

Updates on Ageing Studies Preparation

HRPPD #25

Ageing studies - Global Meet
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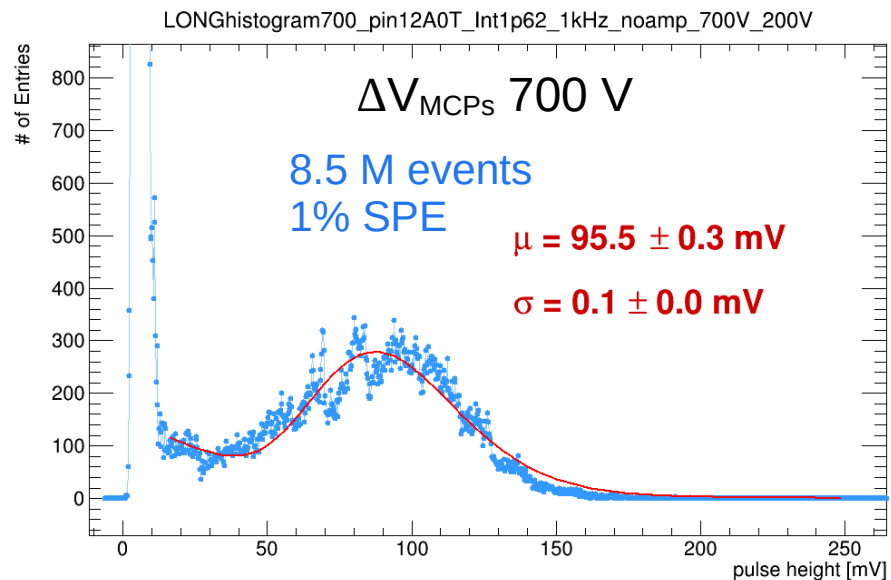
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Outline

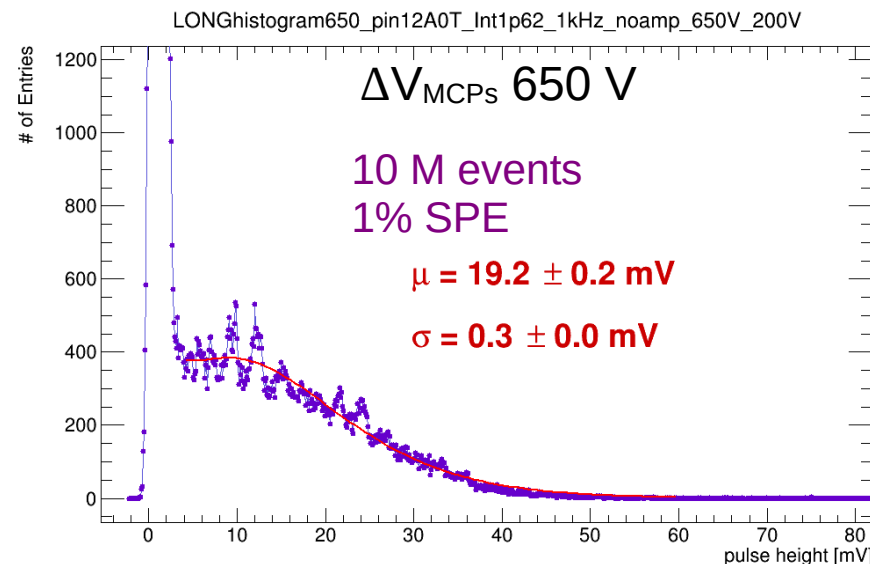
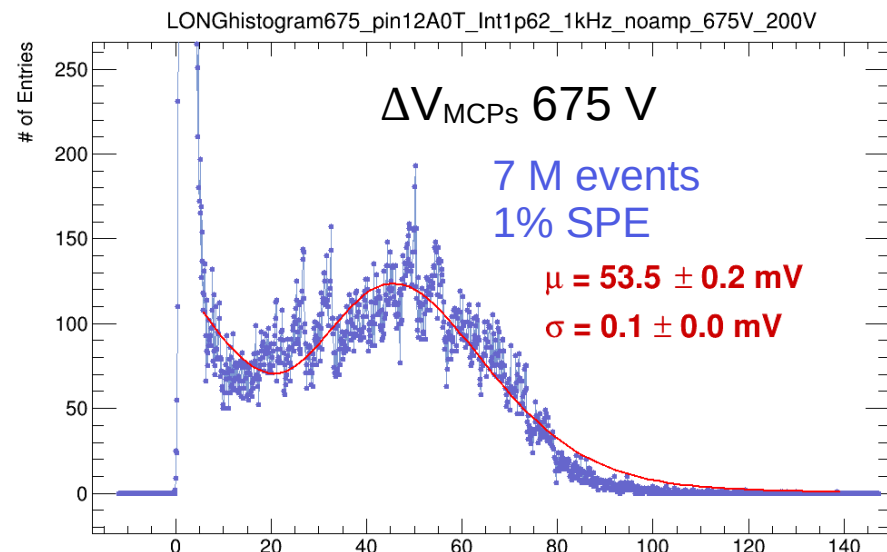
- SPE pulse height distributions, longruns
- Variation of amplitudes for lower ΔV across the second MCP
- Electrical circuit during ageing
- Modification of a Picoammeter
- QE measurement strategy

SPE responses, longruns



Balanced MCP bias

Fit: sum of exponential and Polya function

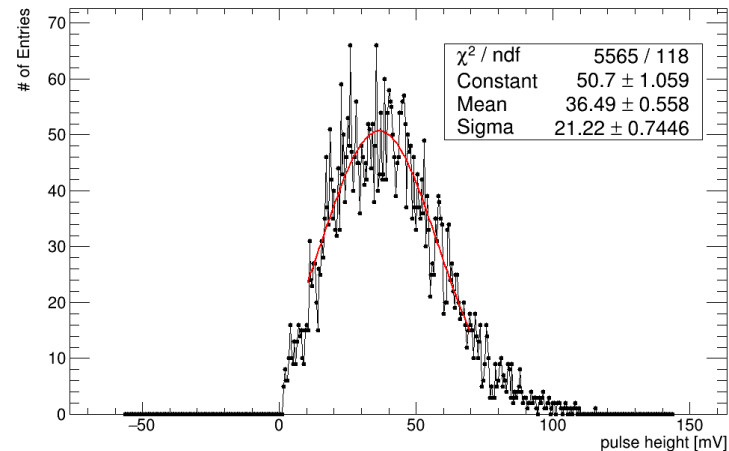
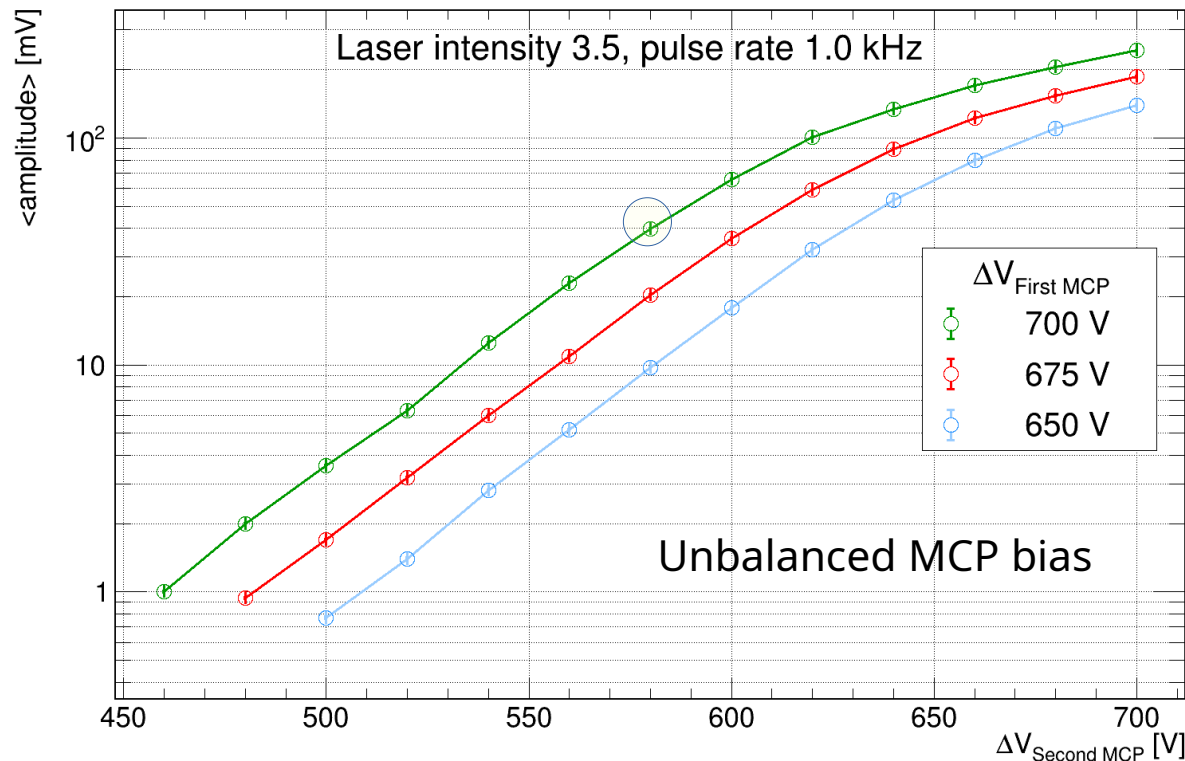


Amplitude vs. $\Delta V_{2\text{nd-MCP}}$

HV: -200_ **varying**- ΔV_{MCP2} _-200_fixed- ΔV_{MCP1} _-200 V

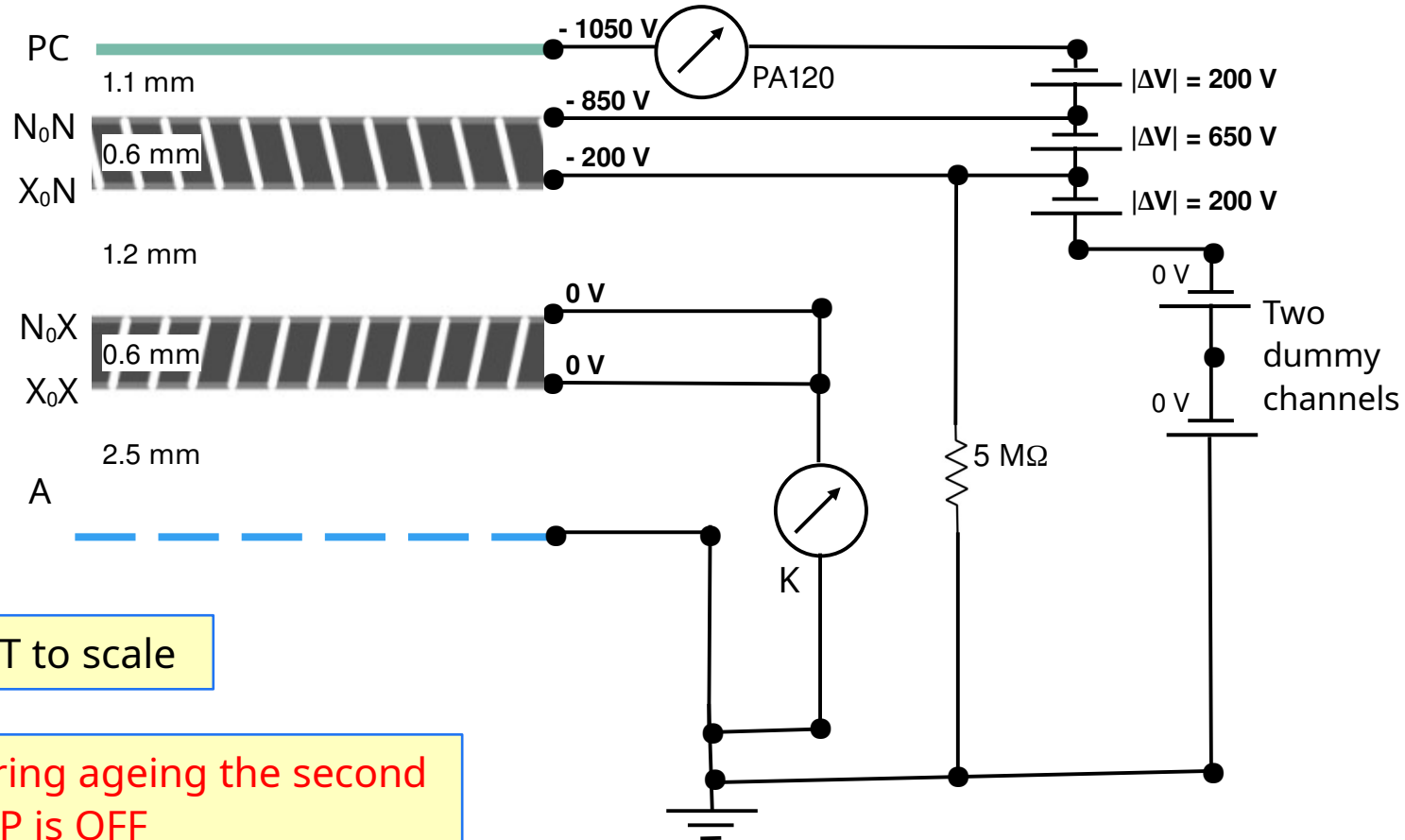
Trigger on Sync pulse, Int. 3.5; 1.0 kHz

Without amplifier; Pin #12 A0Top



- Fixed slope for $\langle a \rangle < 50$ mV
- $\Delta V \sim 75$ V corresponds to a factor 10 in amplitude

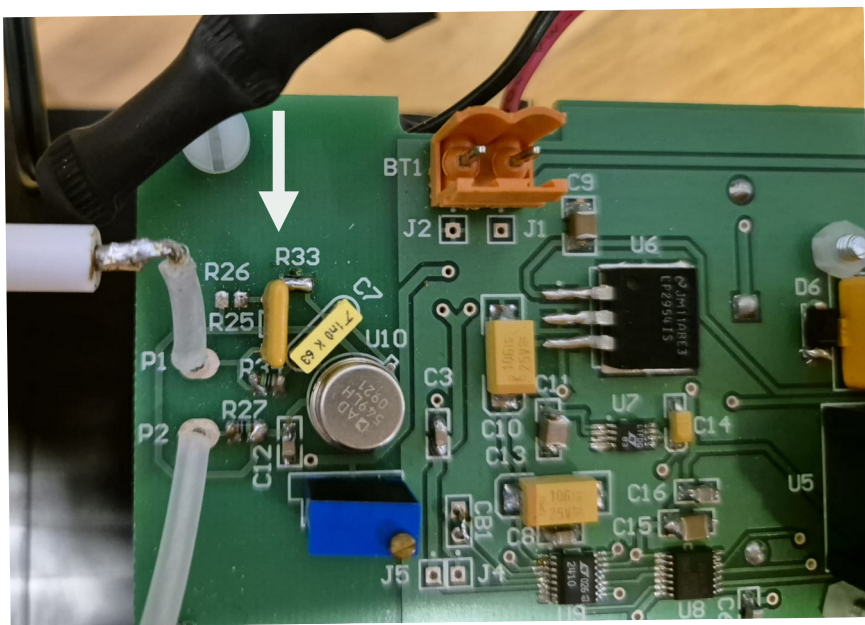
Electrical circuit during ageing



Modified picoammeter

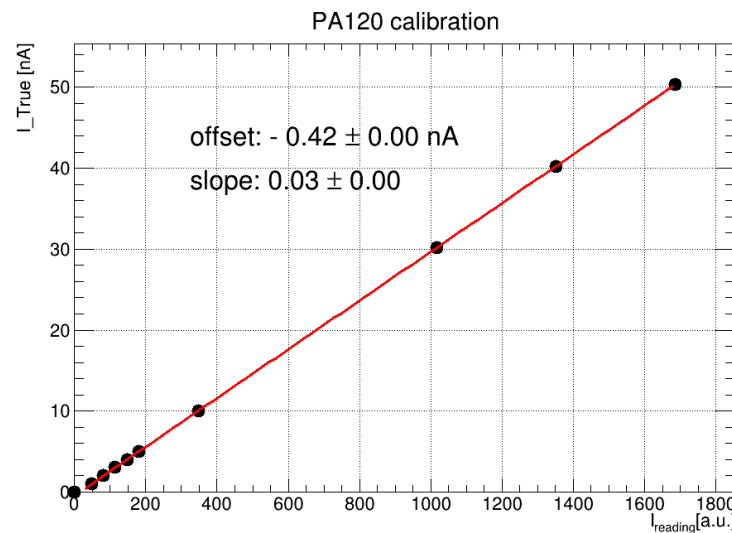
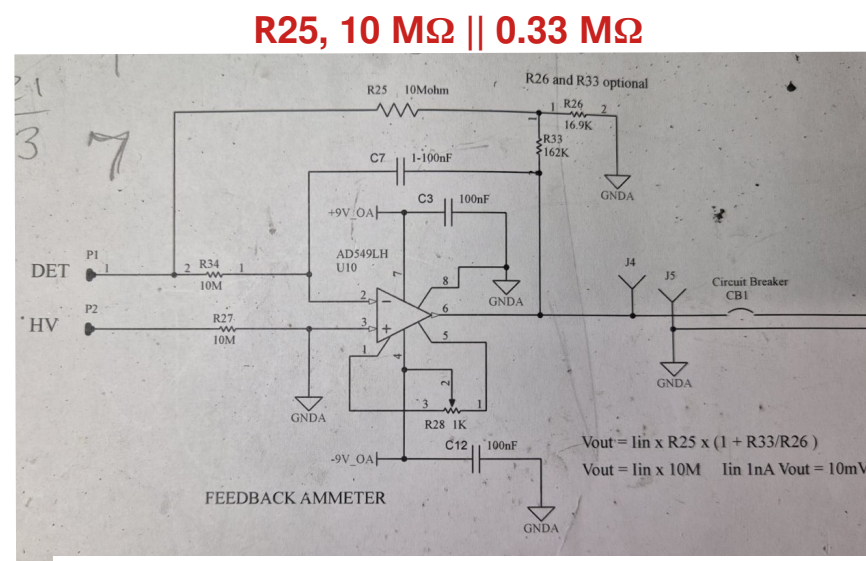
PA120

330 k Ω added in parallel to the 10 M Ω



I_{Max} for 10 M Ω : ~46 nA

I_{Max} for PA120: ~1.5 μ A

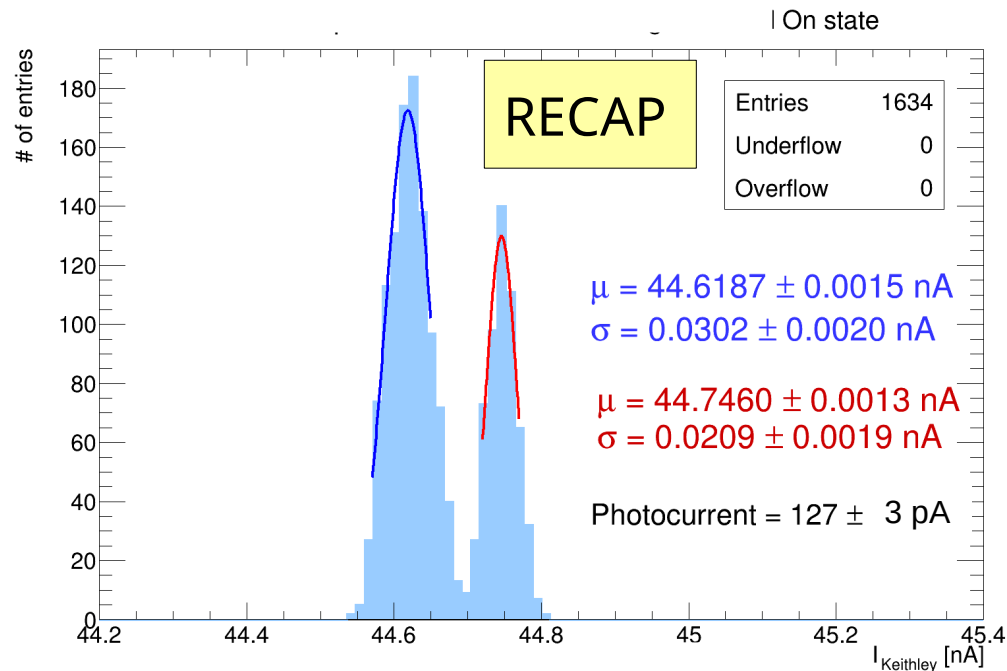
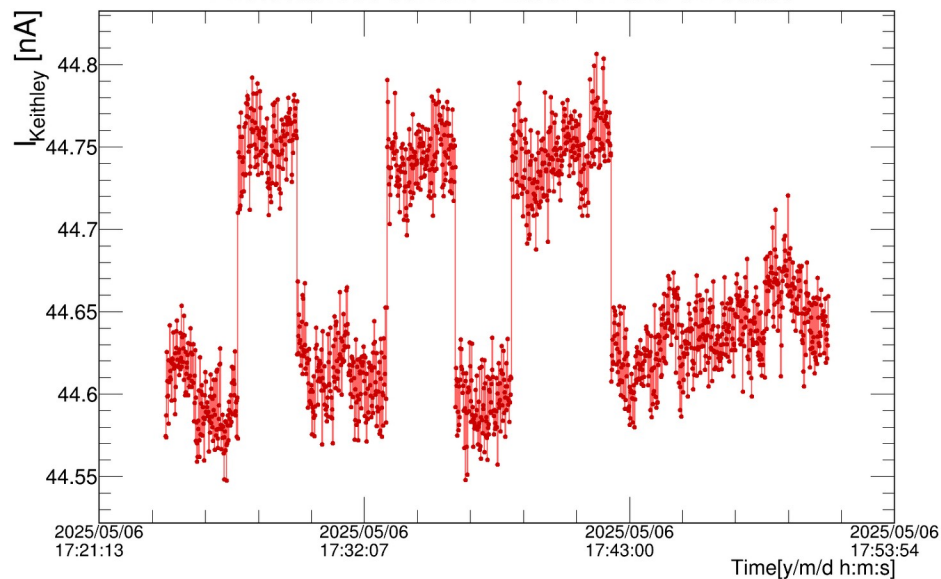


QE measurement strategy

Preliminary

Light On state: Intensity 3.5, Internal Trigger 40 MHz
NoN at +10 V

Photocathode current - Laser Off and On states

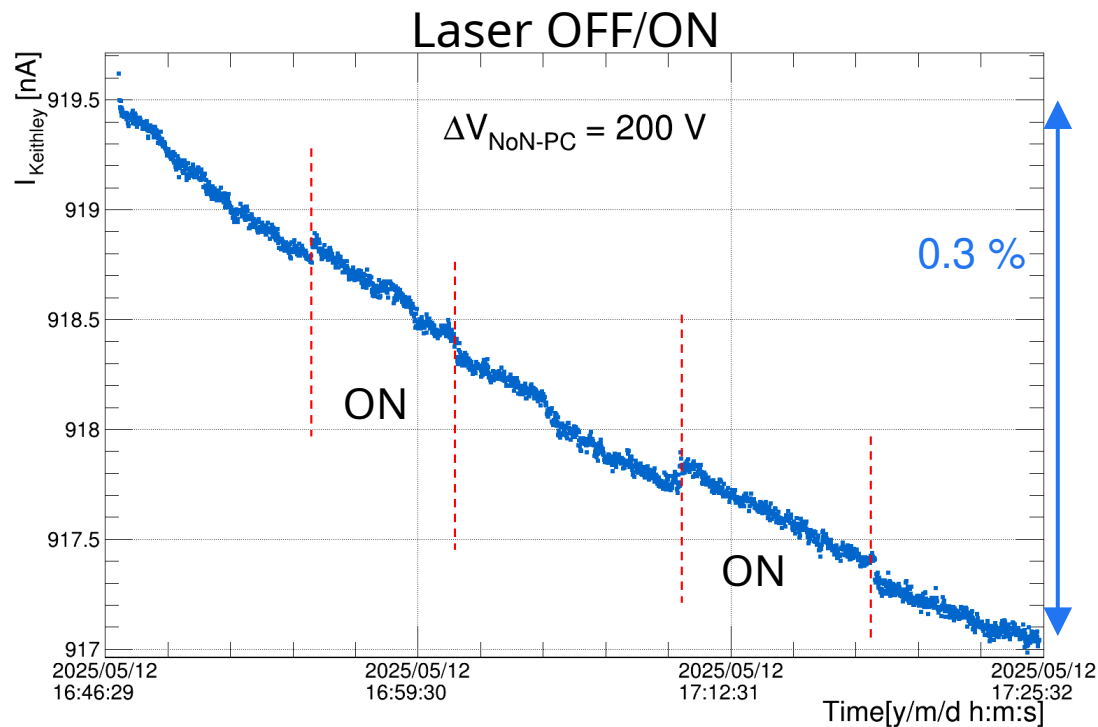


$8 \times 10^8 \text{ p.e./sec}$

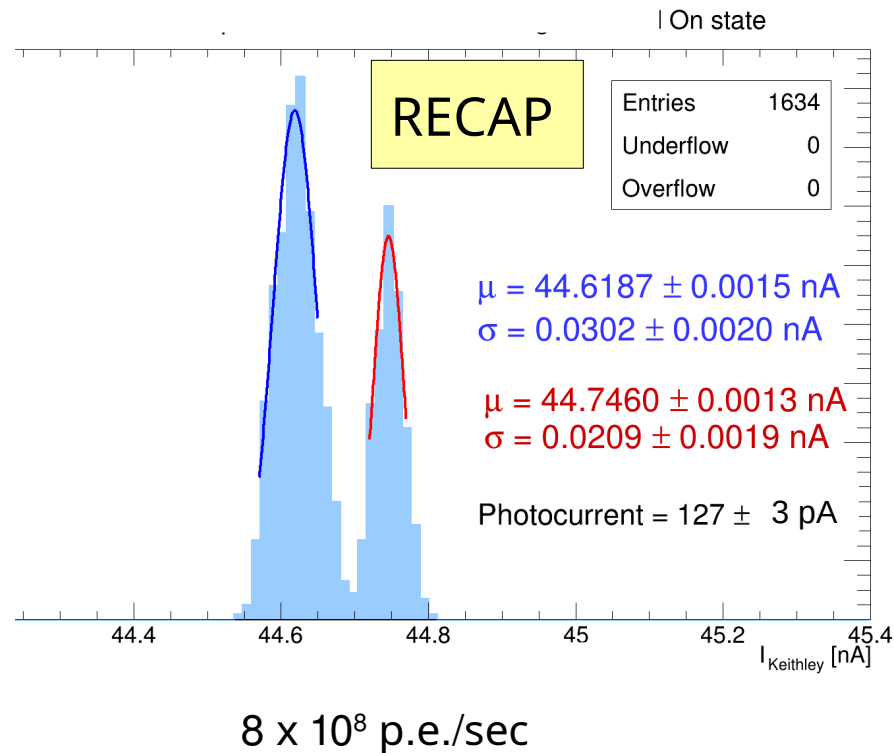
QE measurement strategy

Preliminary

Light On state: Intensity 3.5, Internal Trigger 40 MHz
NoN at +10 V vs. 200 V



Photocurrent = $\sim 100 \text{ pA}$



QE measurement strategy

Preliminary

Light On state: Intensity 5.0, Internal Trigger 40 MHz
NoN at +10 V vs. 200 V

