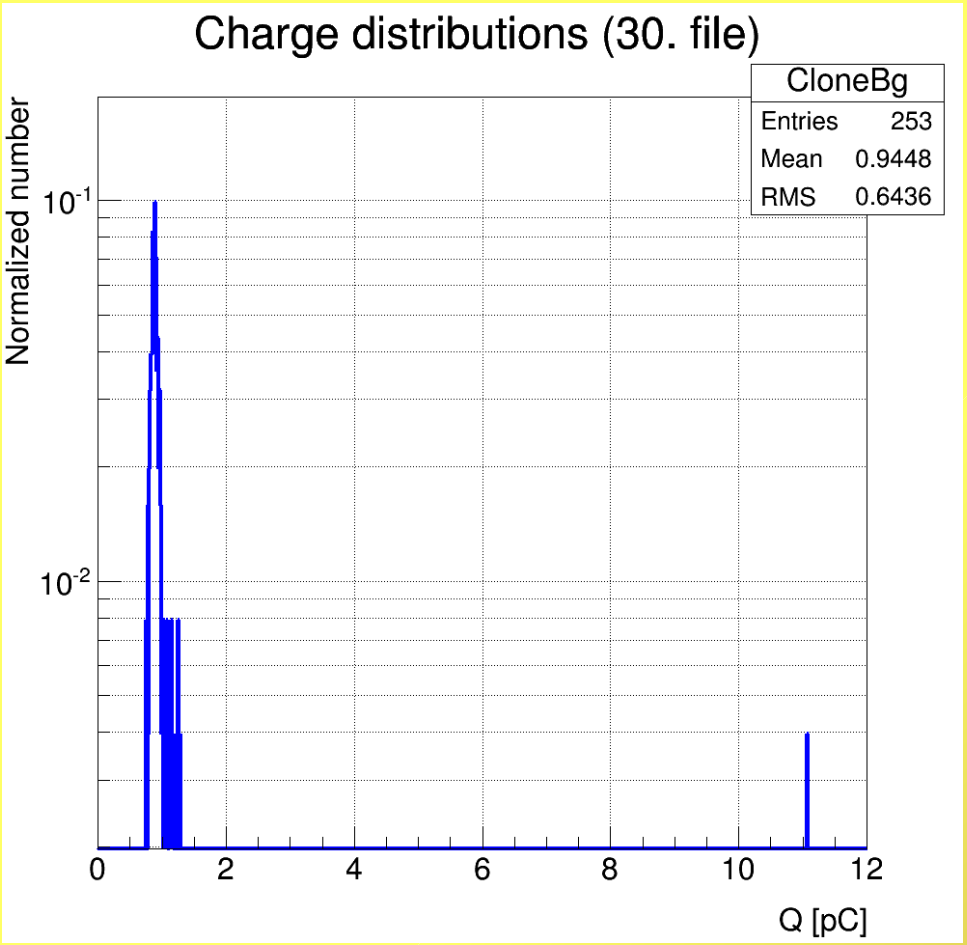
# The begin of the VII. run

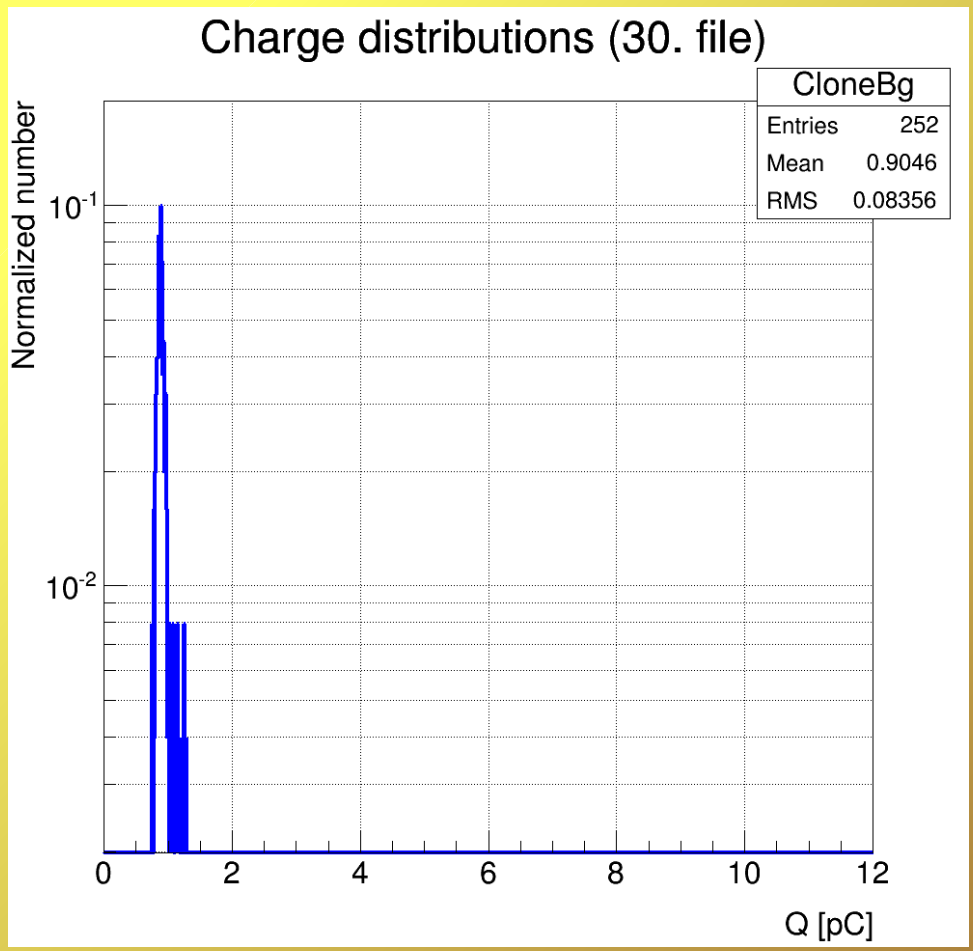



In the right figure all type of the modifications are applied

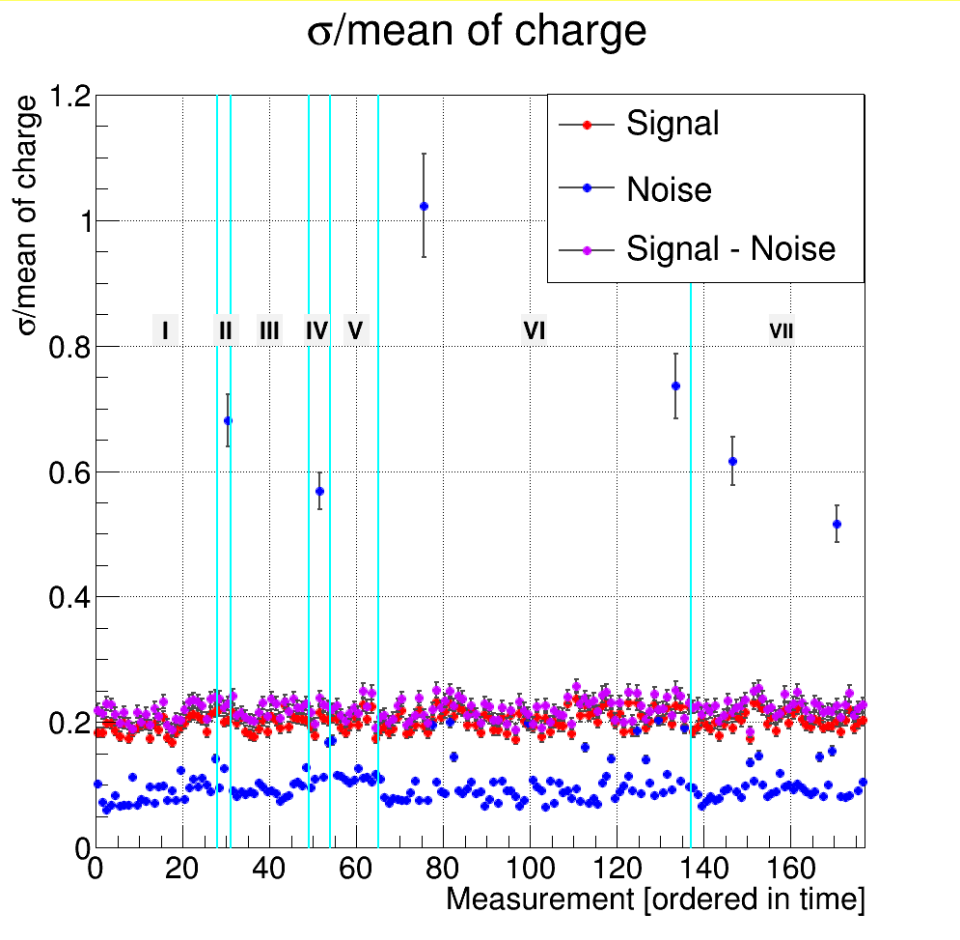
# Events with signal in pedestal time window

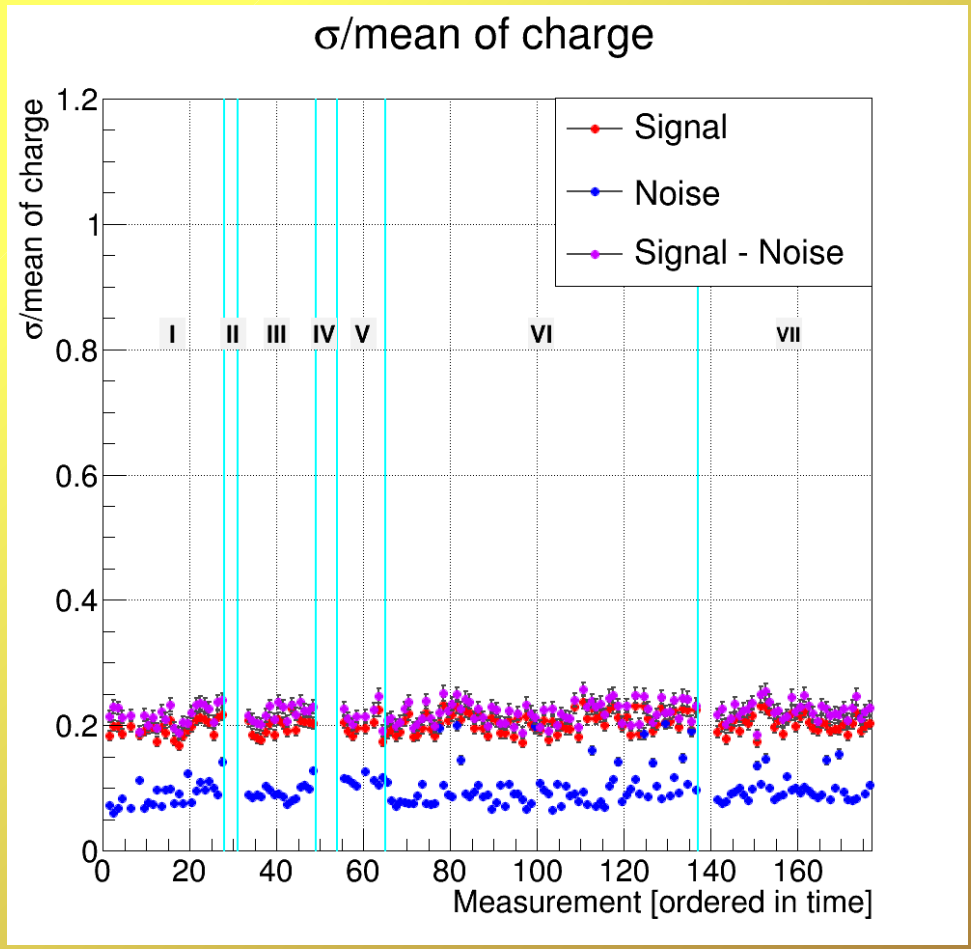



Remove events in which the measured charge of the pedestal is compatible with the signal charge far above the normal pedestal value

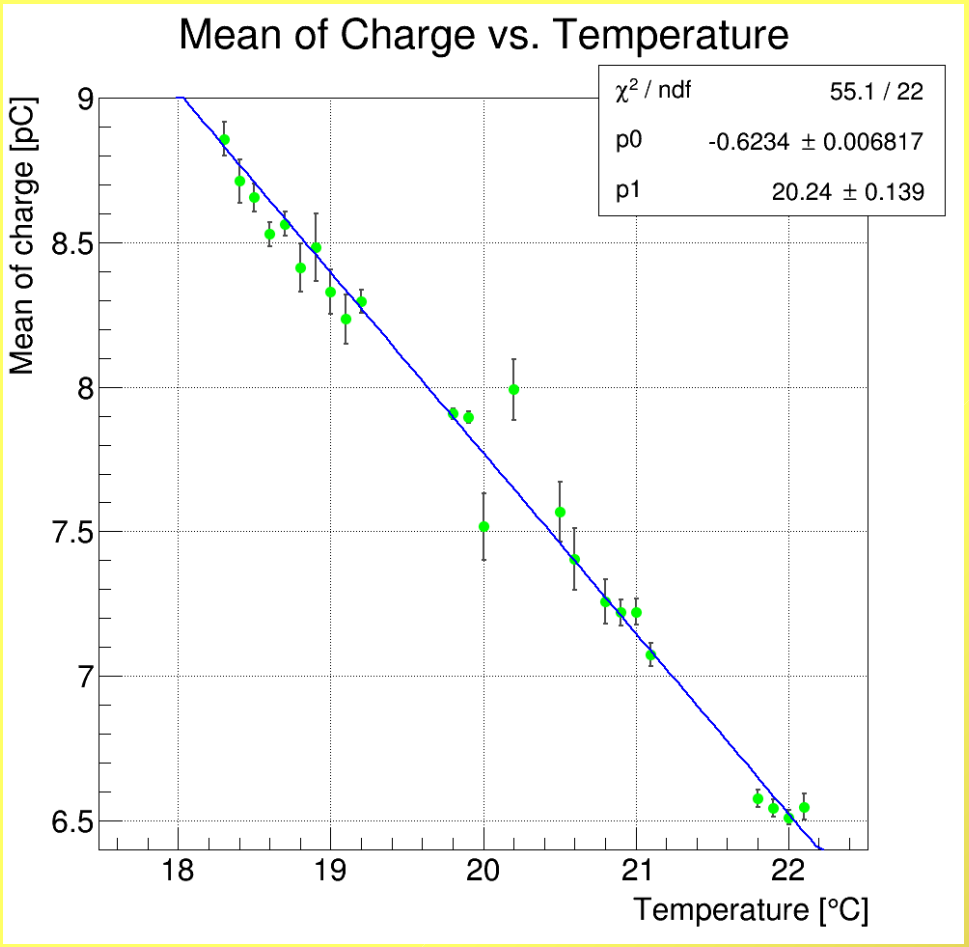
# Events with signal in pedestal time window

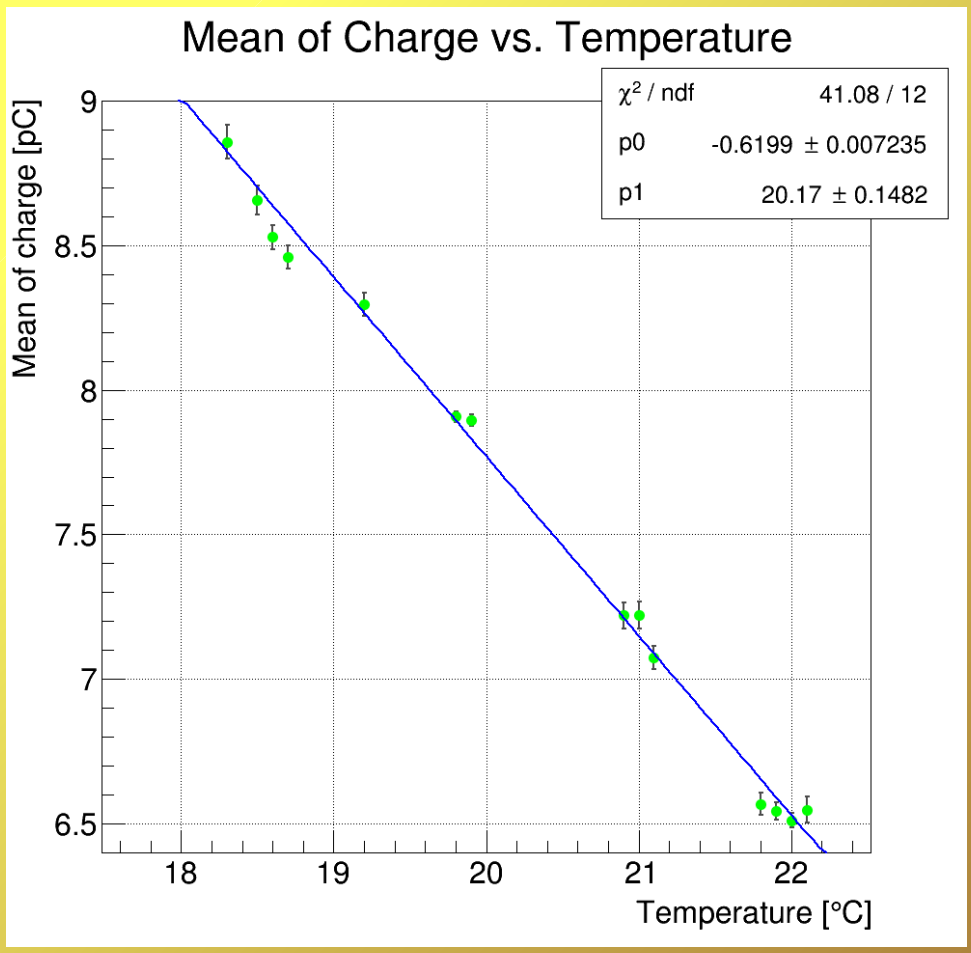



In the right figure all type of the modifications are applied

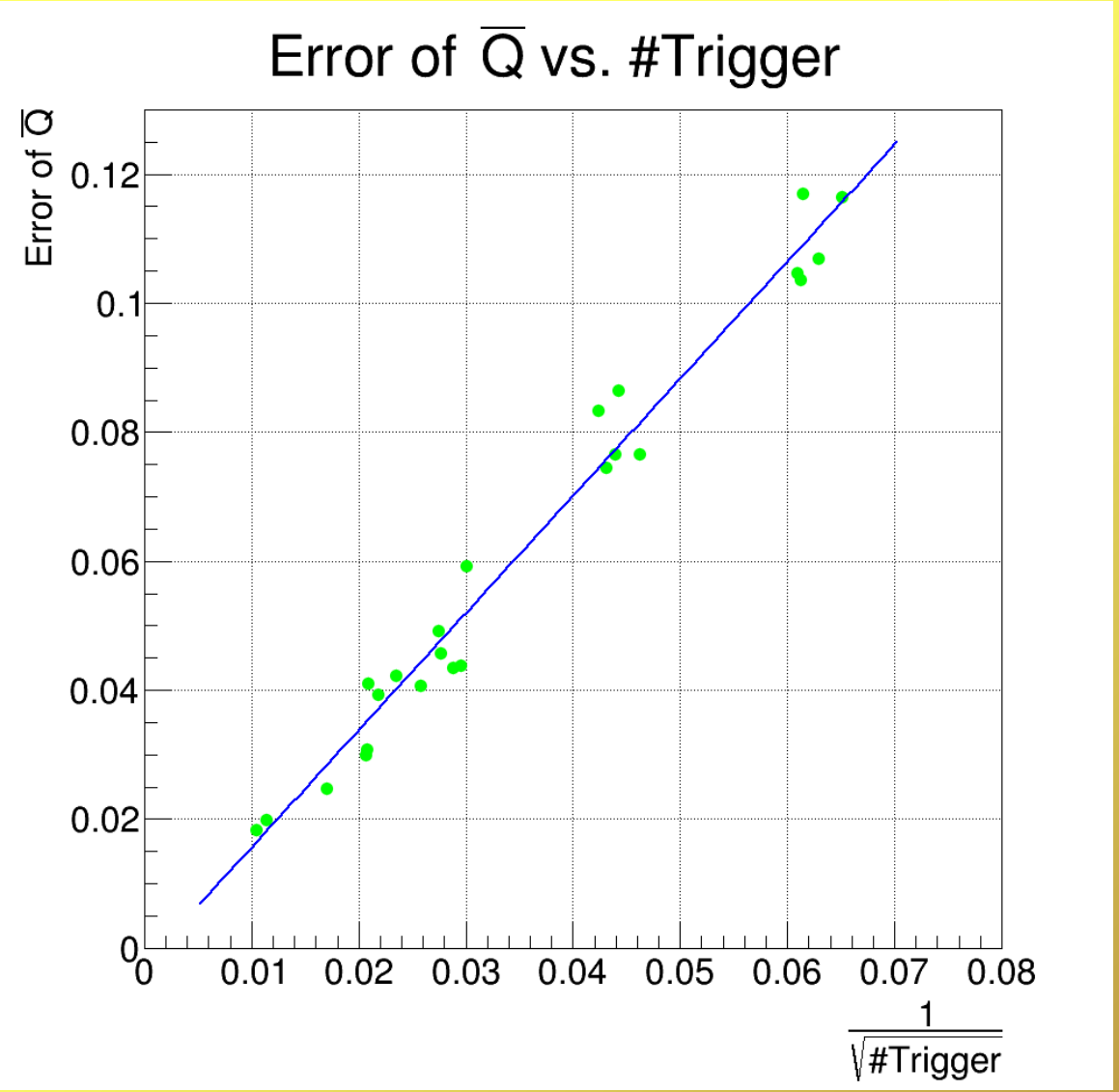
# Mean of charge vs temperature dependence




- Fit Q vs T dependence with linear fit function: Q = p0 * T + p1
- After modifications the fit results are similar within the uncertainties
- The difference between the uncertainties is explainable by the number of triggers

# The relation between uncertainty of $\overline{Q}$ and the #Trigger




- The uncertainty of the $\overline{Q}$ is proportional to $1/(\#Trigger)^{1/2}$

# Thank you for your attention!