

# GRAIN WG meeting

19/07/2024

Francesco Chiapponi

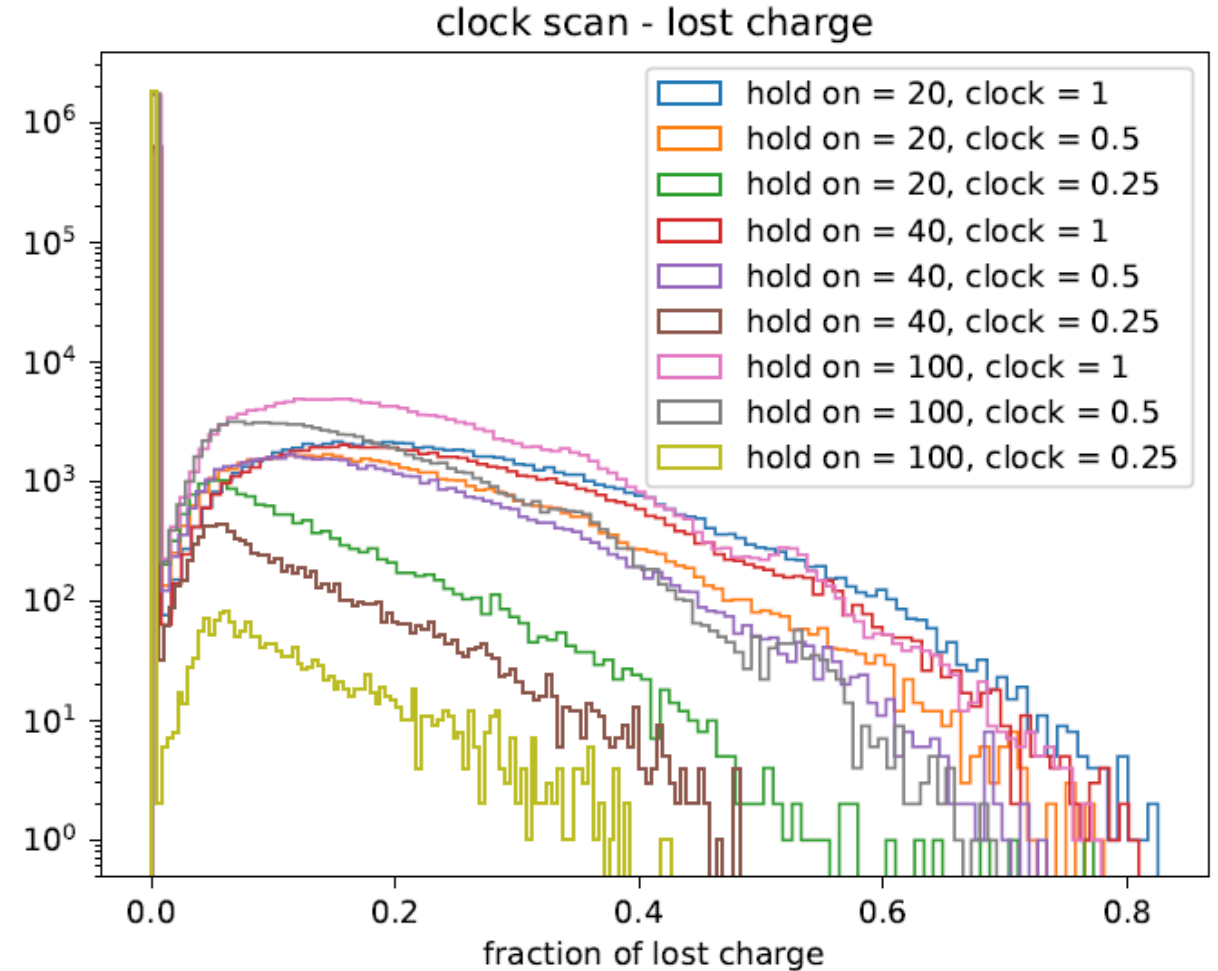
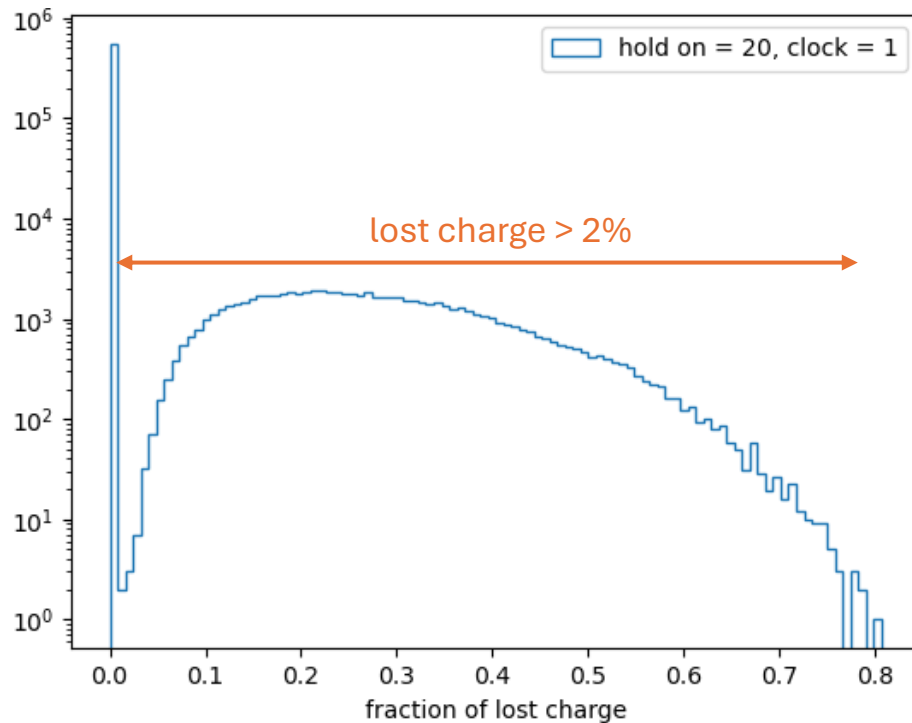
# Overview

- 120 spill
- SiPM 3x3
- Simulations for
  - clock frequencies x1, x2, x4
  - Rq 500, 1000, 1500, 2000
  - Hold on 20 , 40 (100)

# Lost fraction

Fraction of events in which the lost charge was > 2%

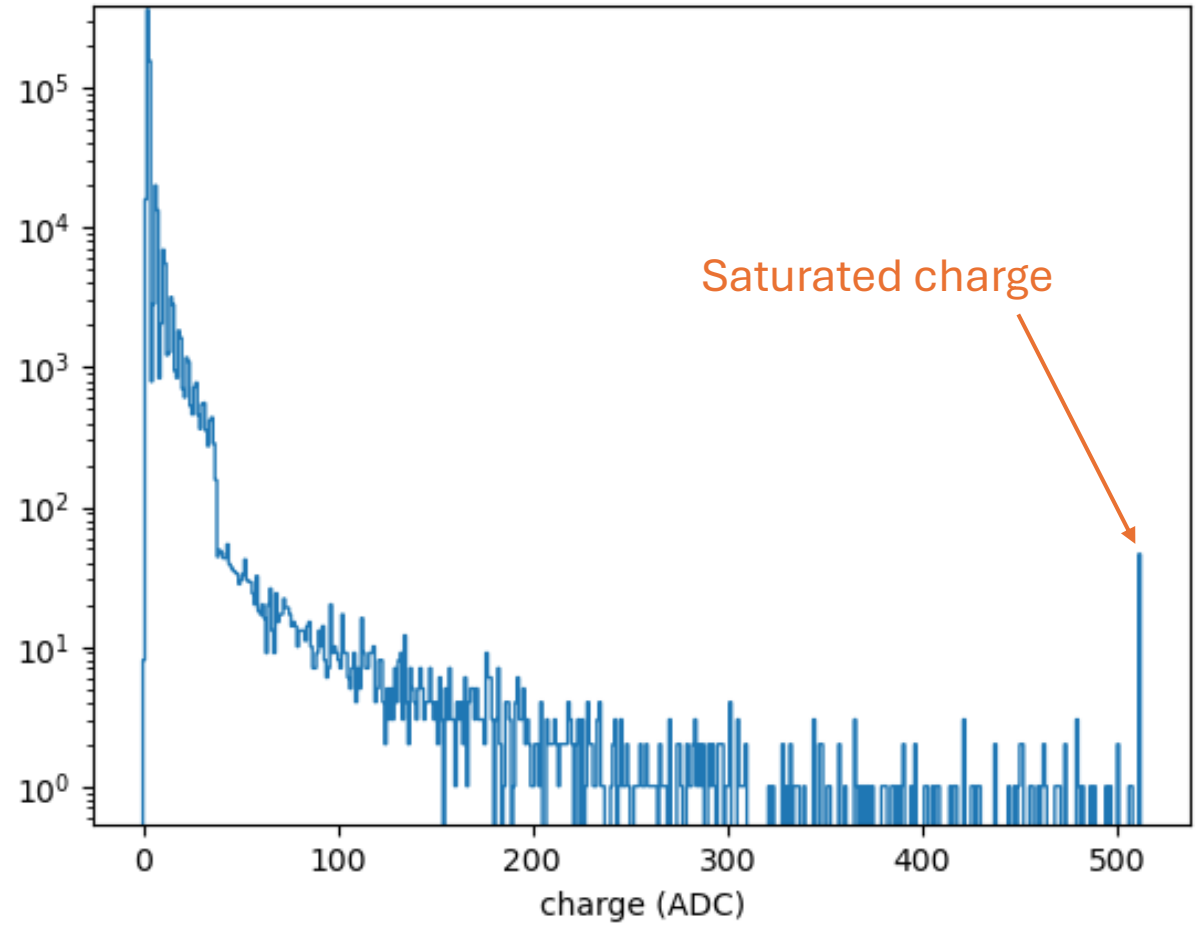
$$\text{Lost fraction} = \frac{\text{events with lost charge} > 2\%}{\text{total number of events}}$$



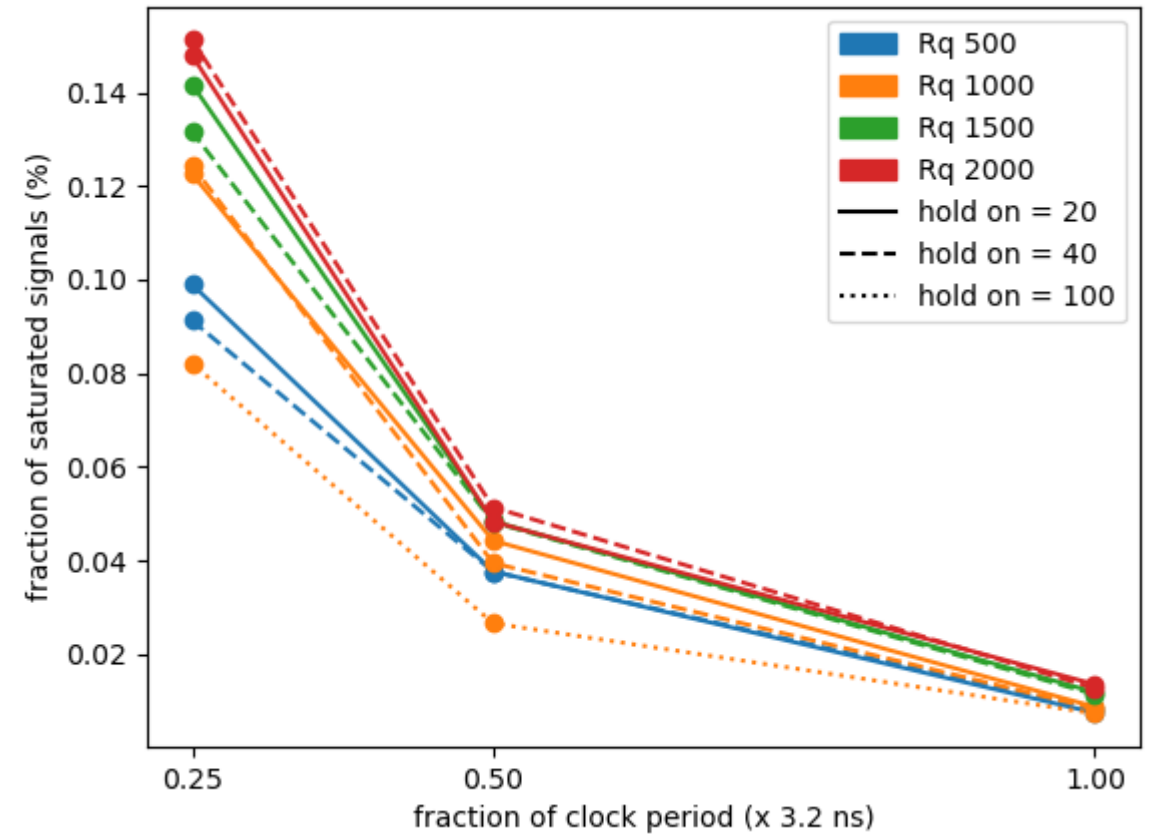
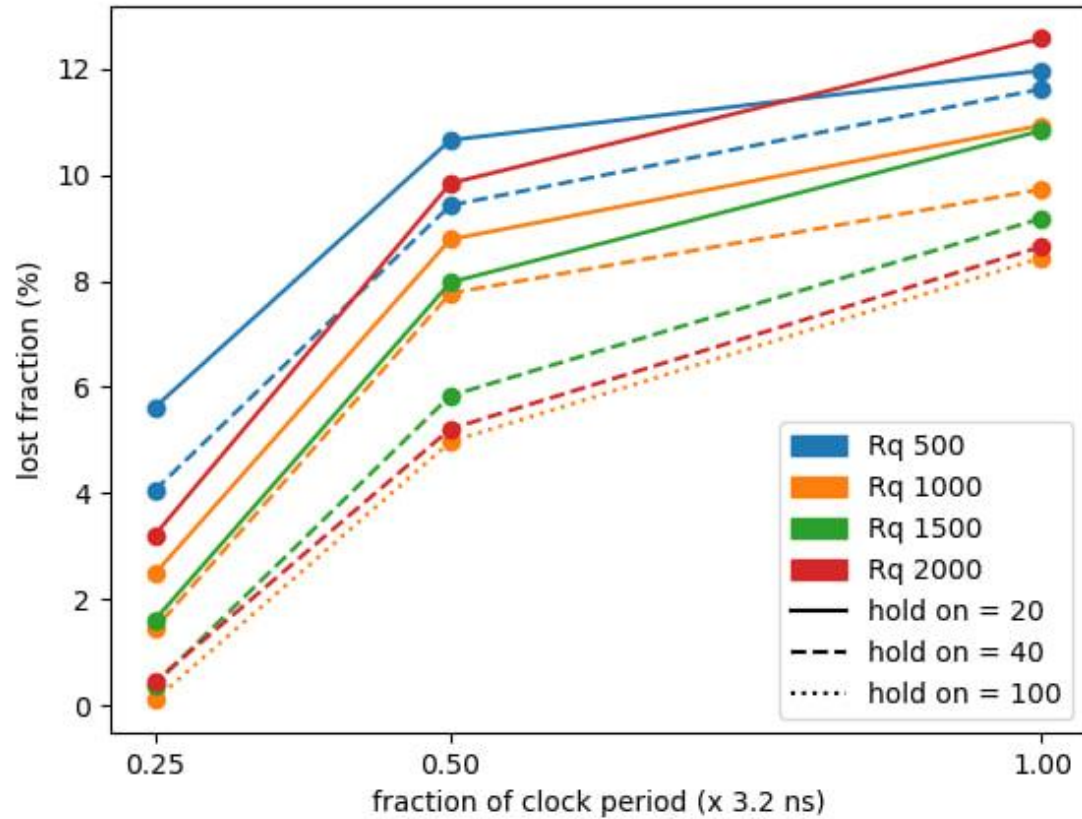
# Saturated fraction

Fraction of events in which the ADC saturated

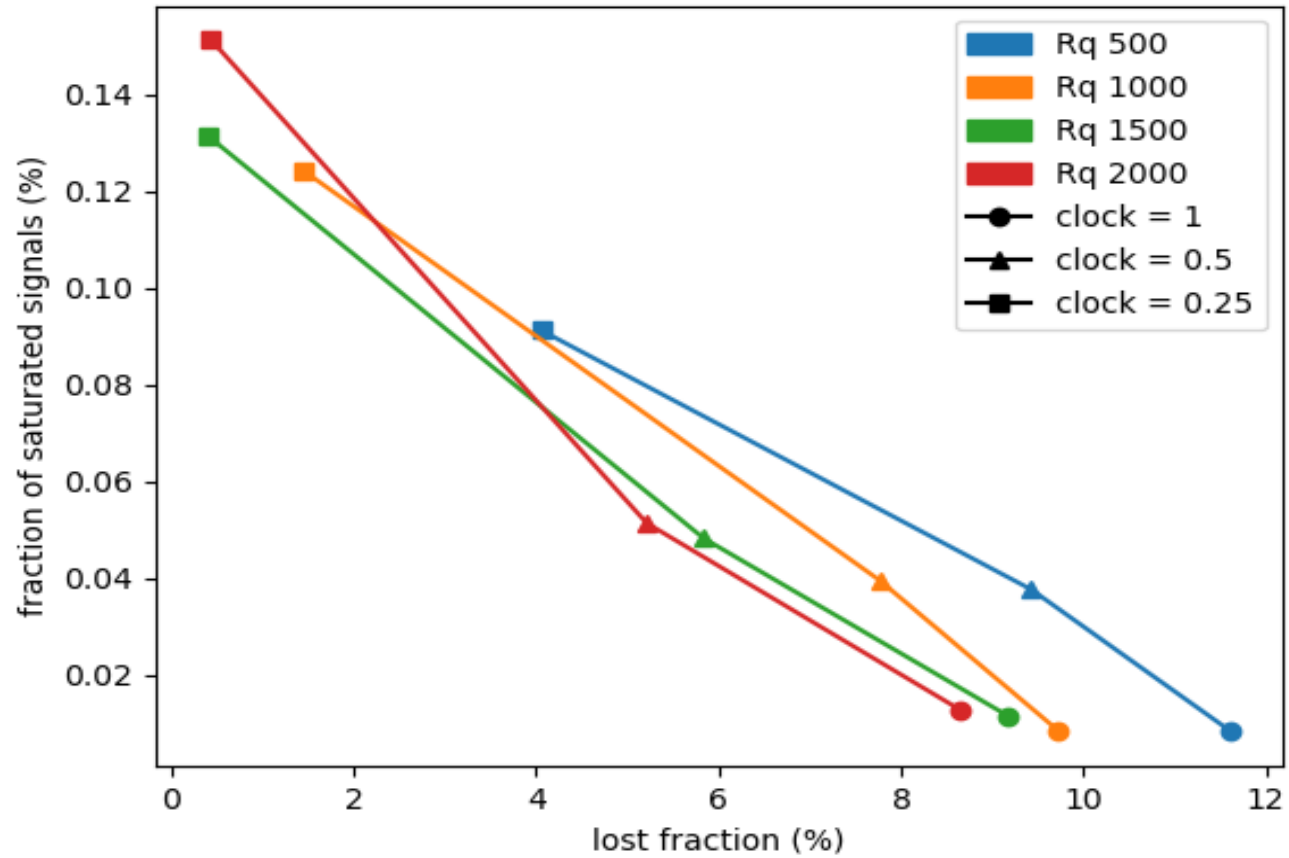
$$\frac{\text{Number of saturated events (ch==2^9)}}{\text{total number of events}}$$



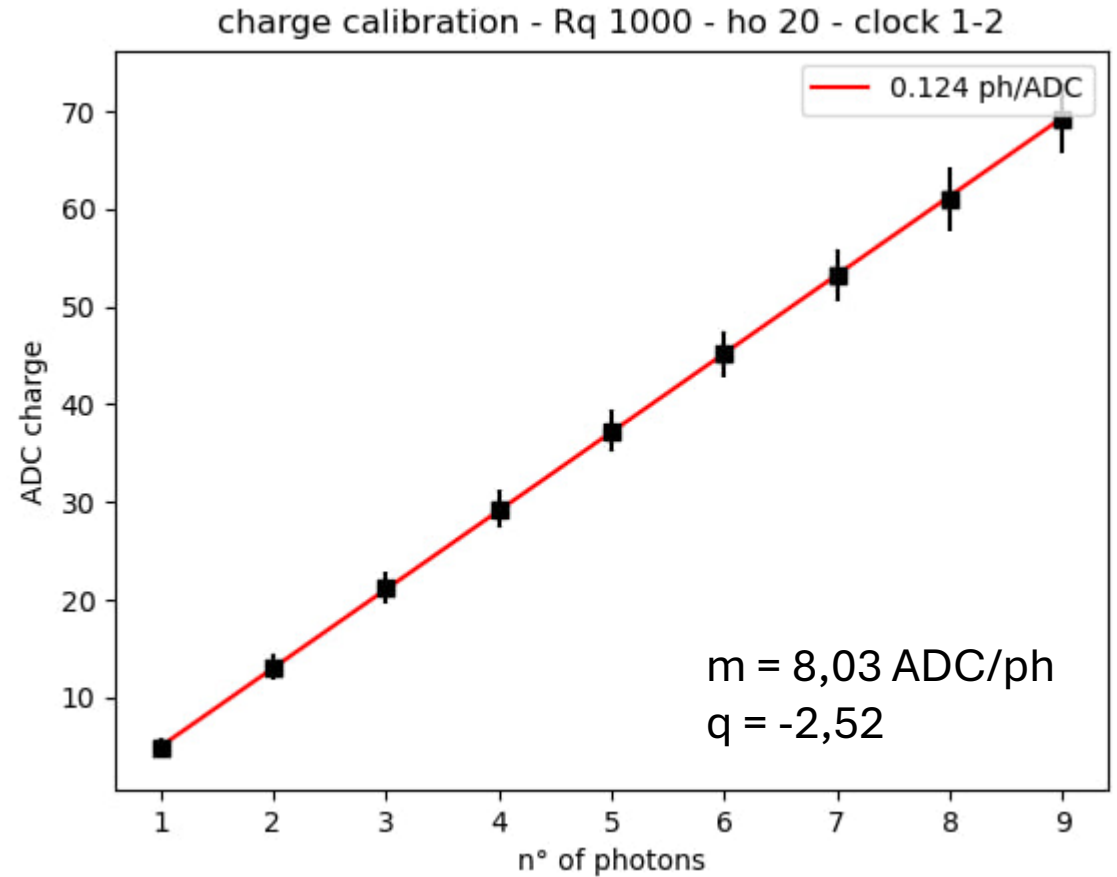
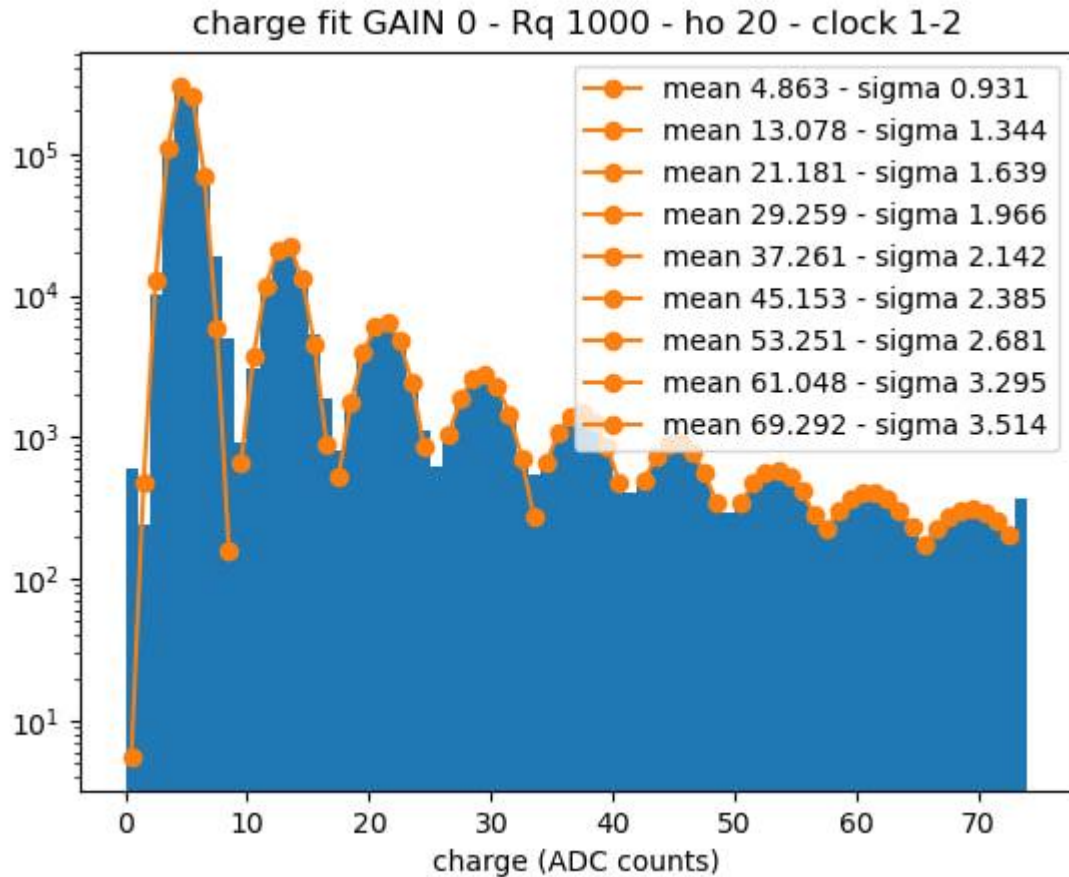
# Lost & Saturated fractions - overview



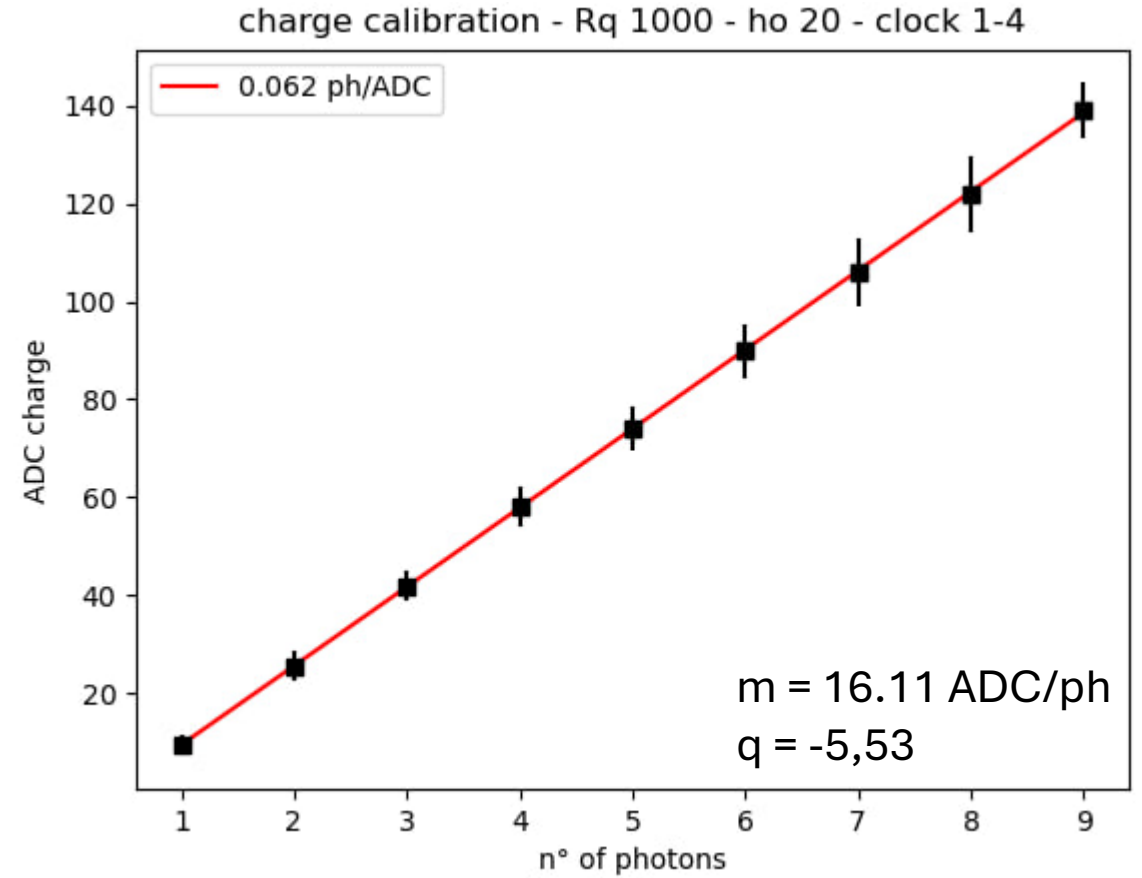
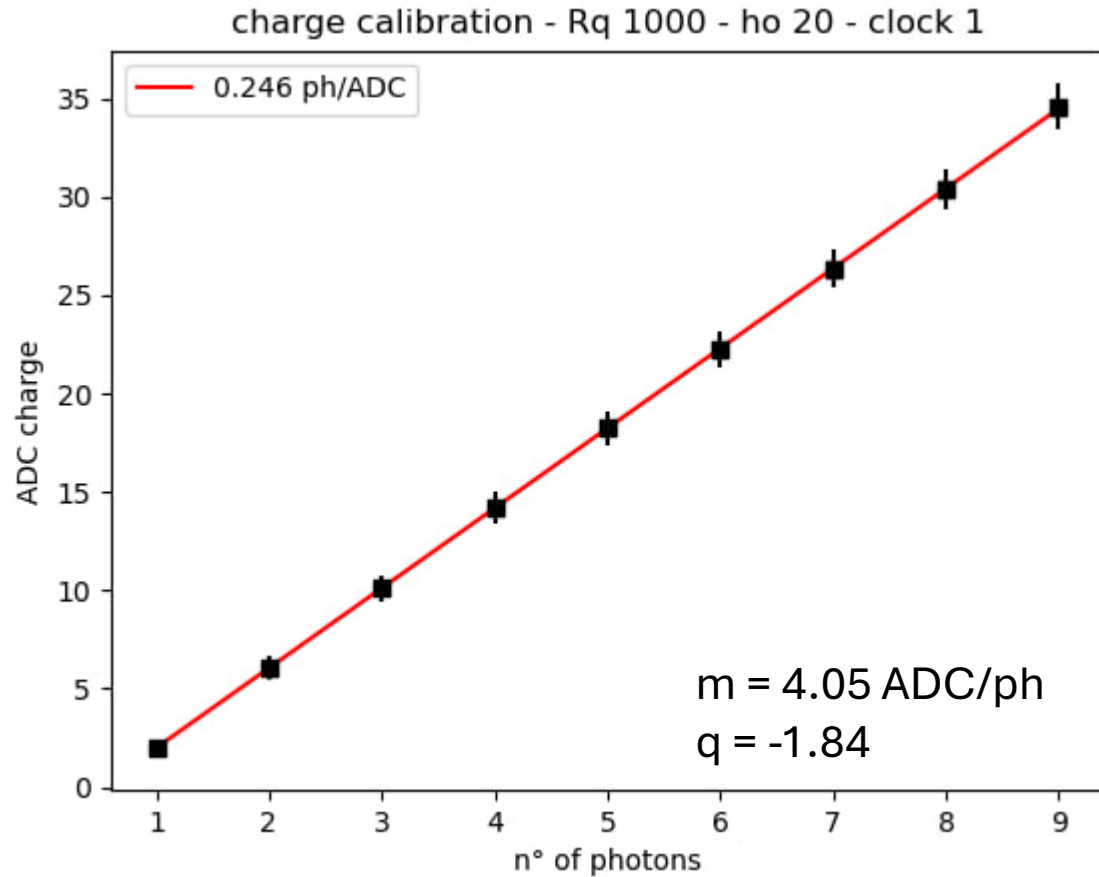
# Saturated vs Lost fractions



# Charge calibration – gain 0



# Charge calibration – gain 0

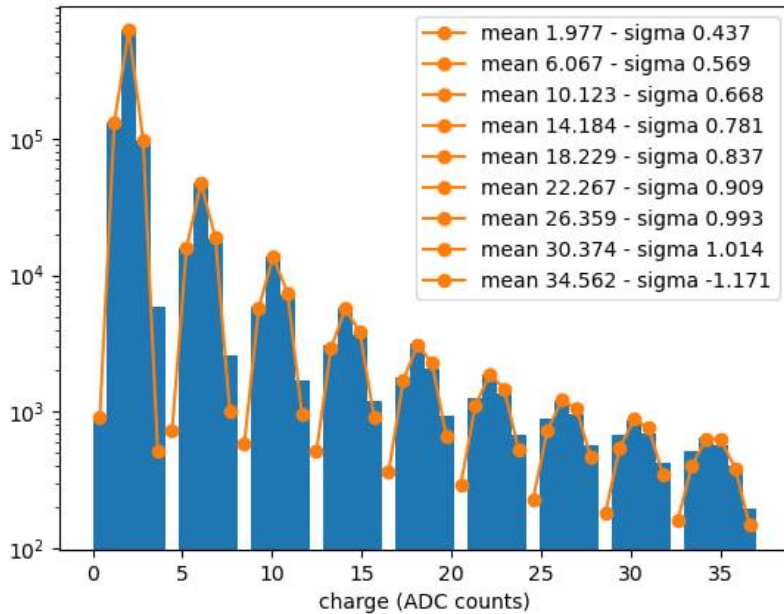




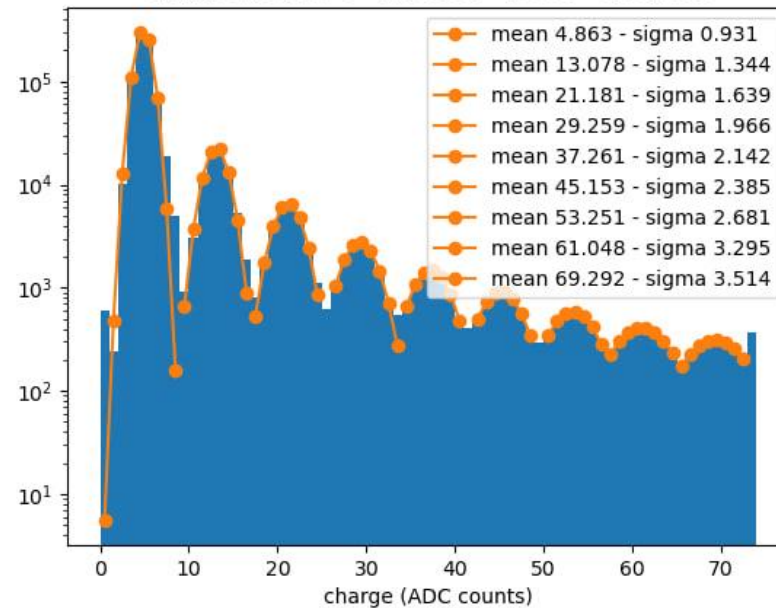
# Charge calibration – gain 0

ADC resolution changes with clock period

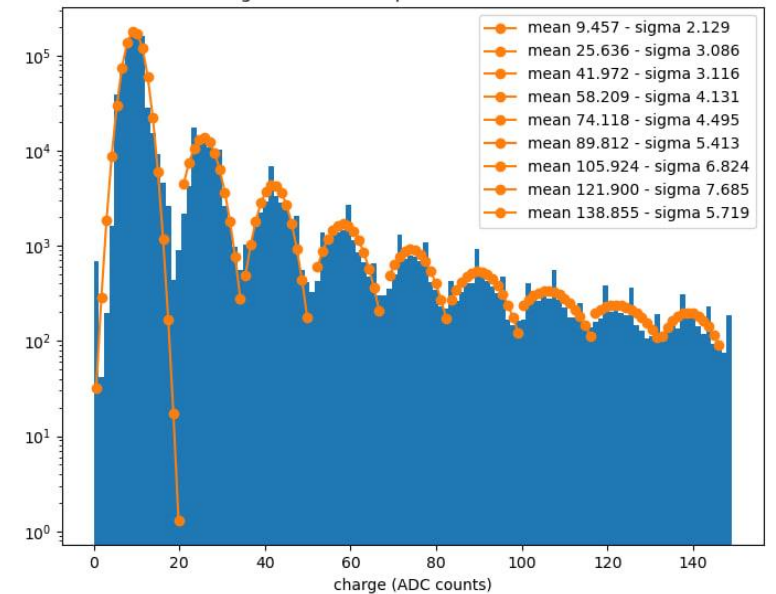
charge fit GAIN 0 - Rq 1000 - ho 20 - clock 1



charge fit GAIN 0 - Rq 1000 - ho 20 - clock 1-2

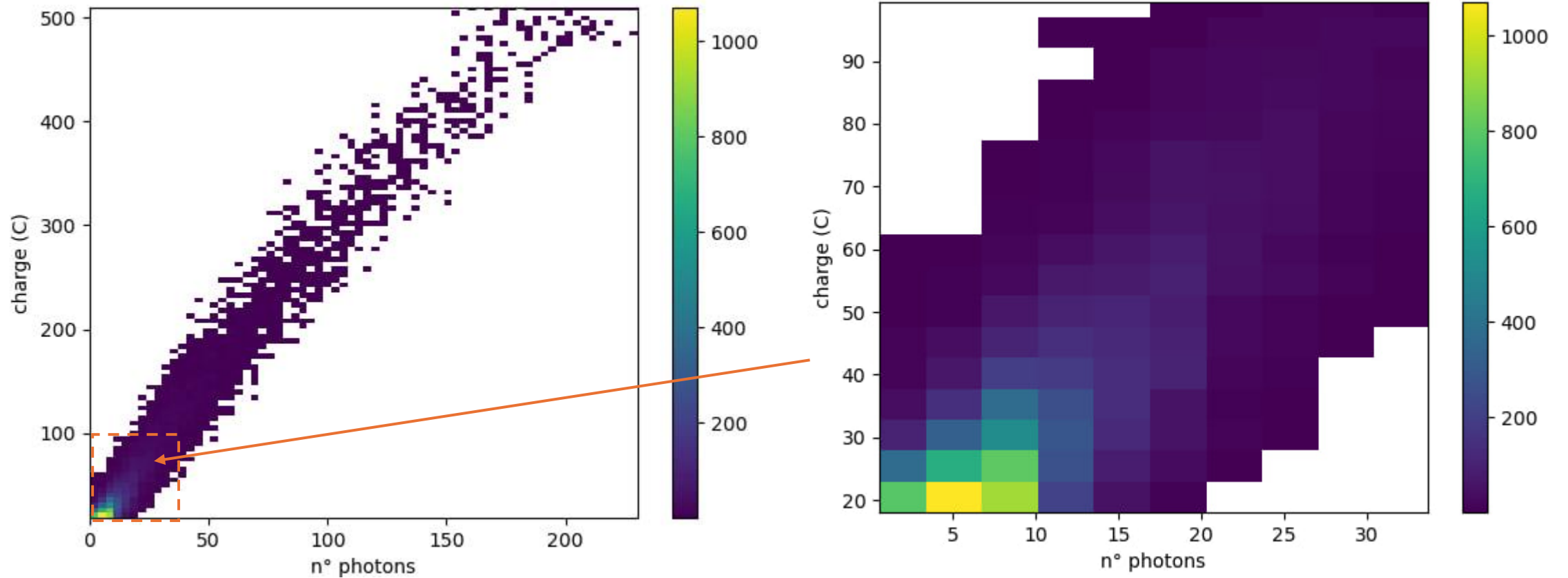


charge fit GAIN 0 - Rq 1000 - ho 20 - clock 1-4

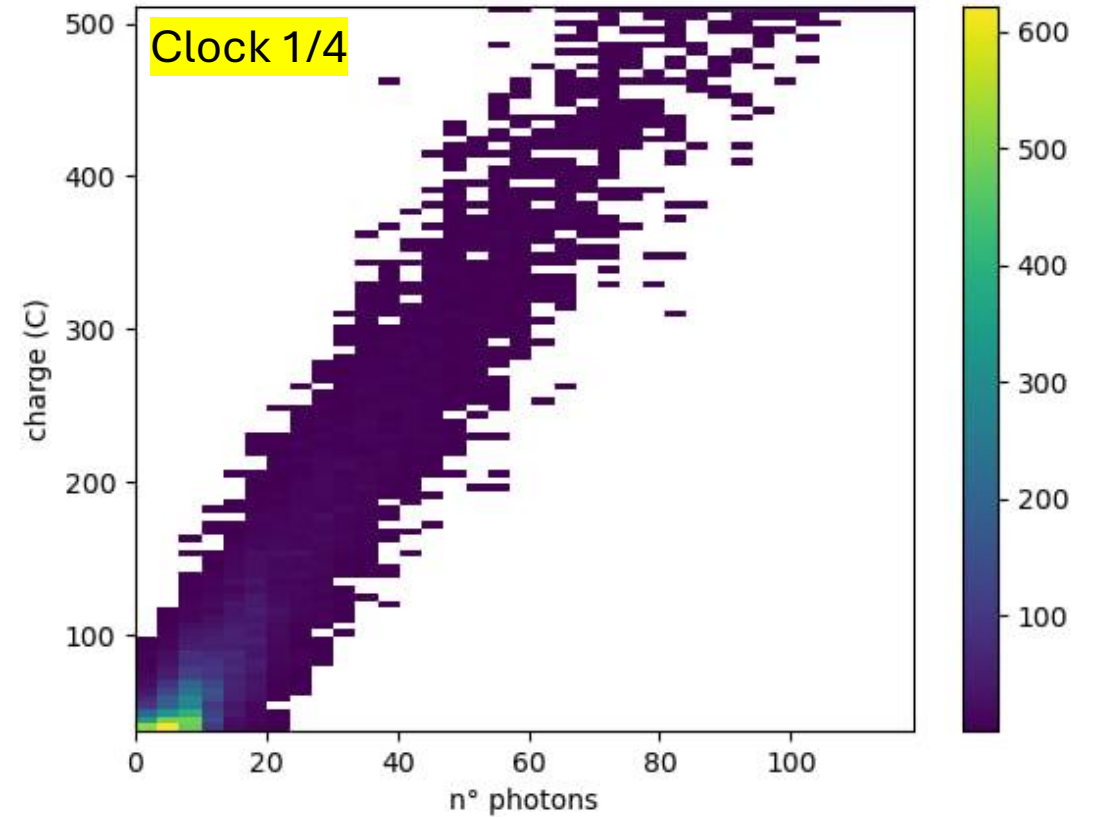
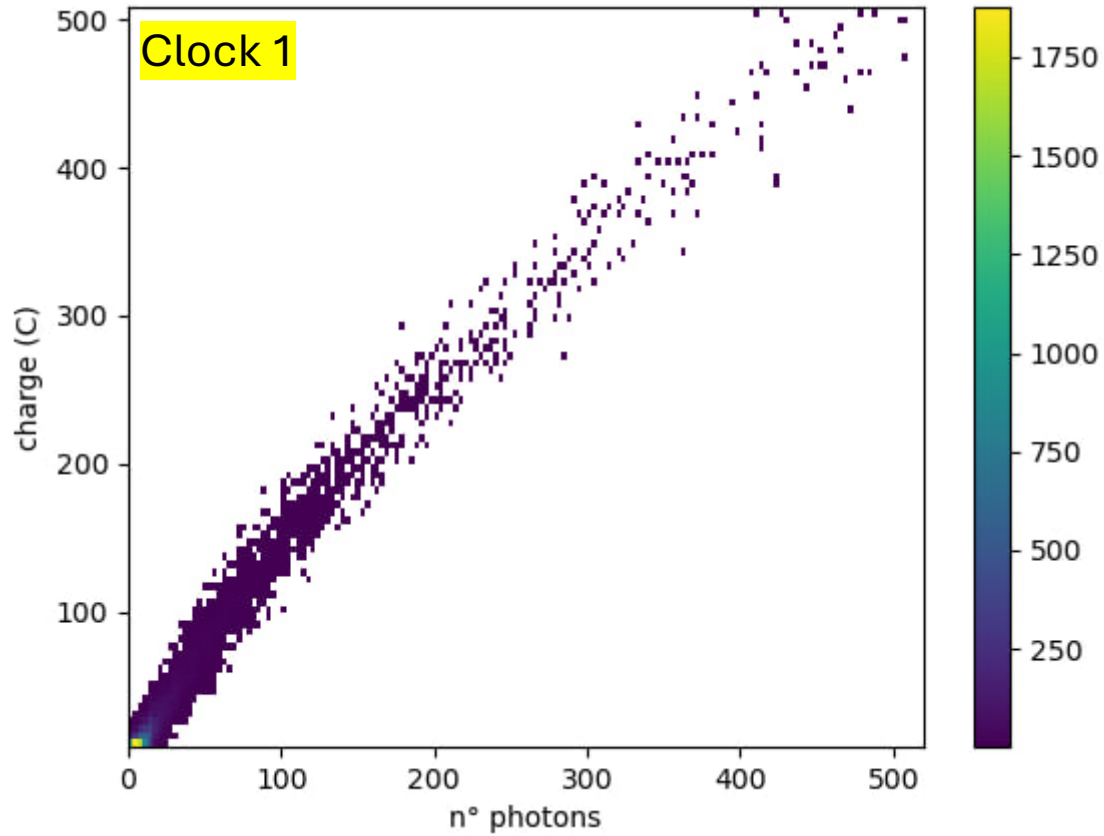


# To be done: calibration for gain 1

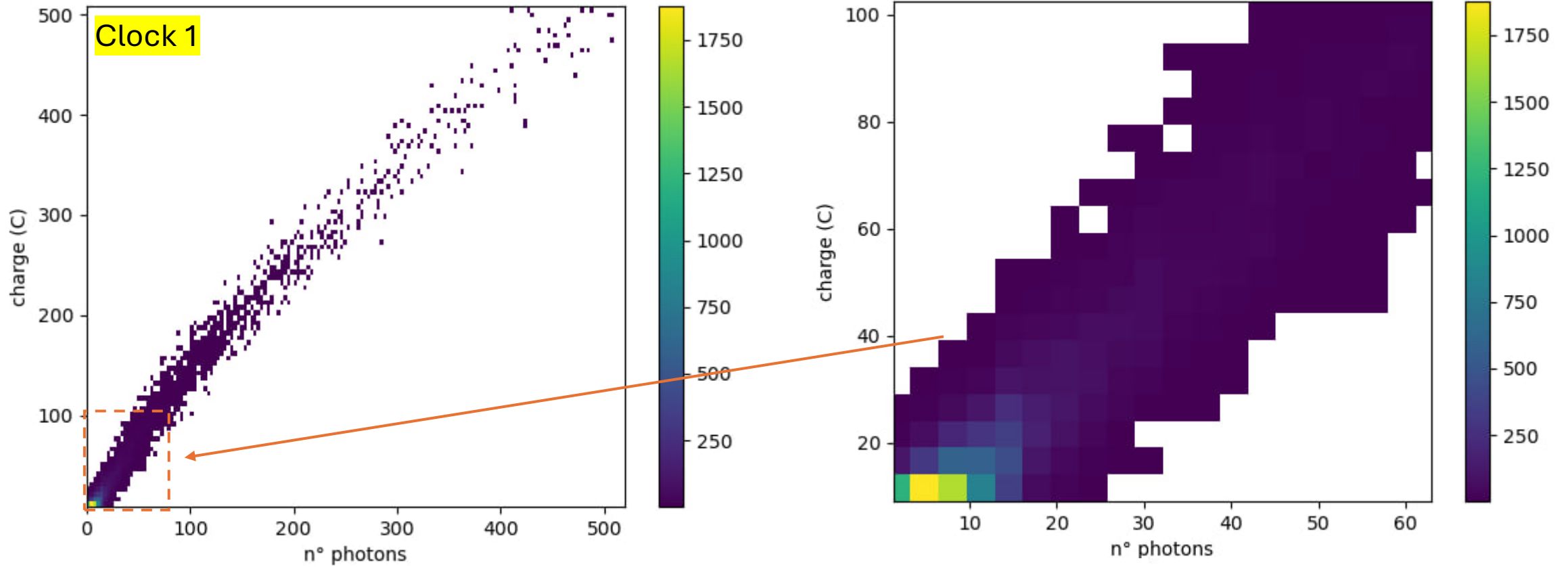
Clock 1/2



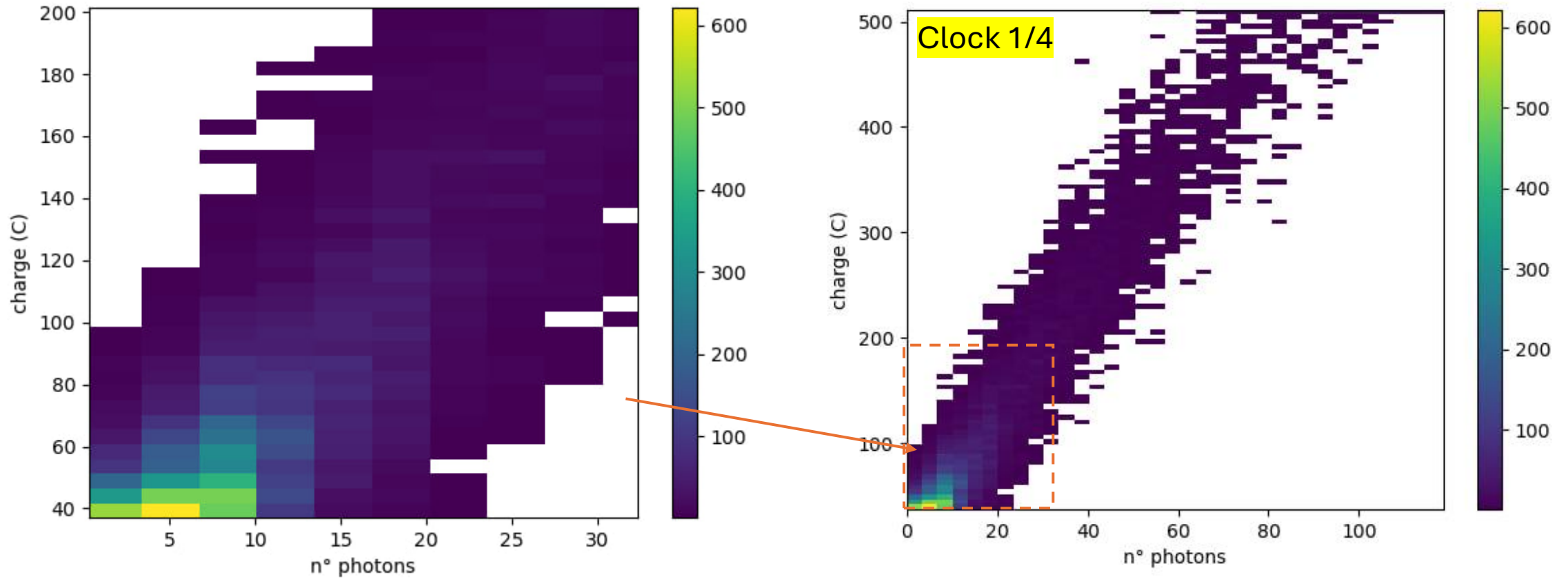
# To be done: calibration for gain 1



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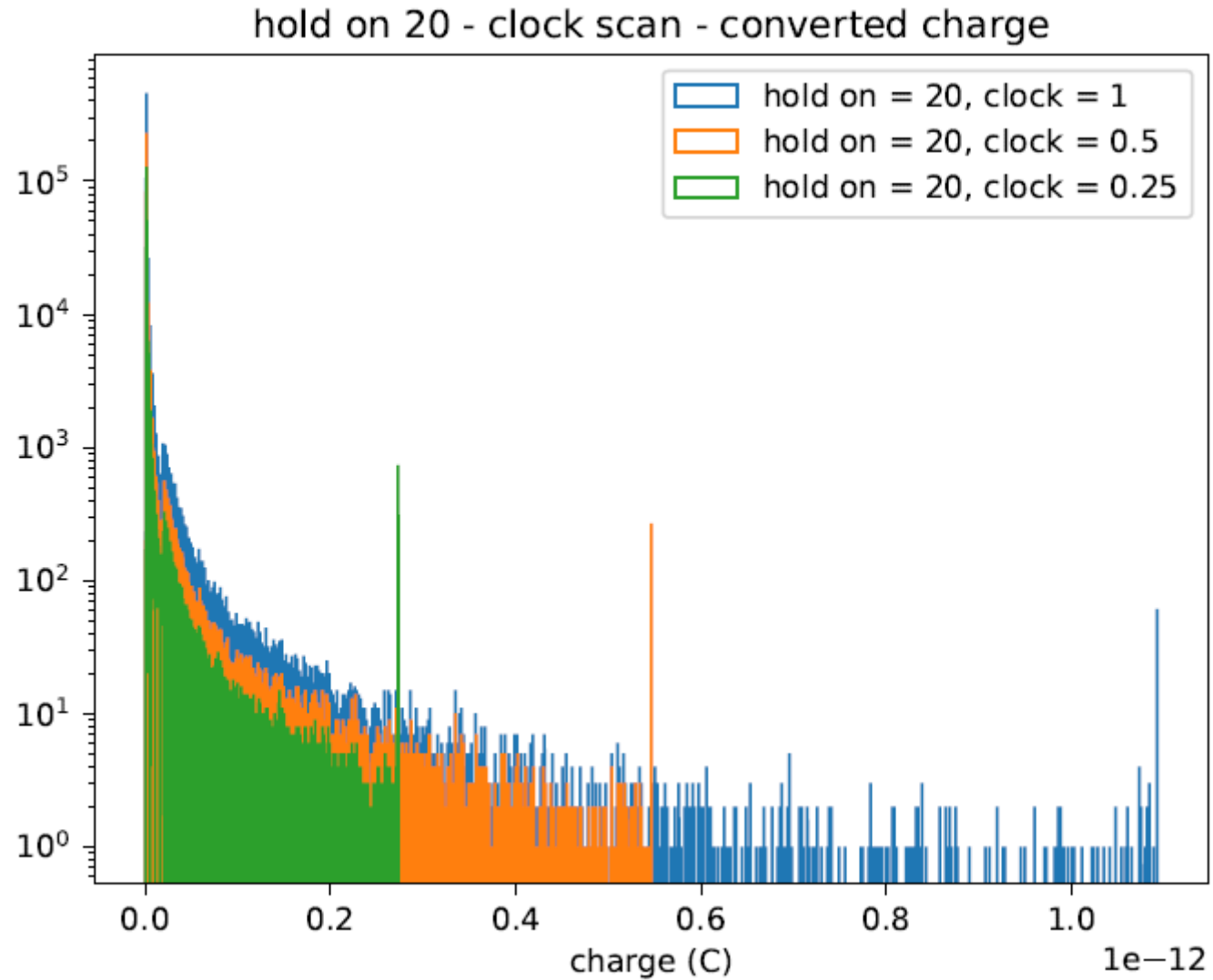
# To be done: calibration for gain 1





Backup

# Saturated fraction





# Lost fraction

