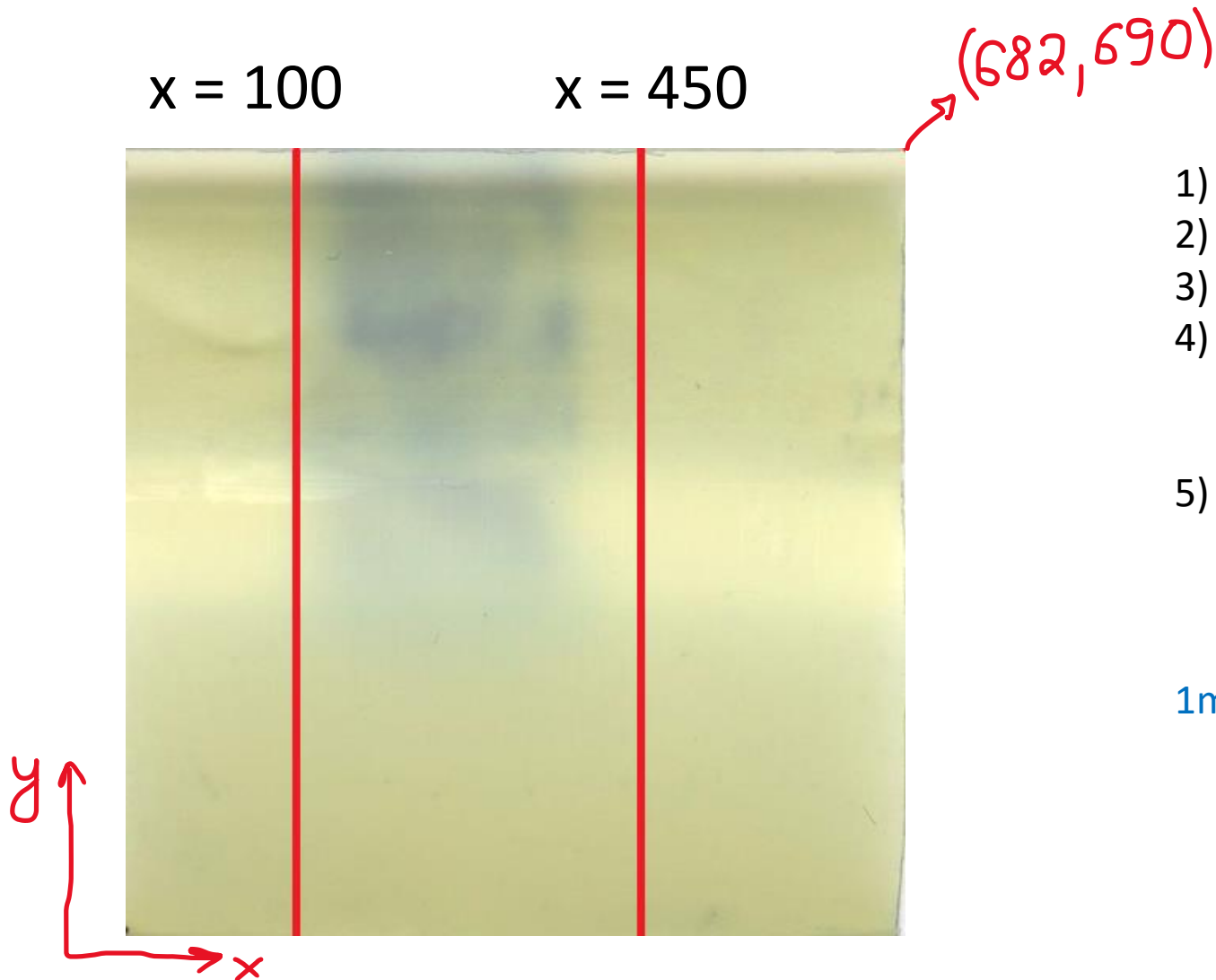# Film digitization
Background removal algorithm − part 2

Tulgaa Turtuvshin

ATLAS-JINR FCalPulse project meeting

17 October 2022
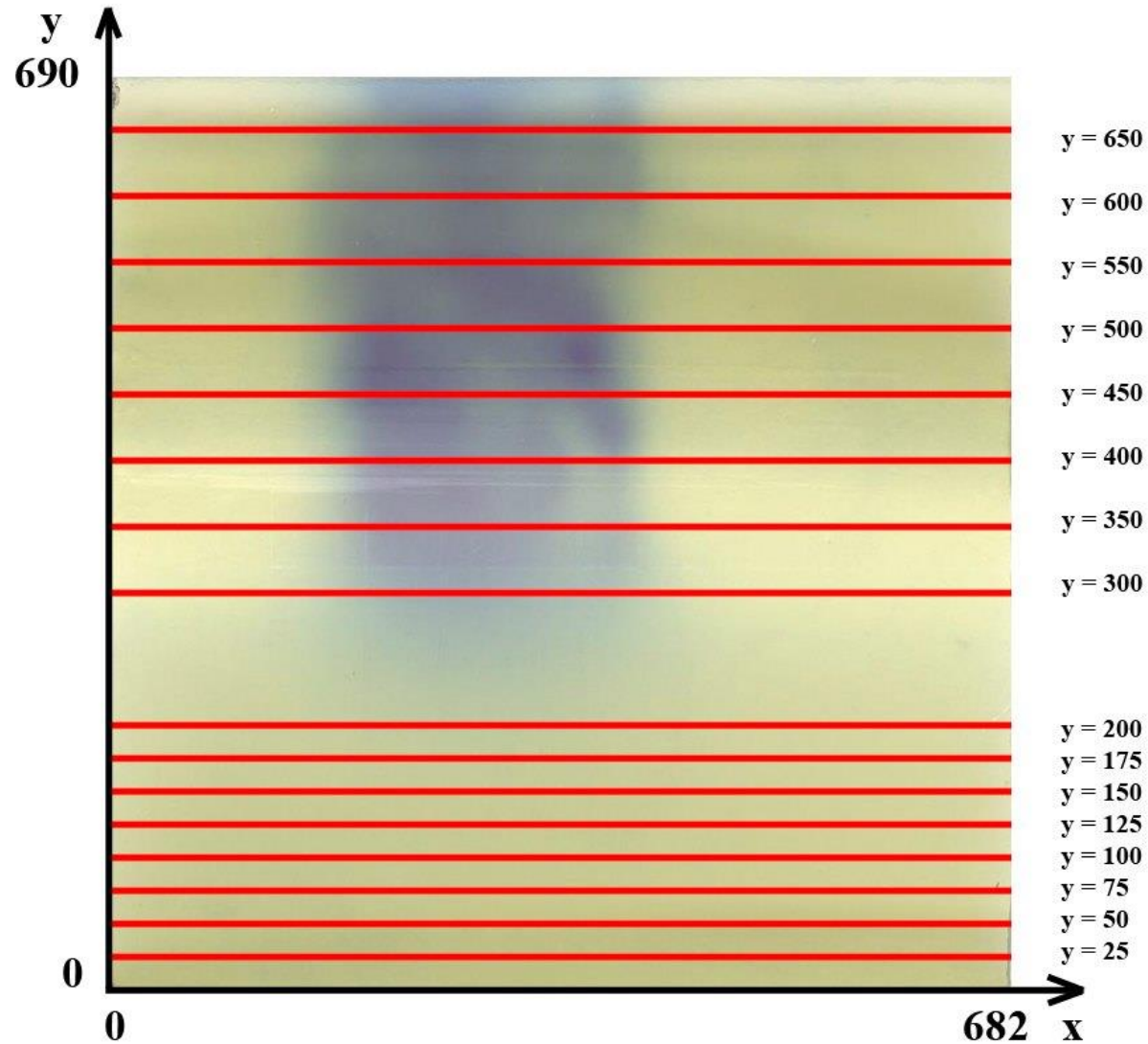
Idea of Background removal algorithm

x = 100   x = 450

(682,690)

1) Draw 2 lines outside of the exposure area
2) Define RGB color codes on red lines.
3) Remove area between the lines.
4) Connect dots between the lines using polynomial function and fill the area to define background
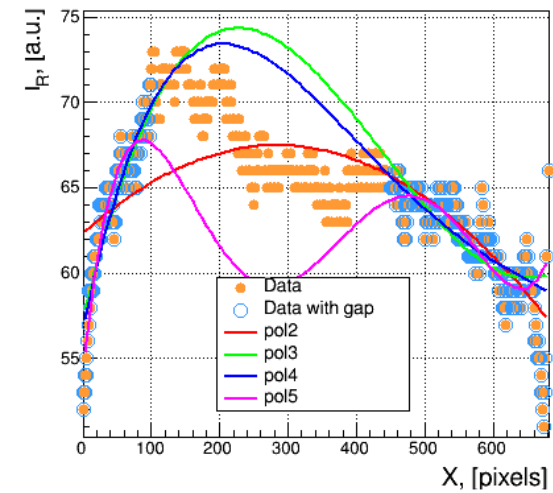5) Subtract background values from original image

1mm = 25.4 pixels

y

x

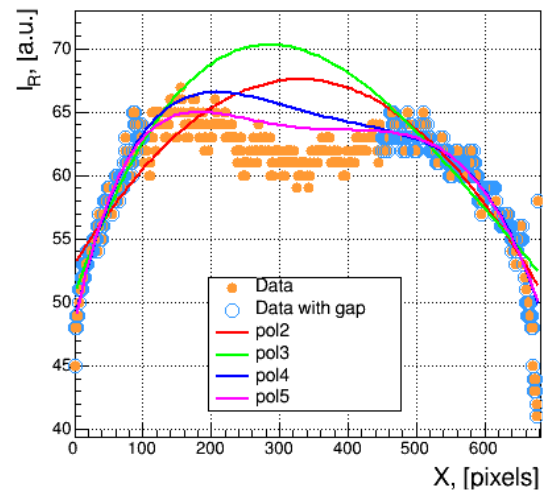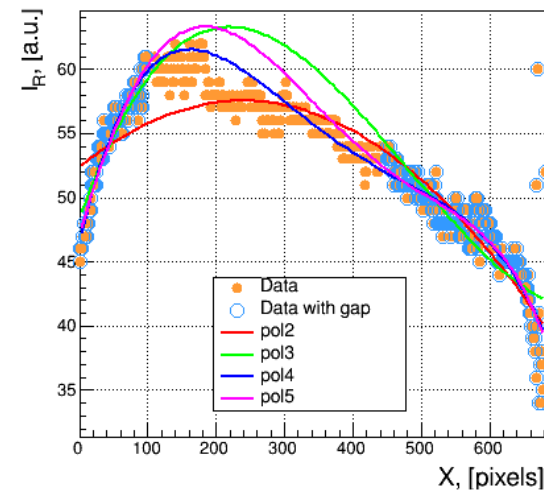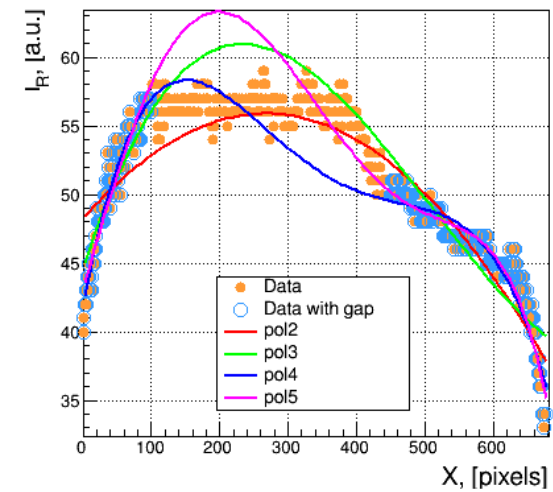# Idea of Background removal algorithm

1 min 30 sec (Red)
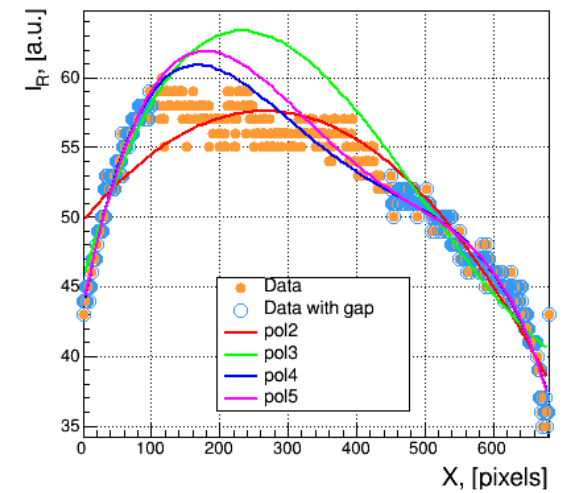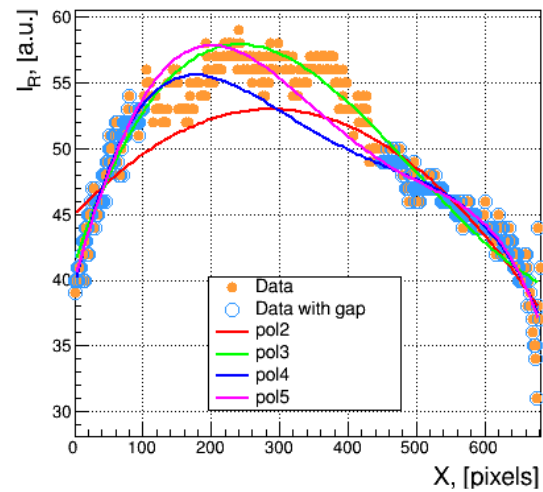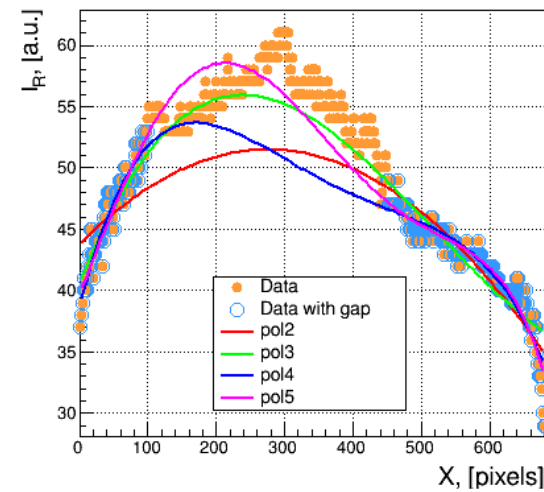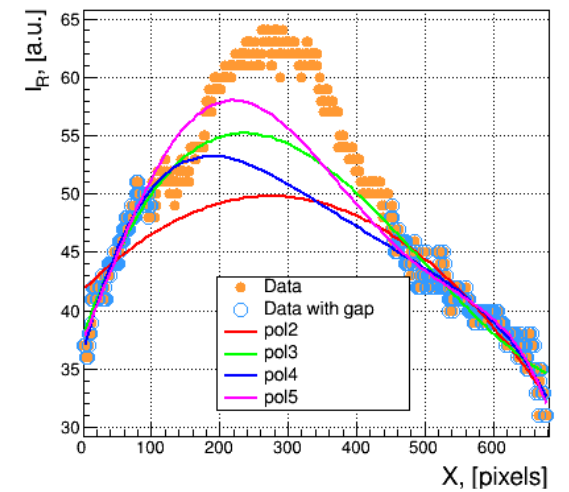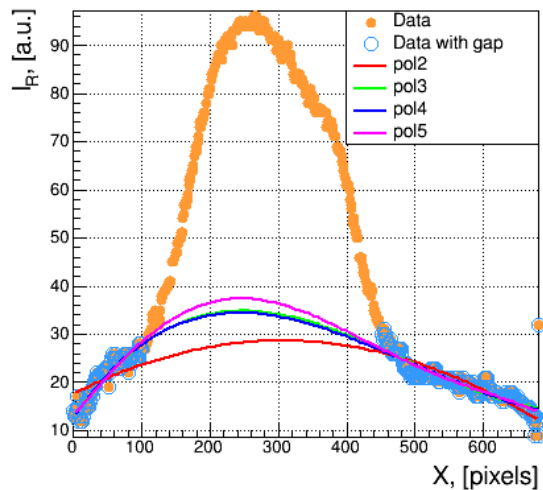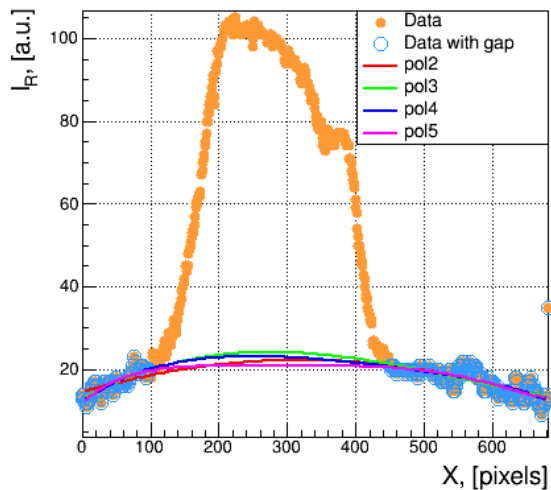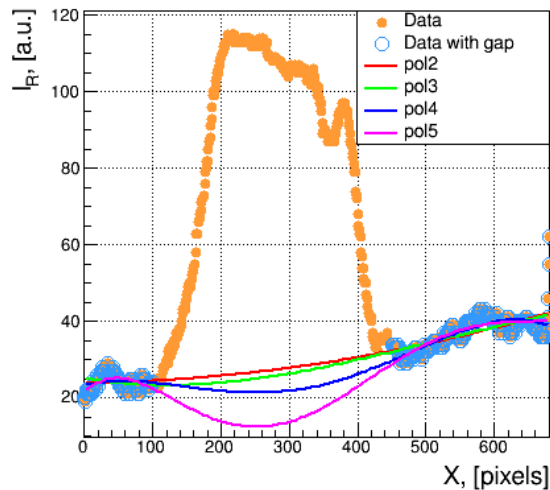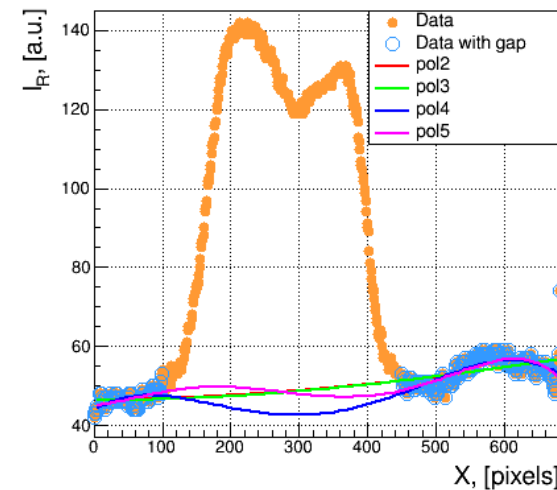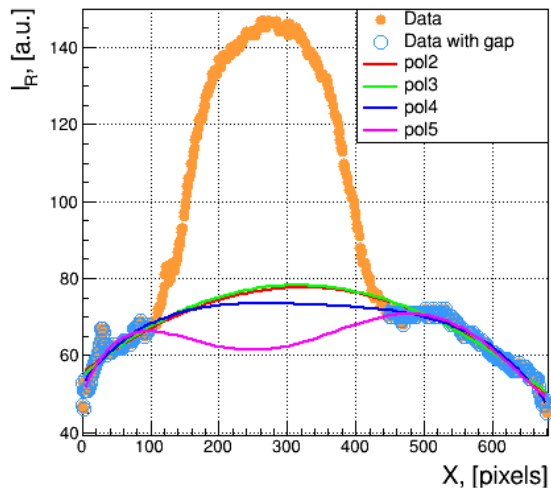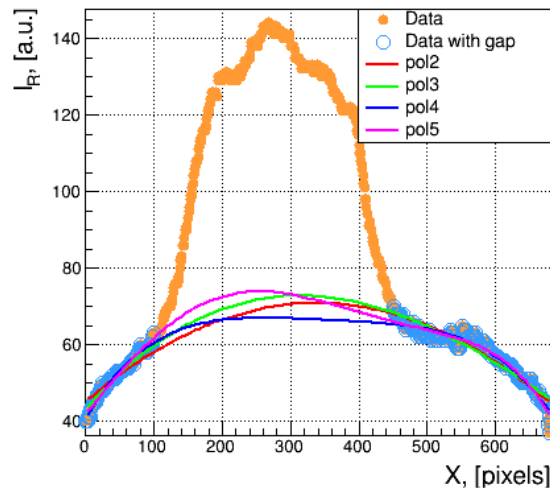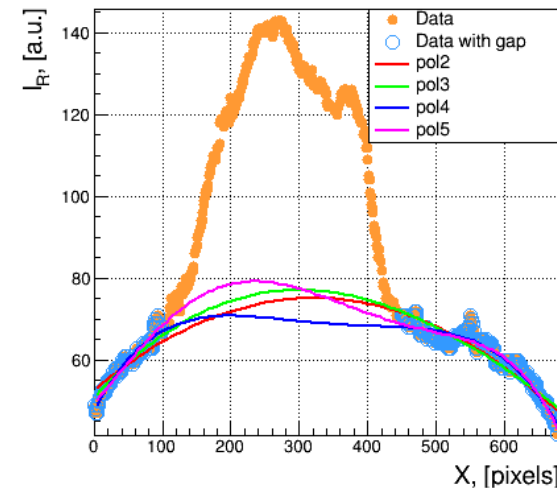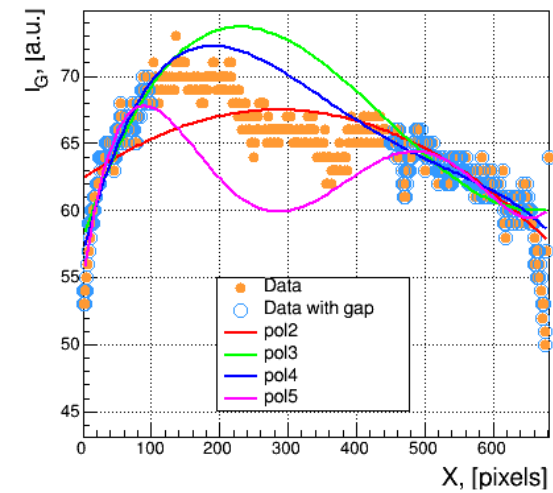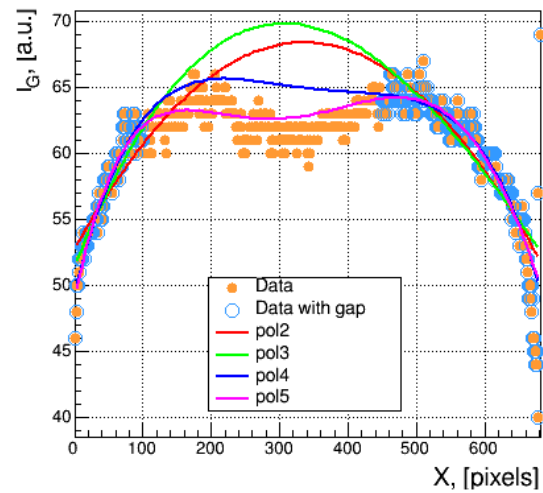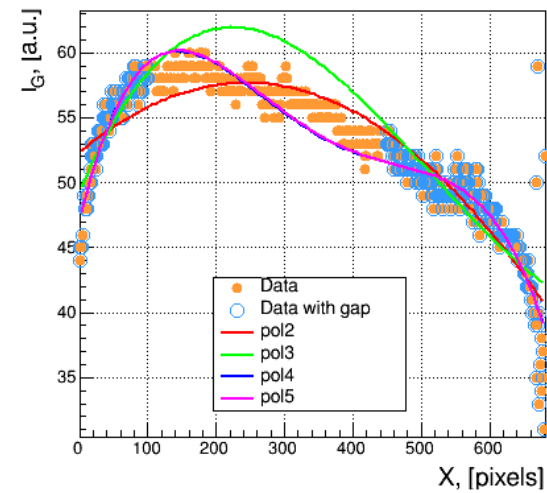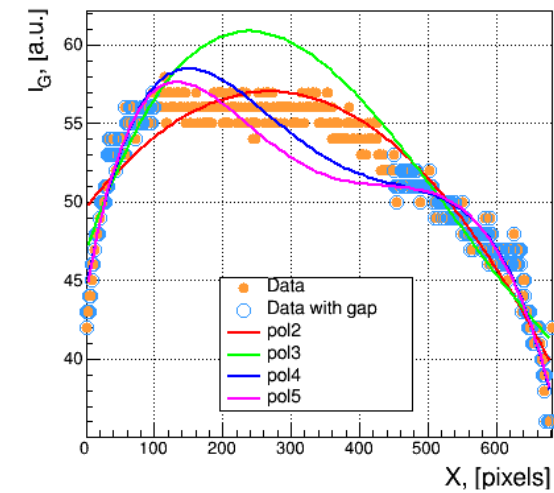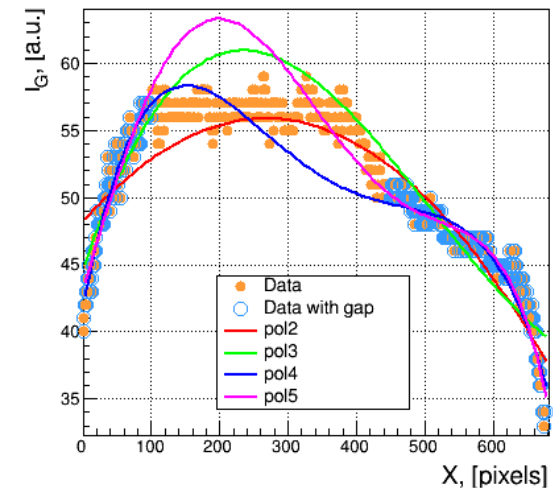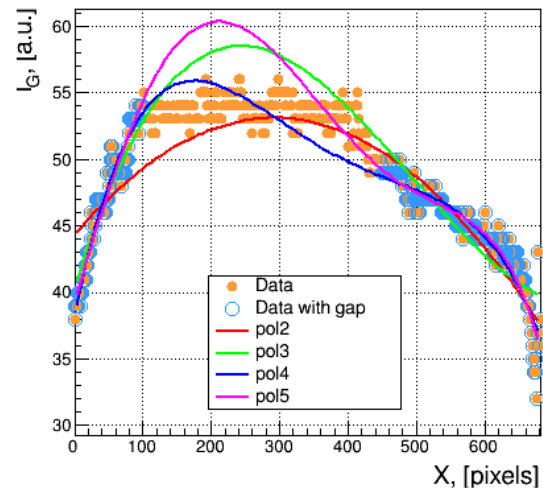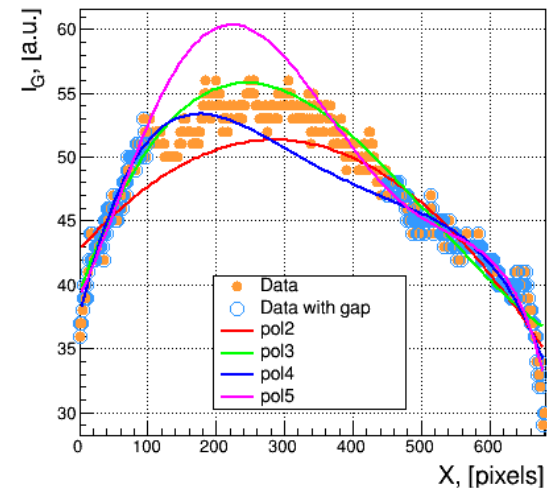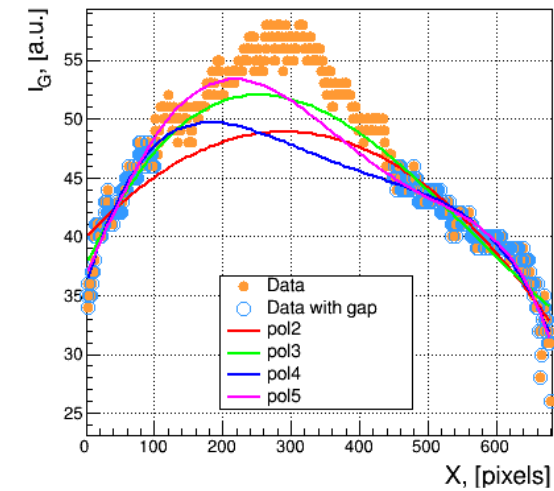
1 min 30 sec (Red)

1 min 30 sec (Green)

1 min 30 sec (Green)
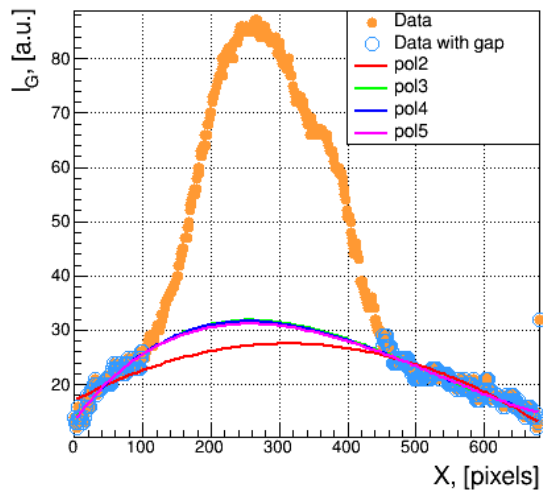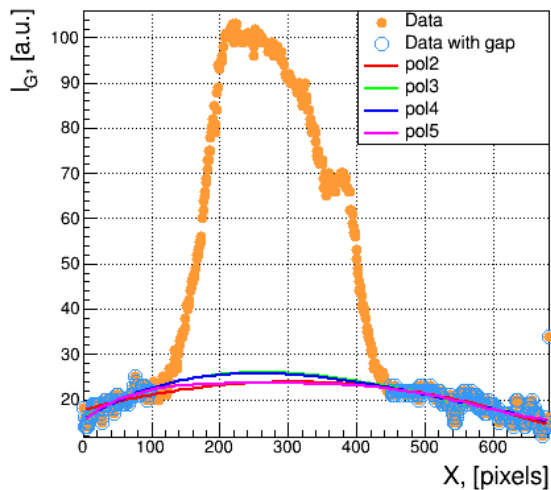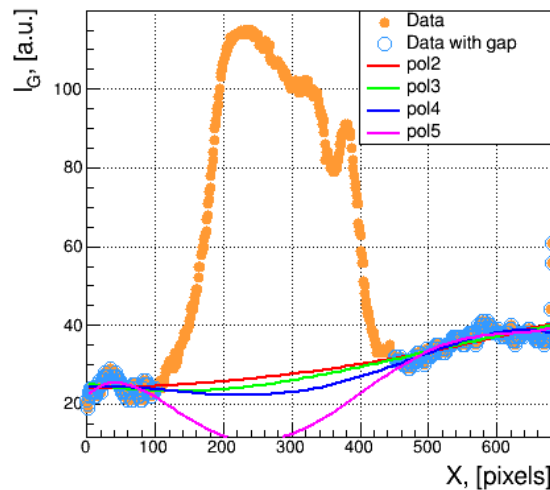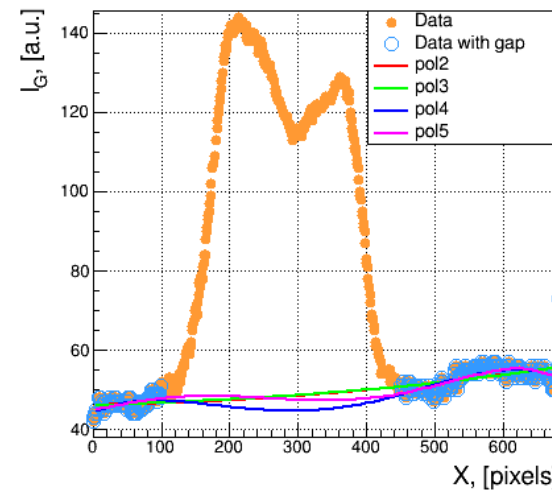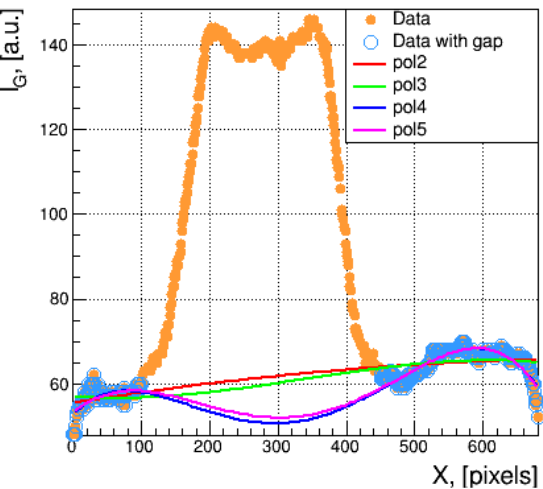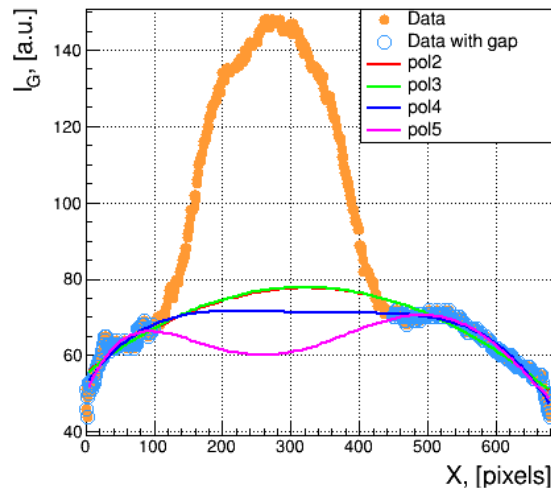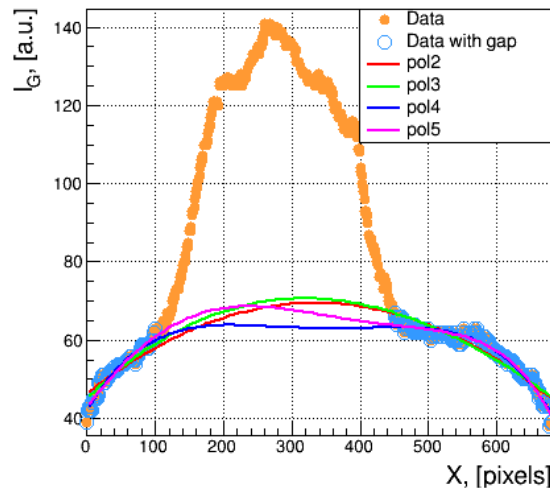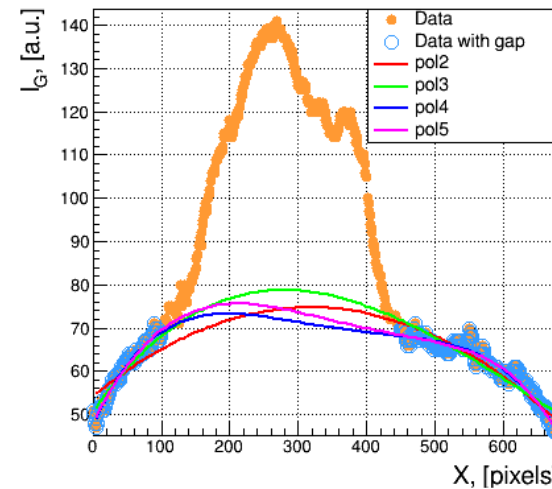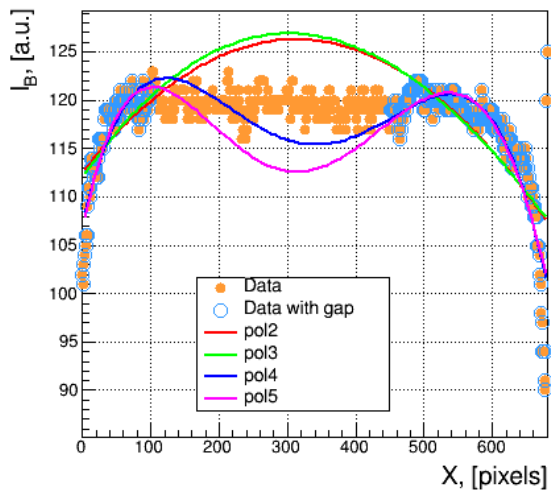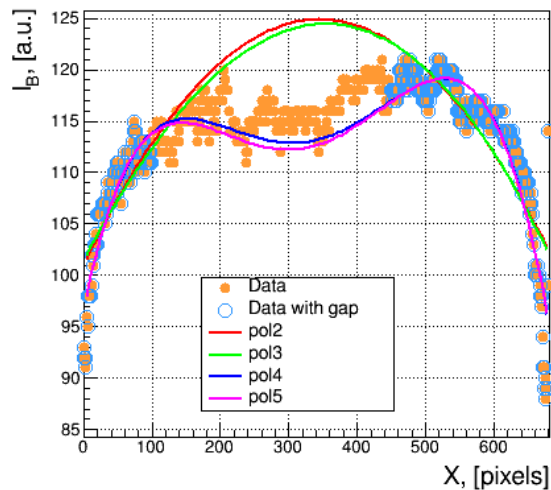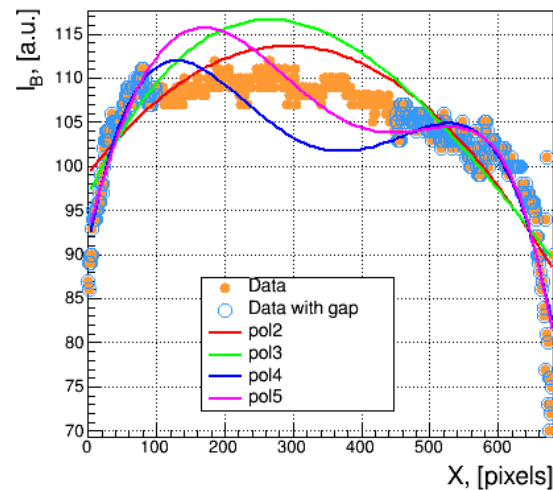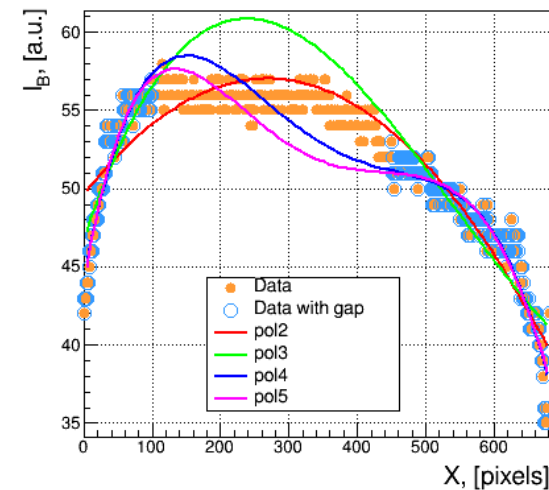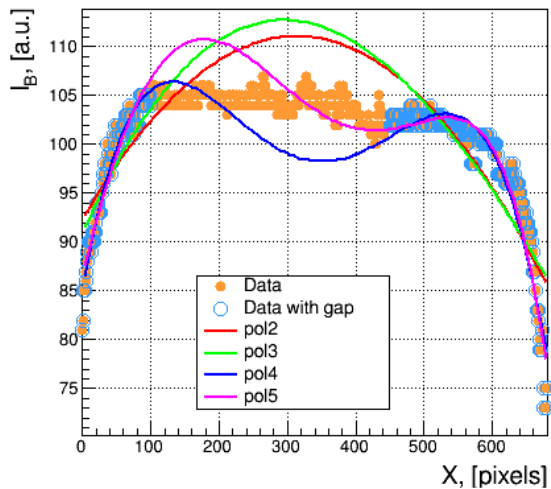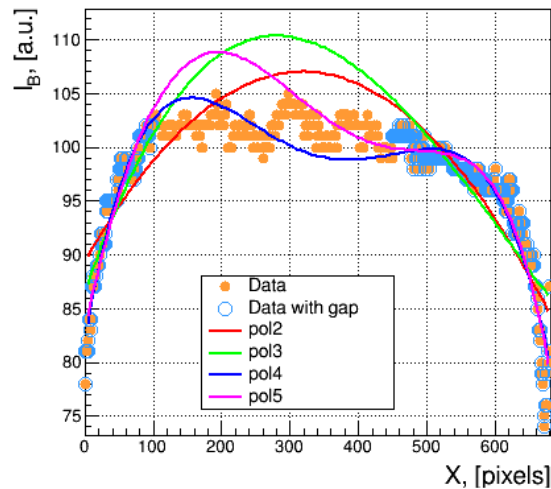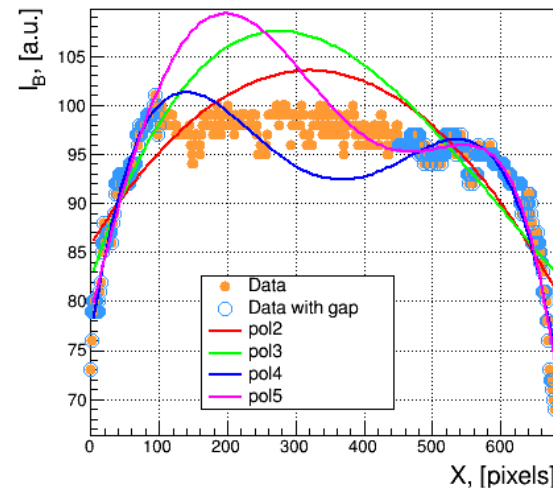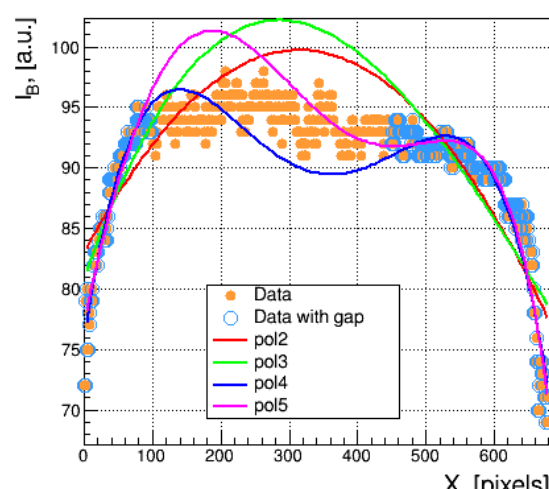
1 min 30 sec (Blue)

1 min 30 sec (Blue)
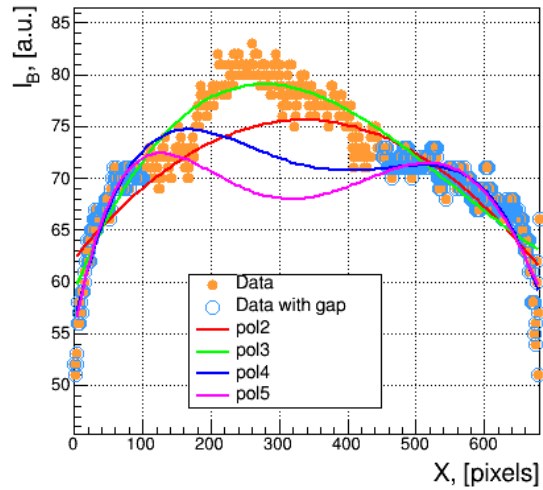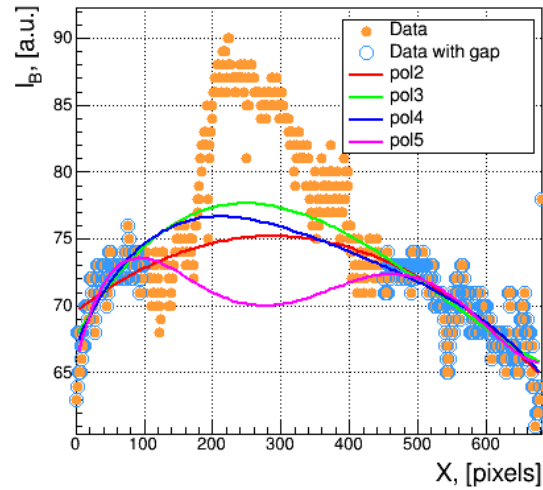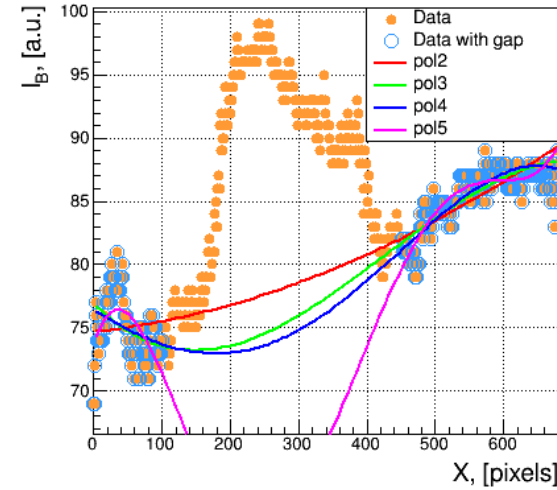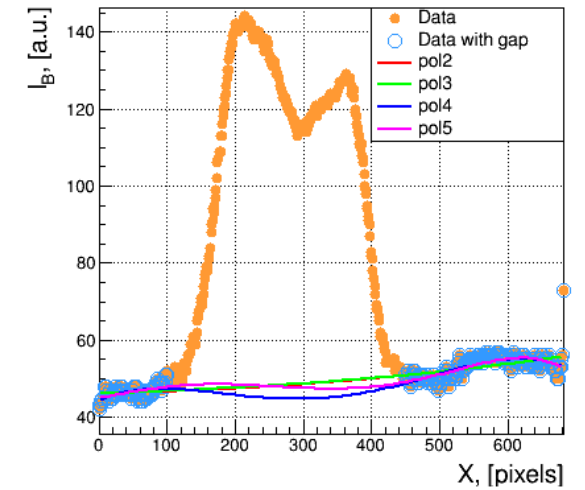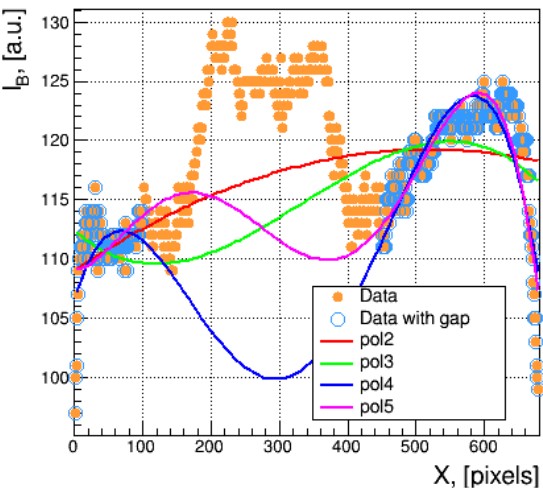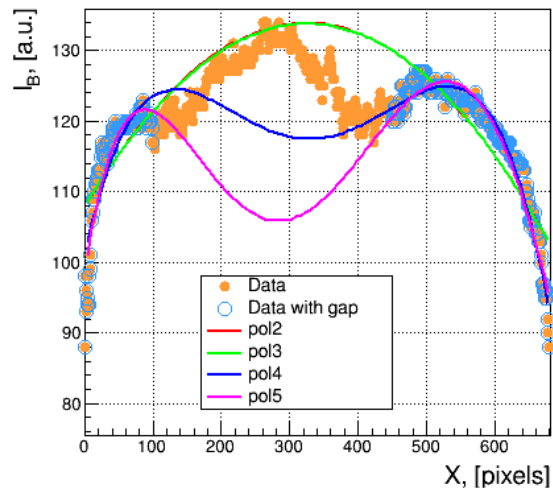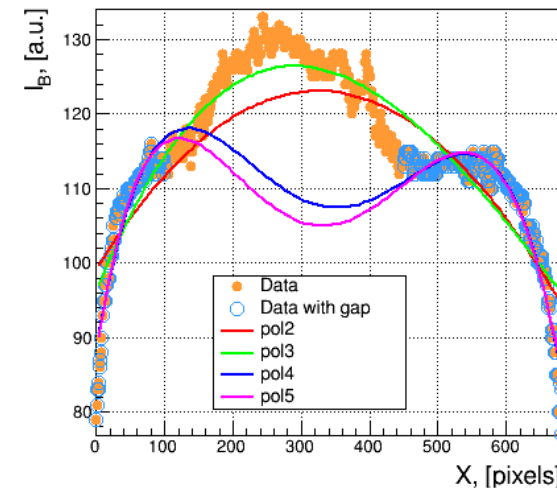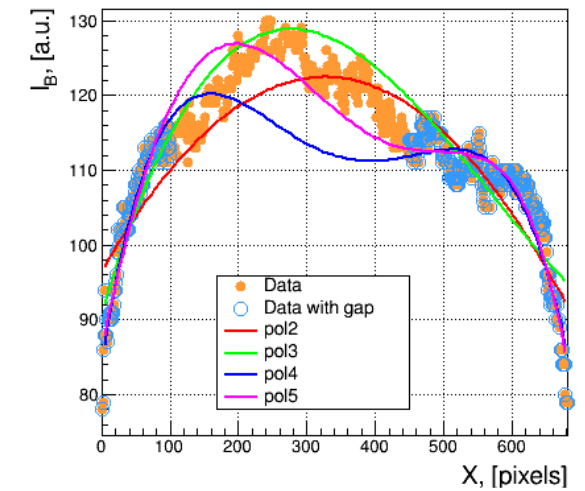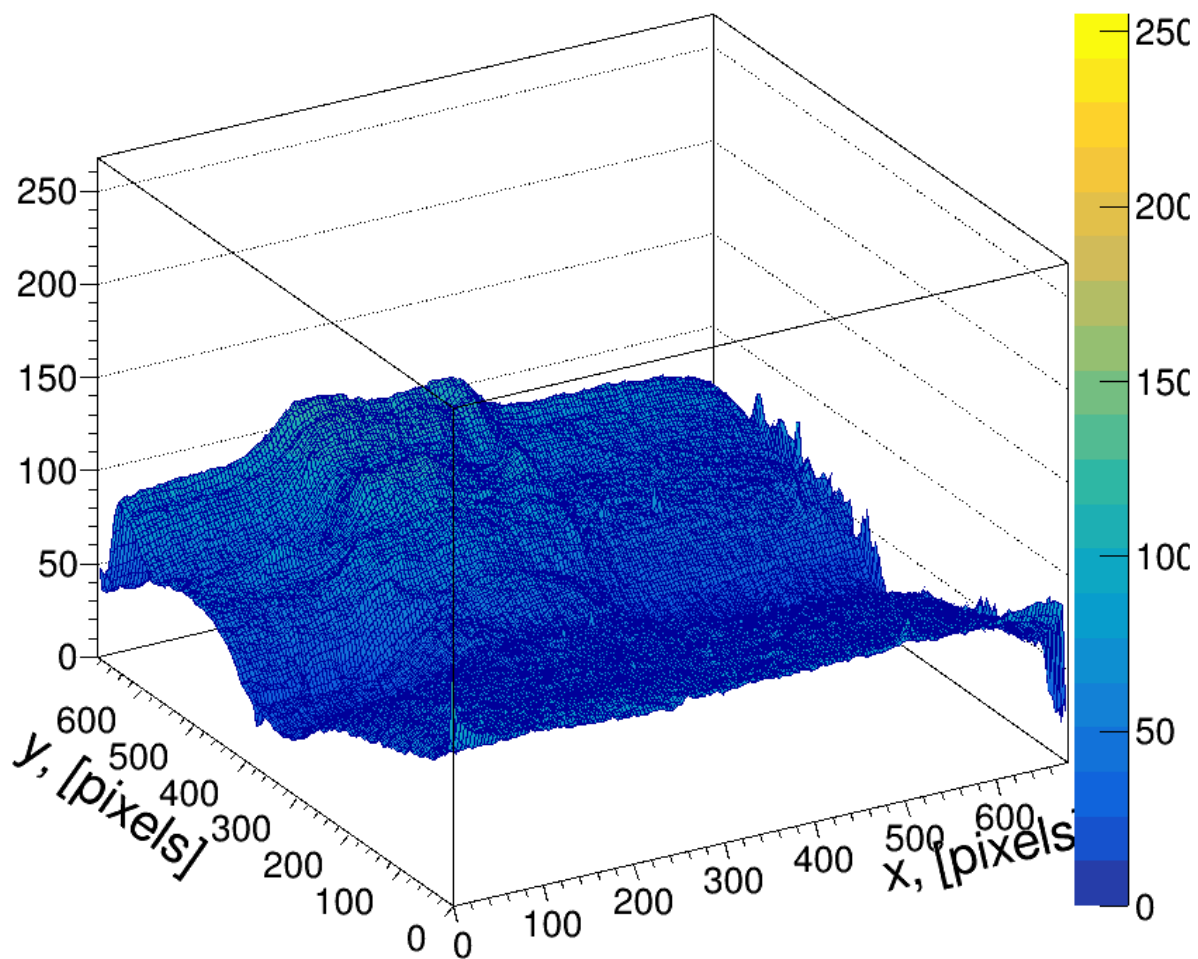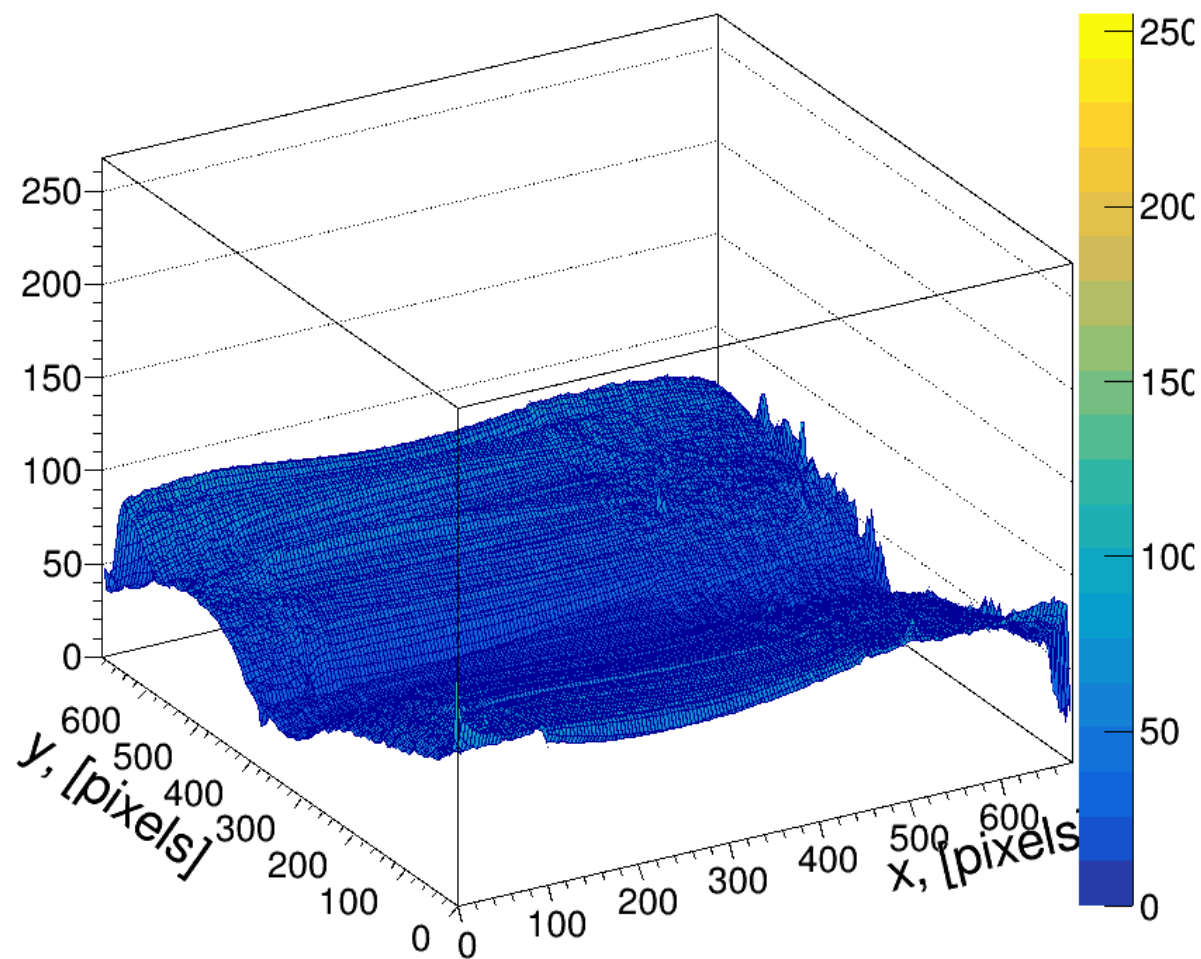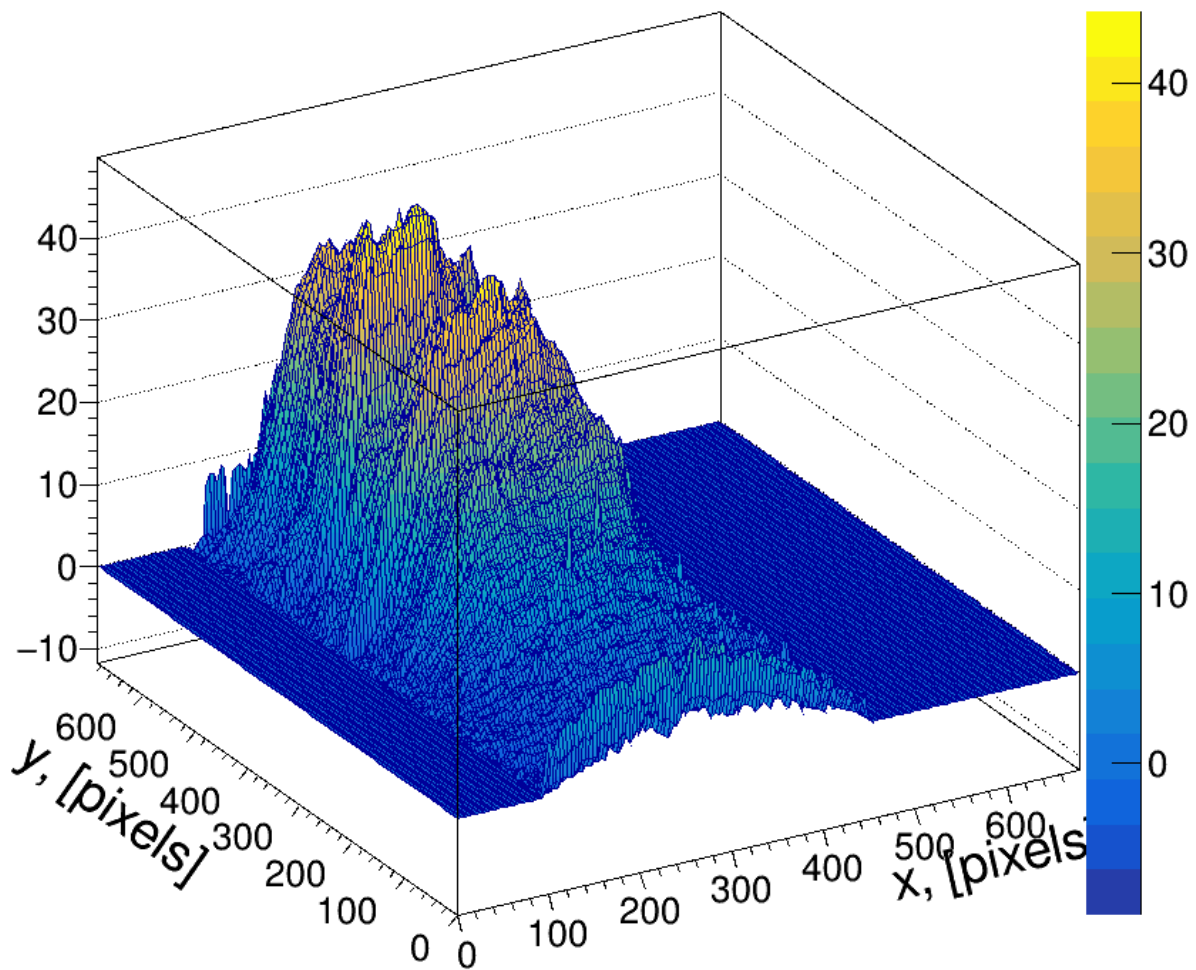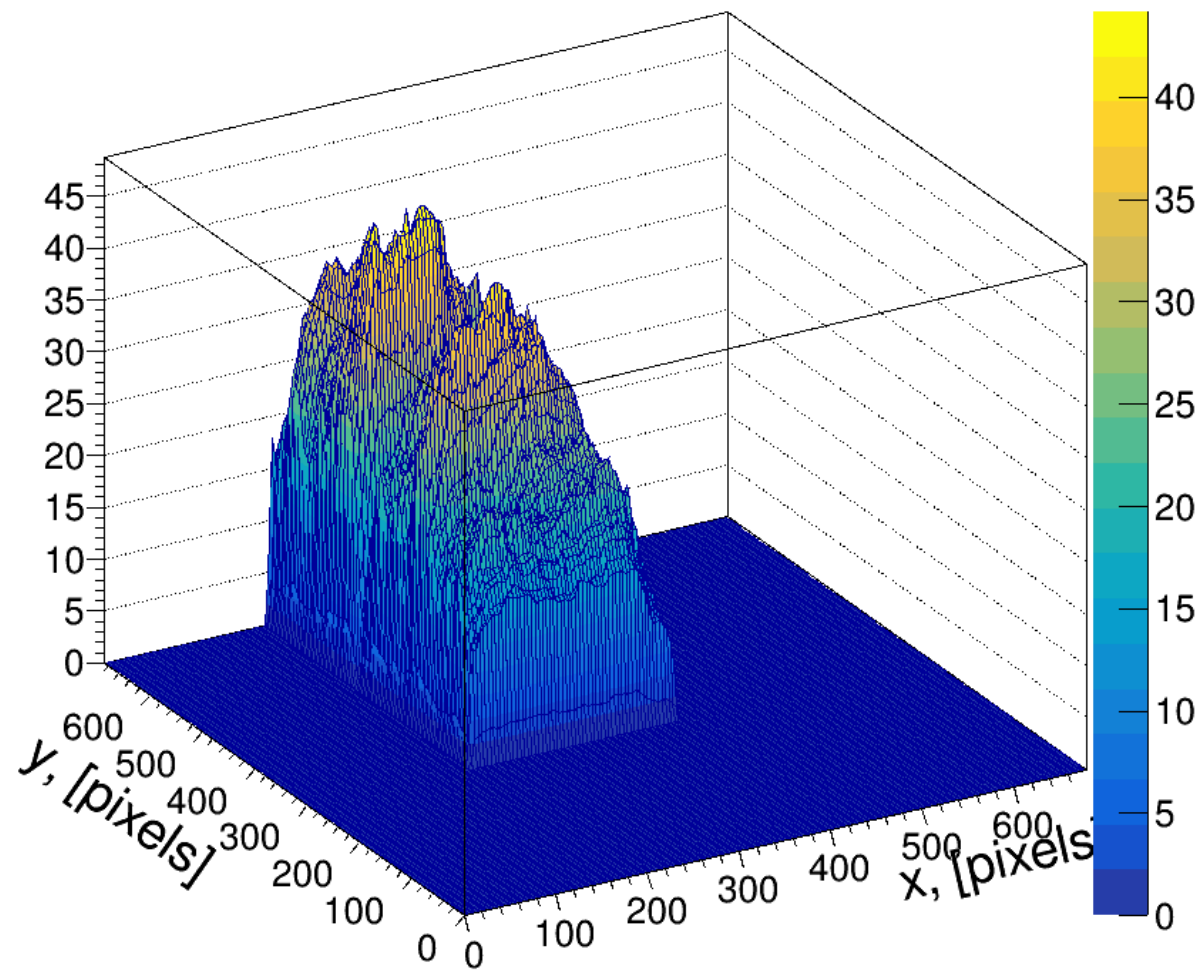
30 sec

Original data

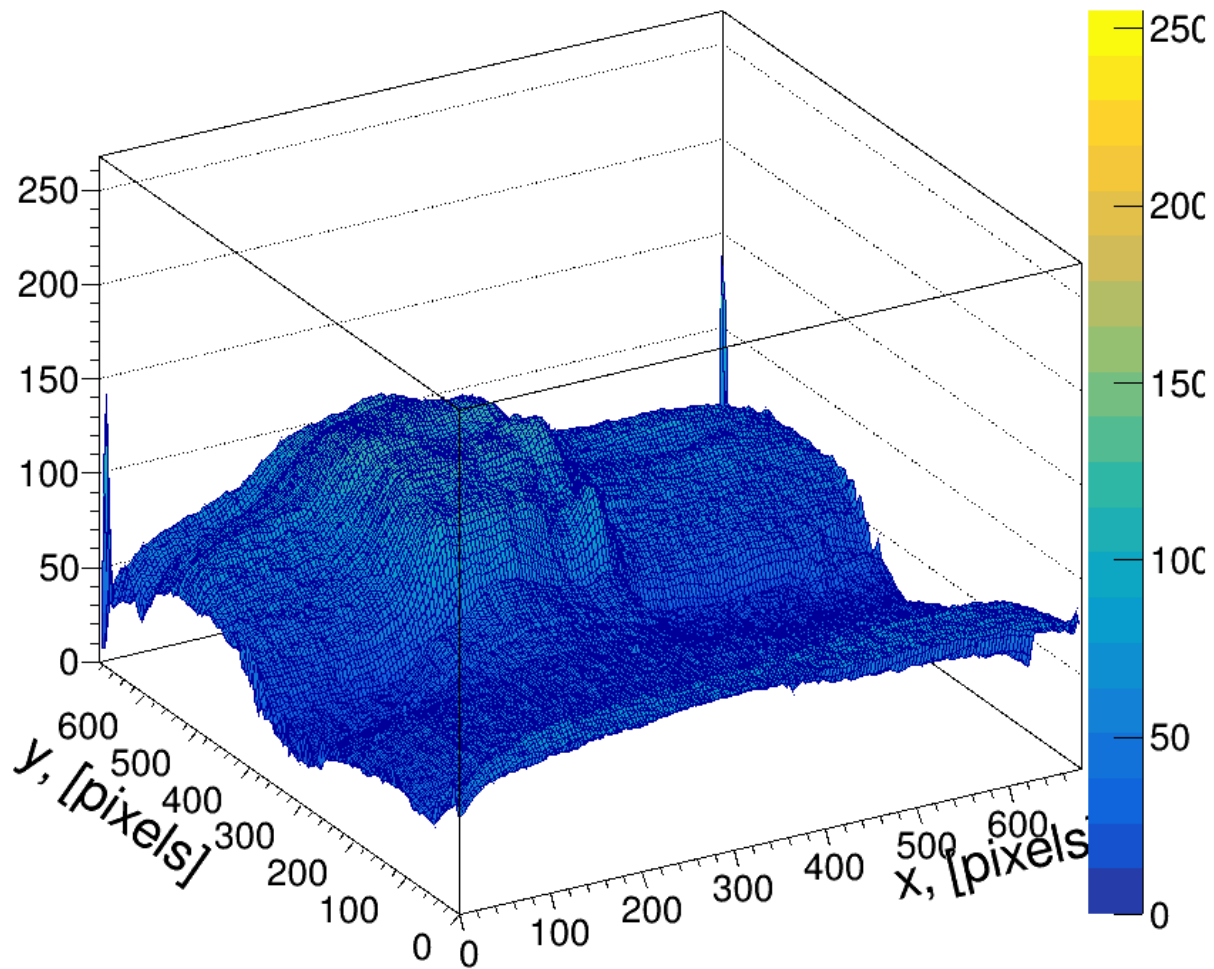Background distortion

30 sec

Data without distortion

Data without distortion & negative values (cut applied)
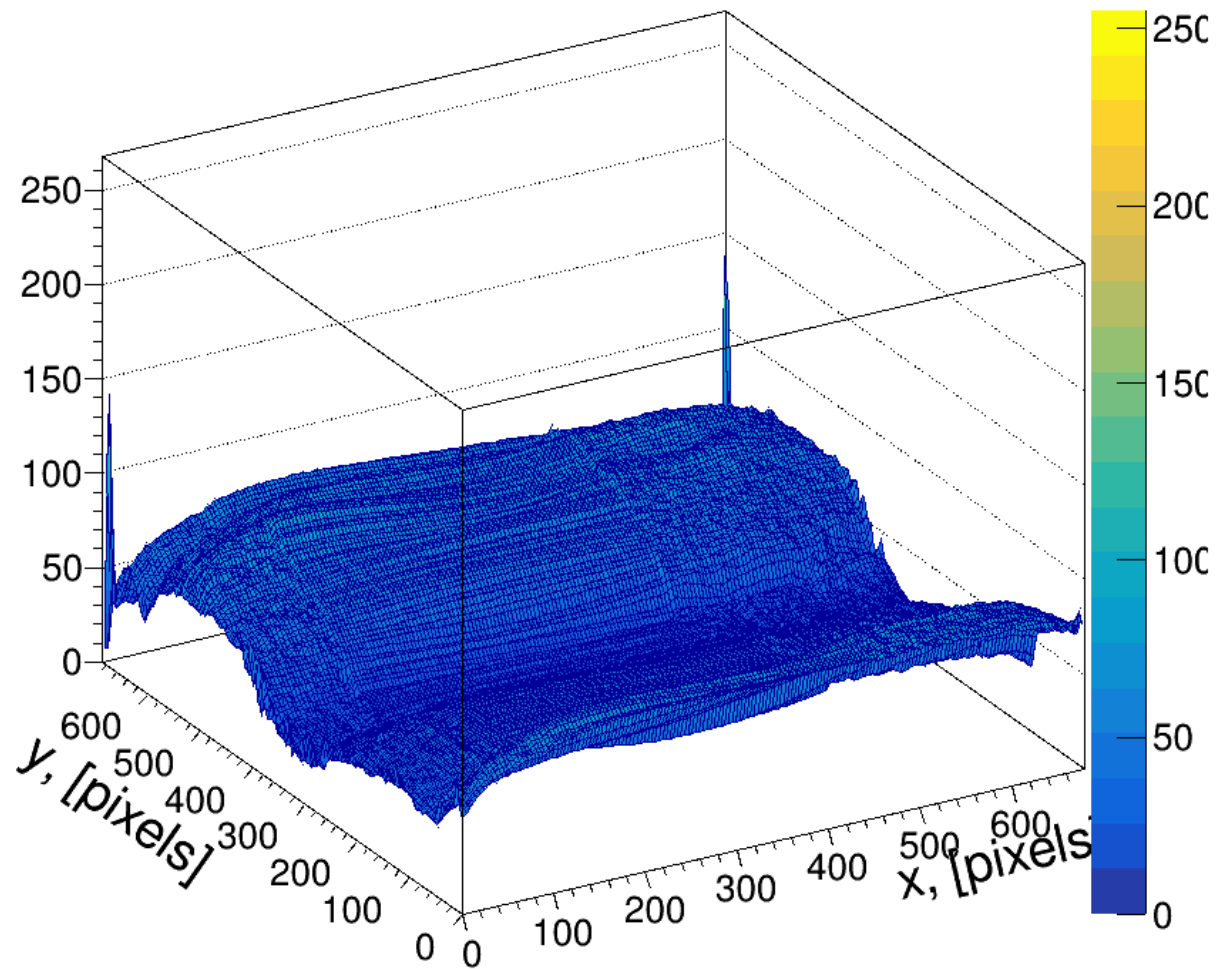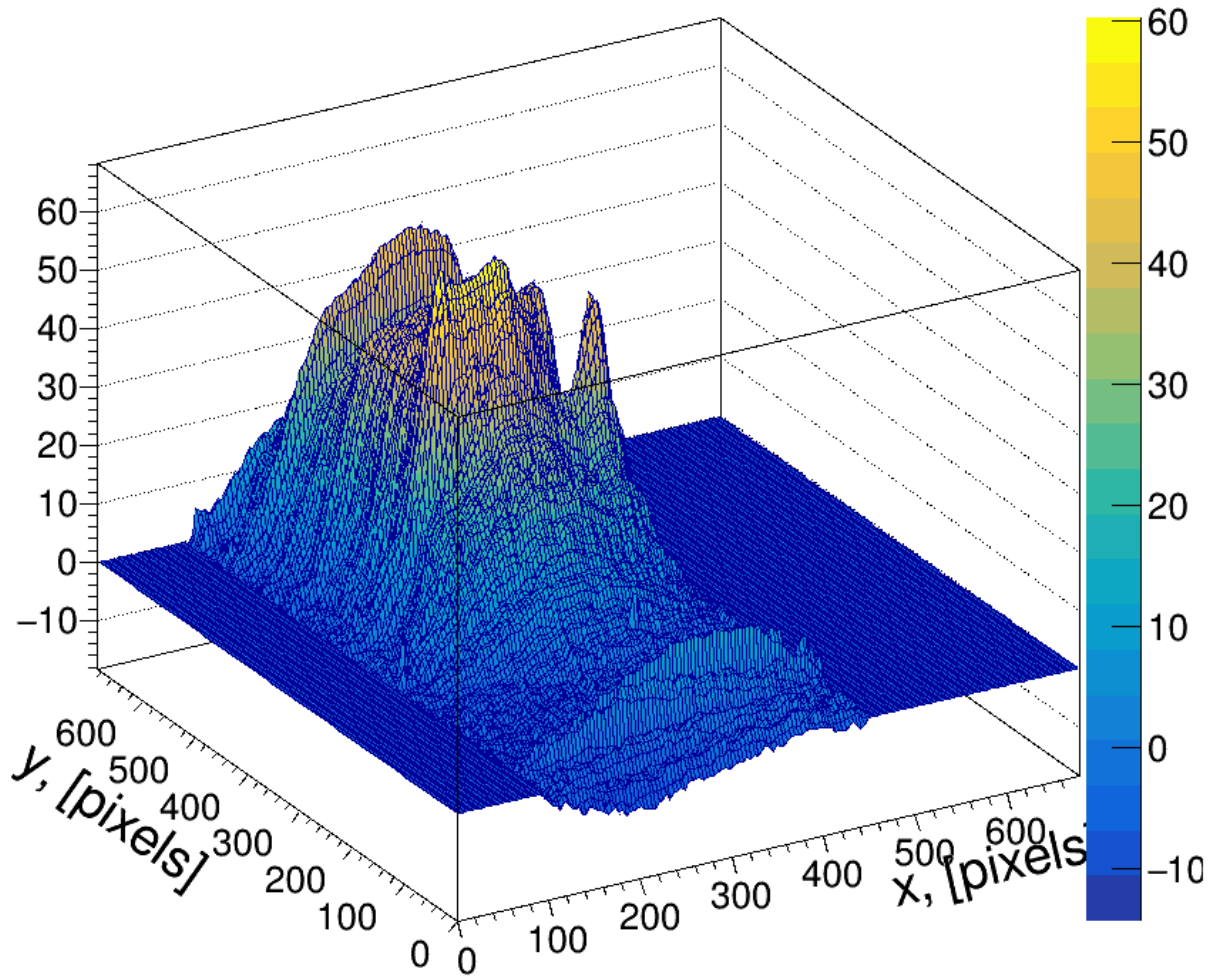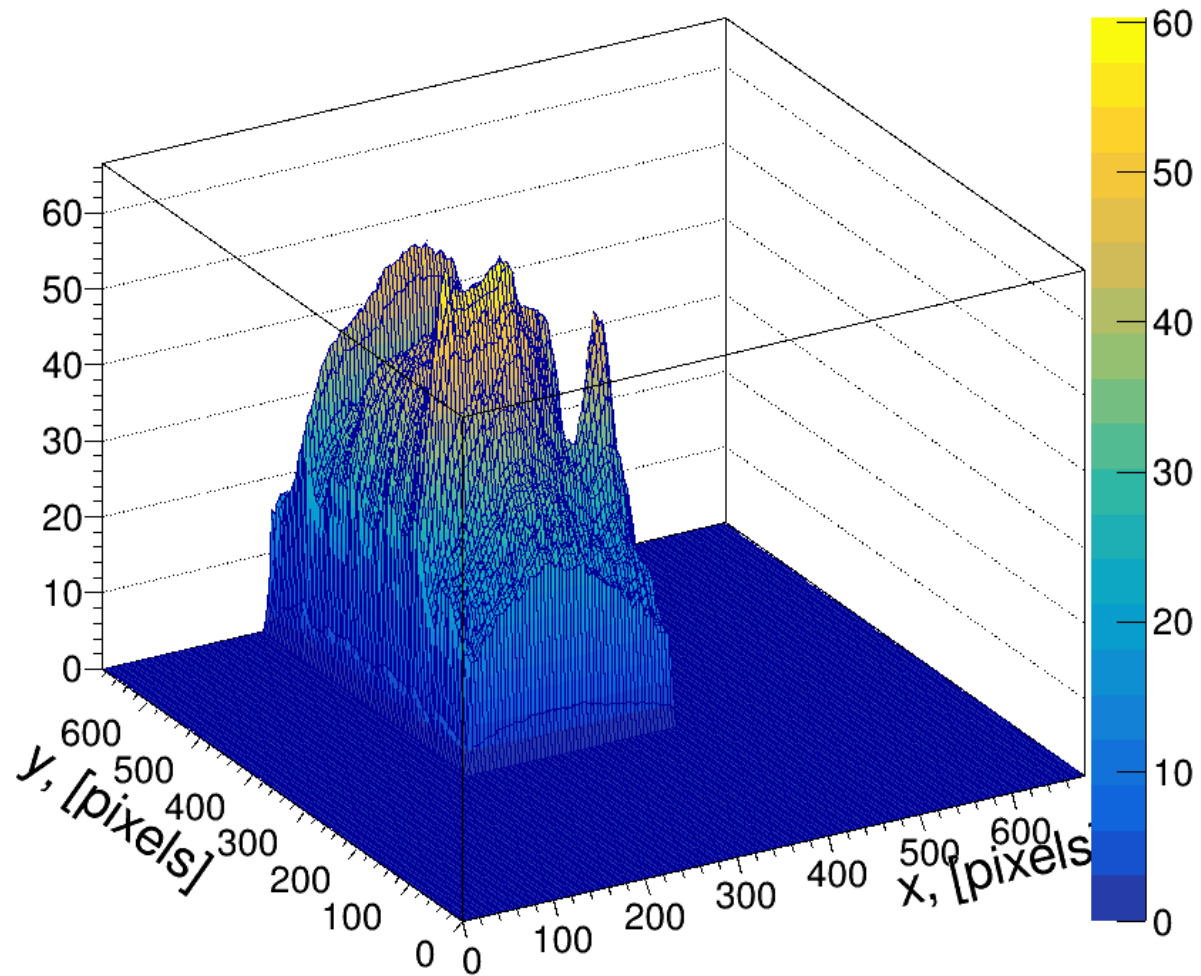
45 sec

Original data

Background distortion

45 sec
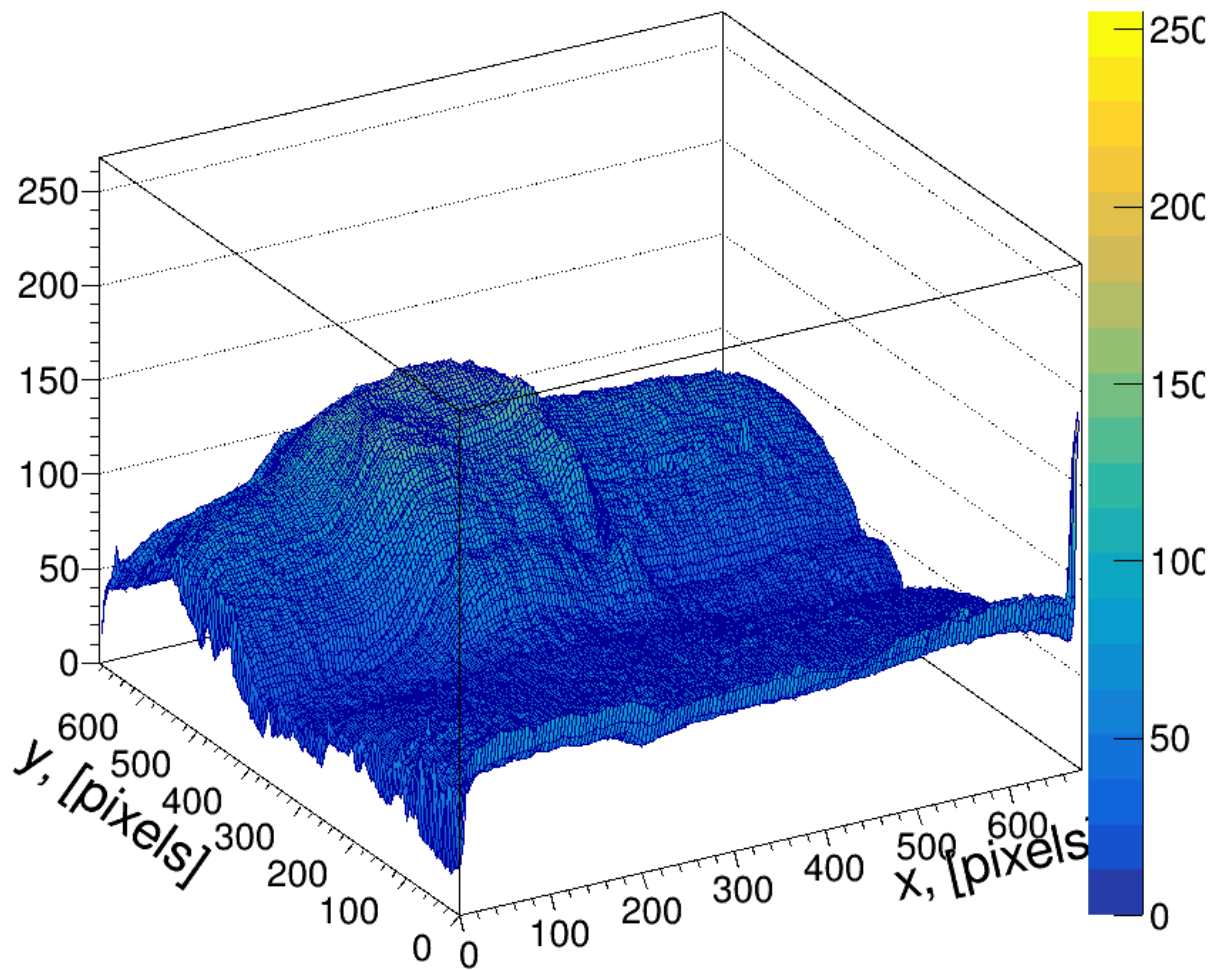
Data without distortion

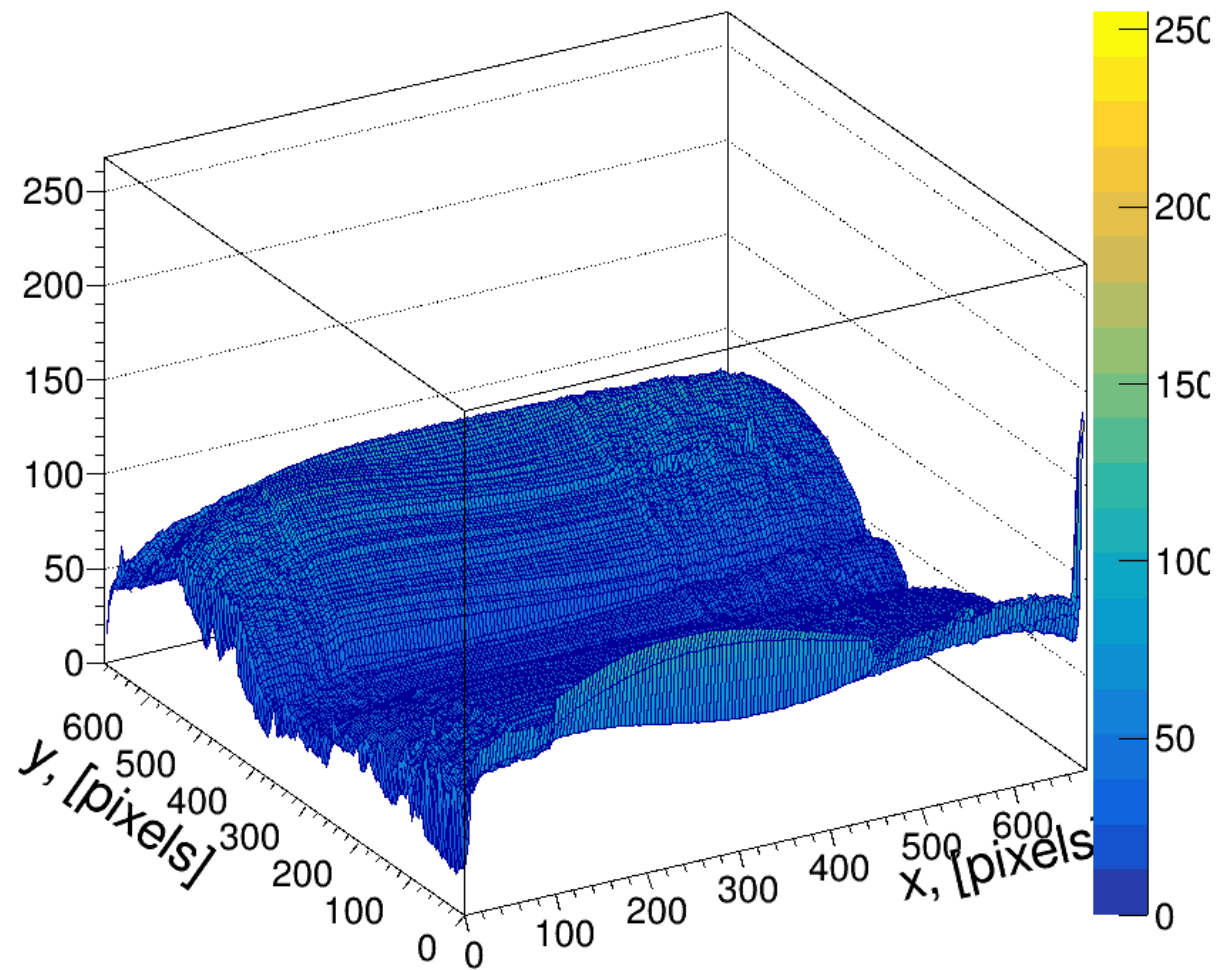Data without distortion & negative values (cut applied)
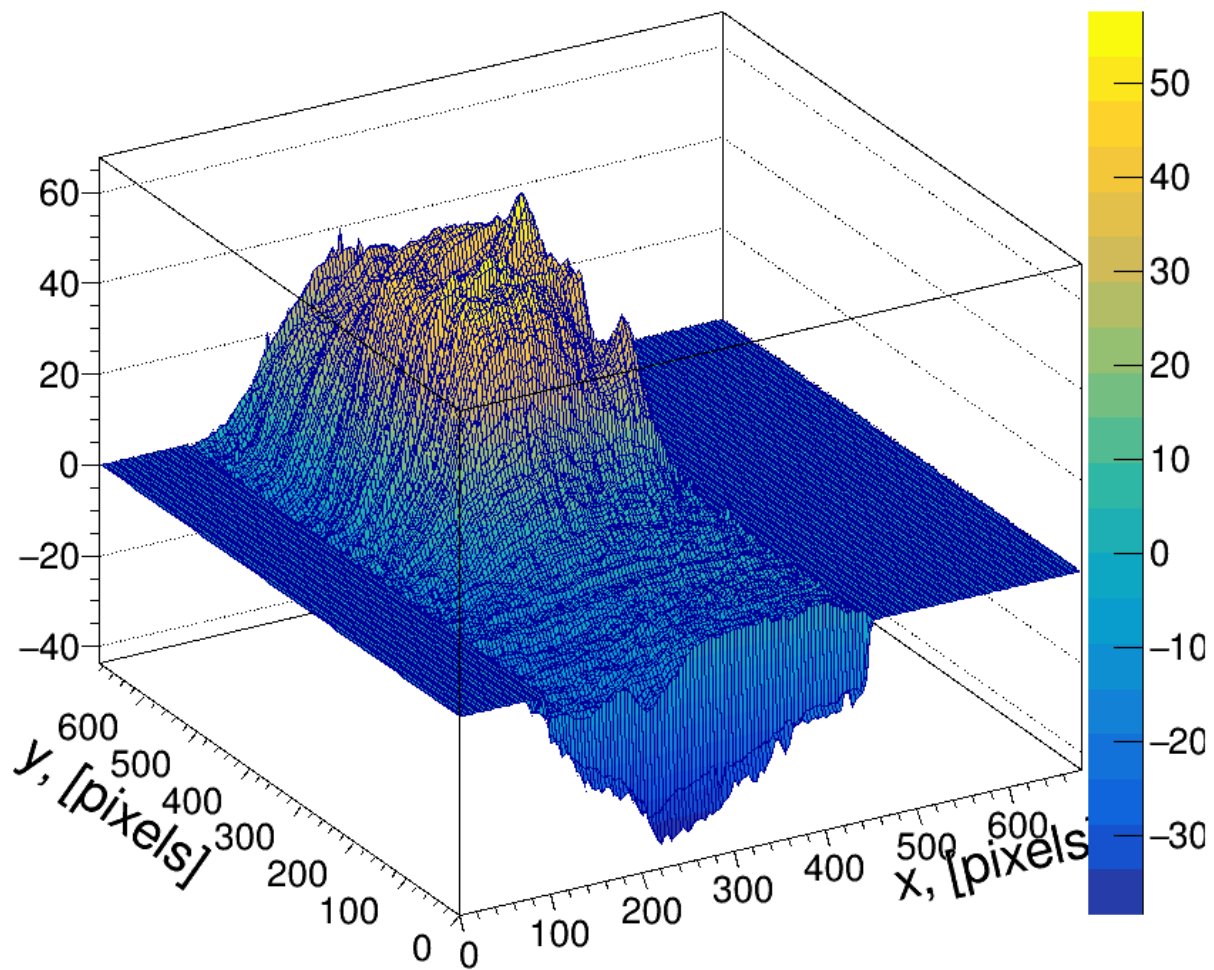
1 min

Original data
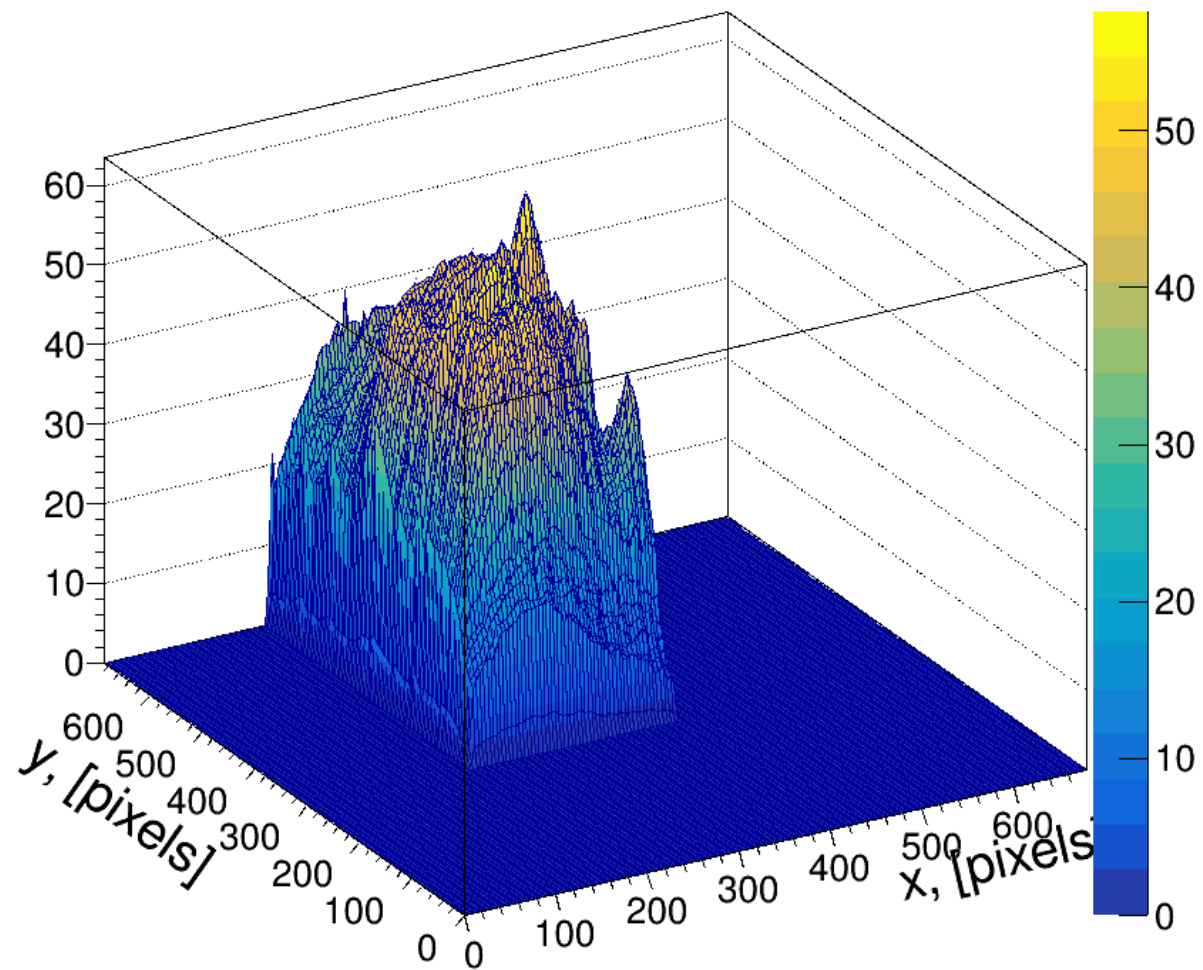
Background distortion

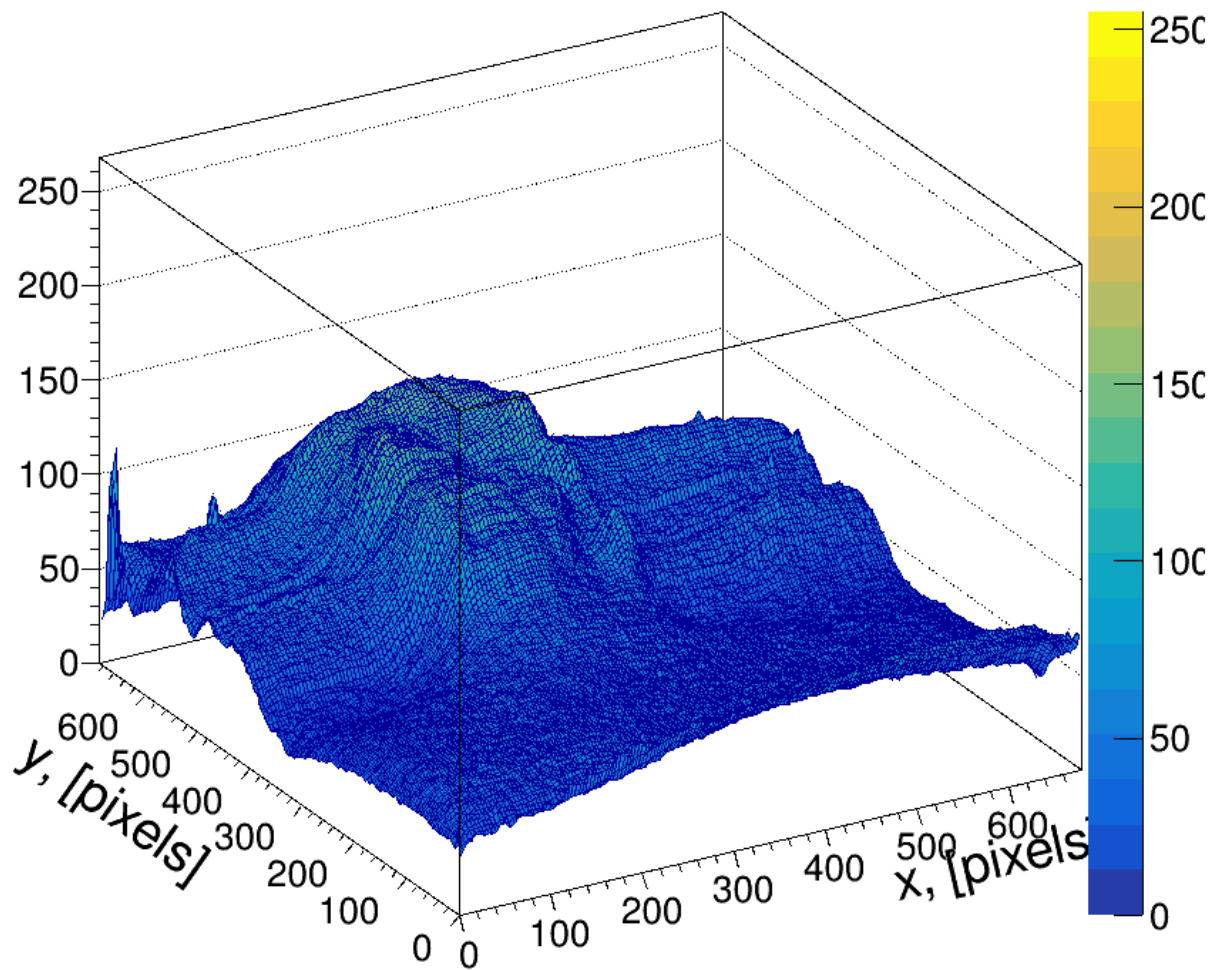# 1 min

Data without distortion

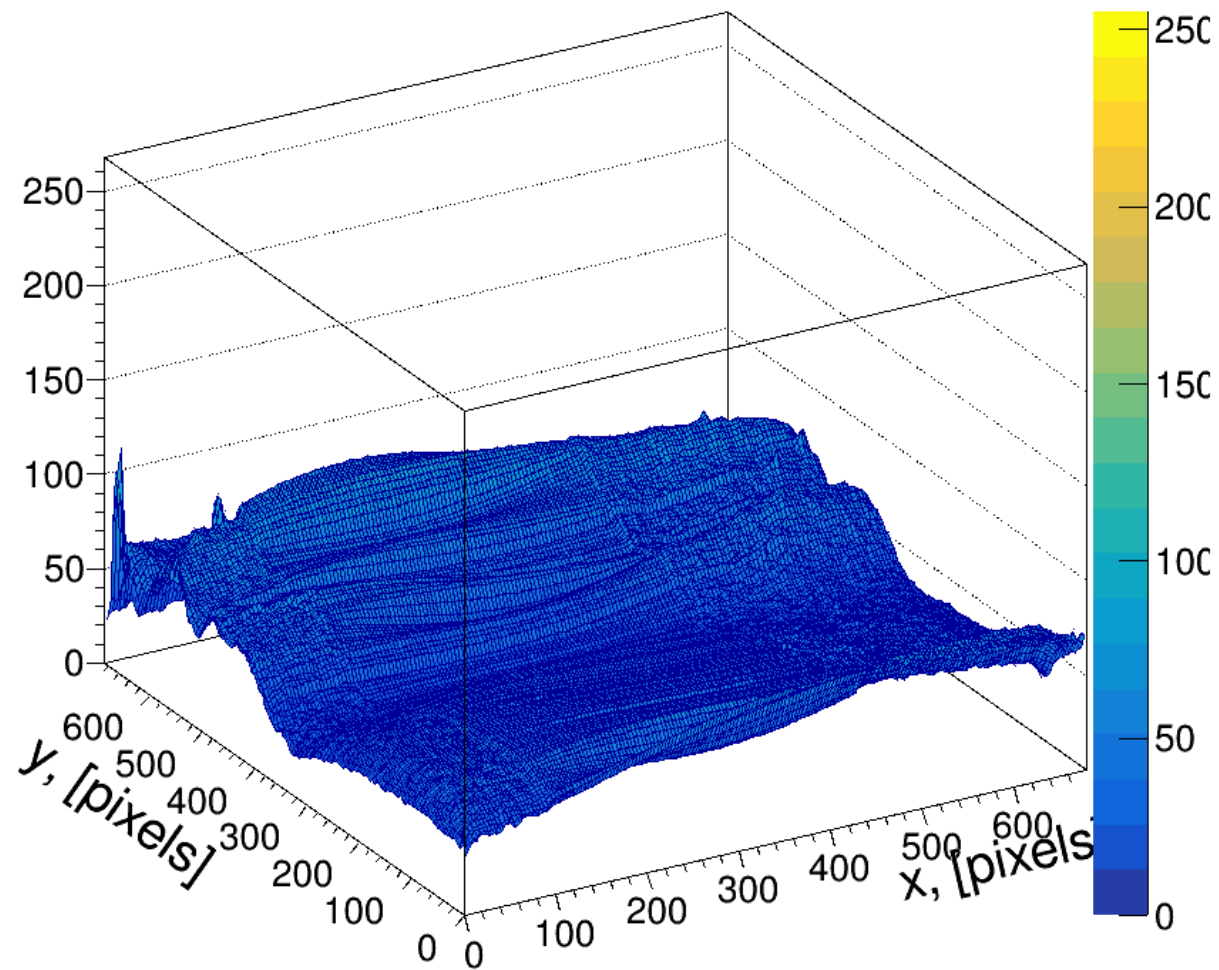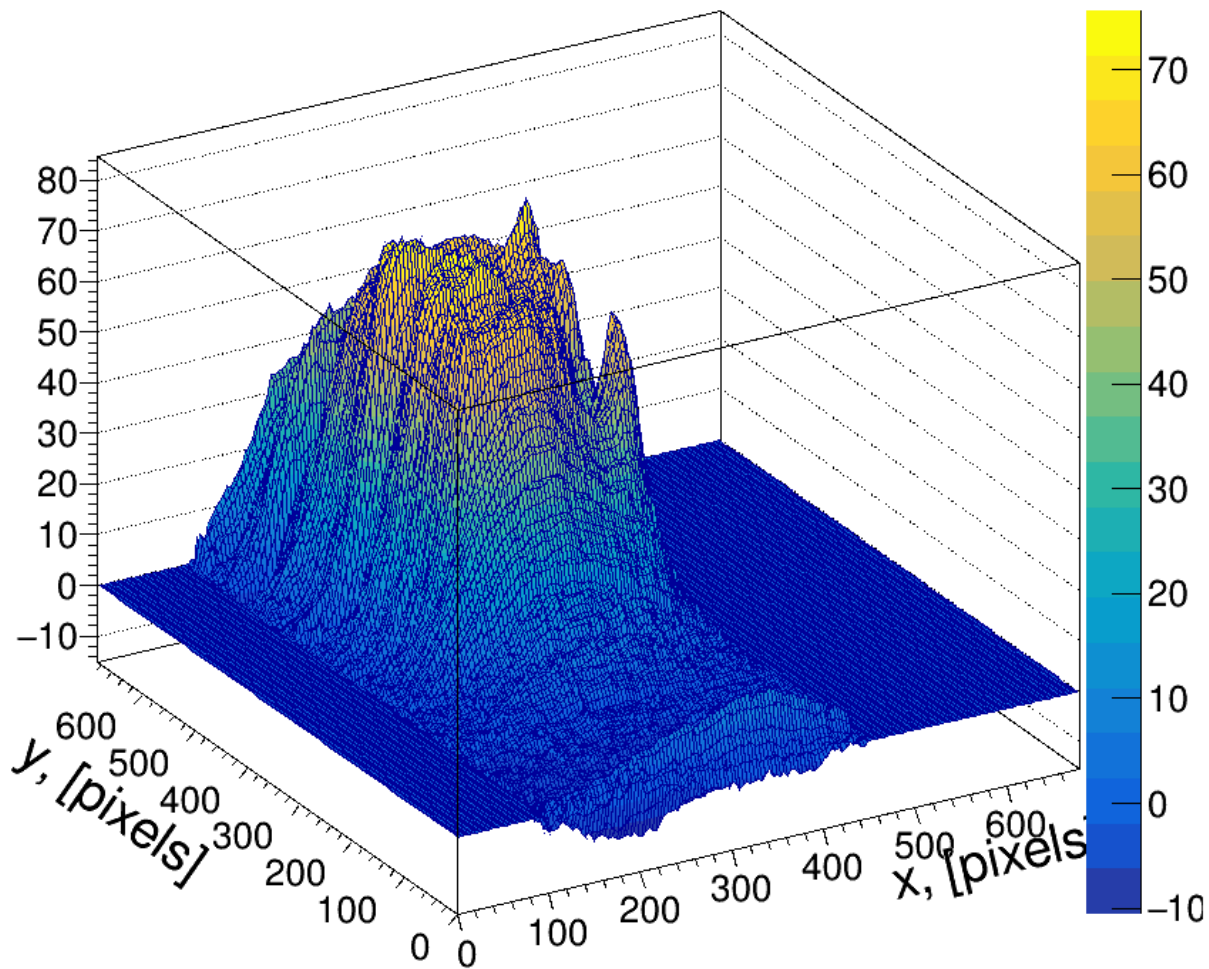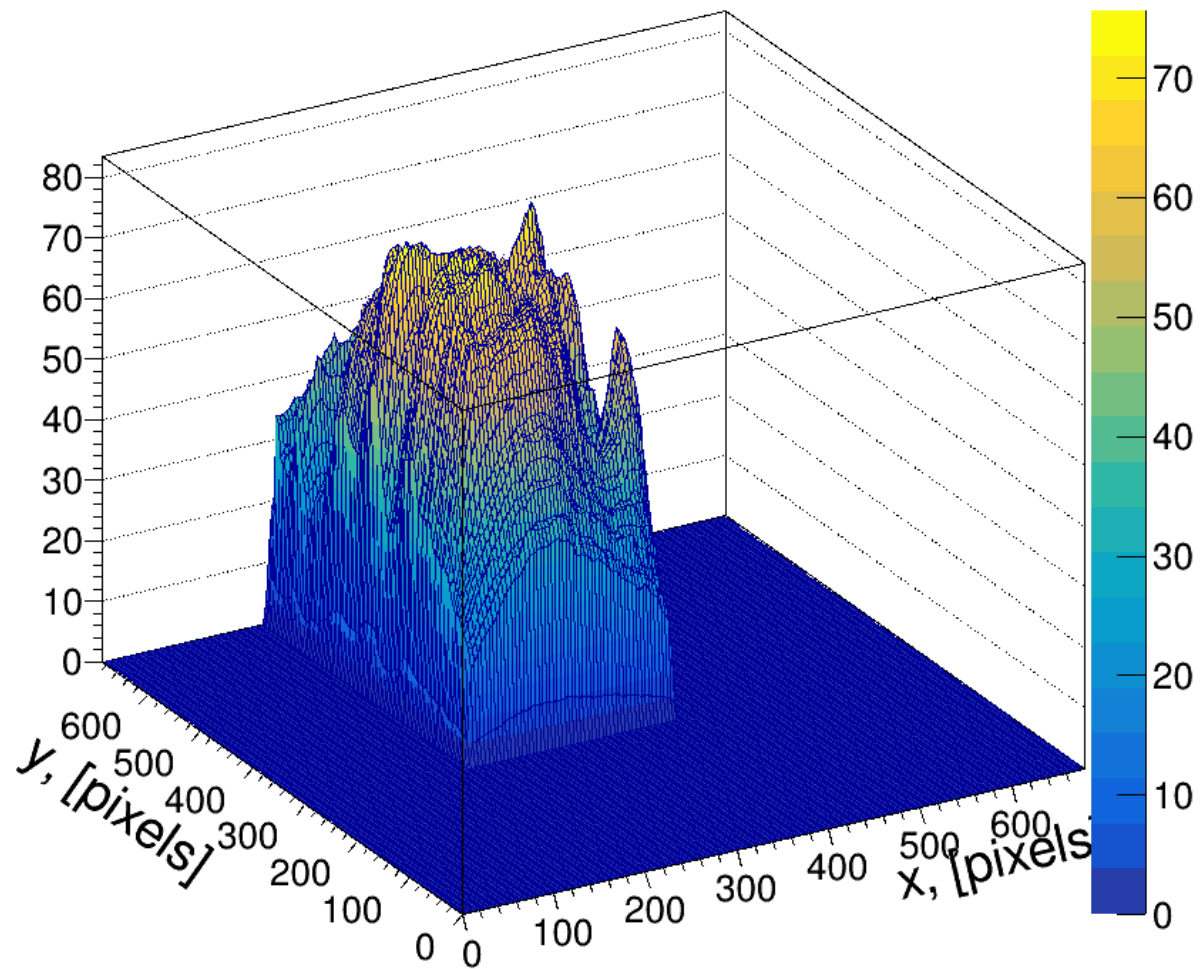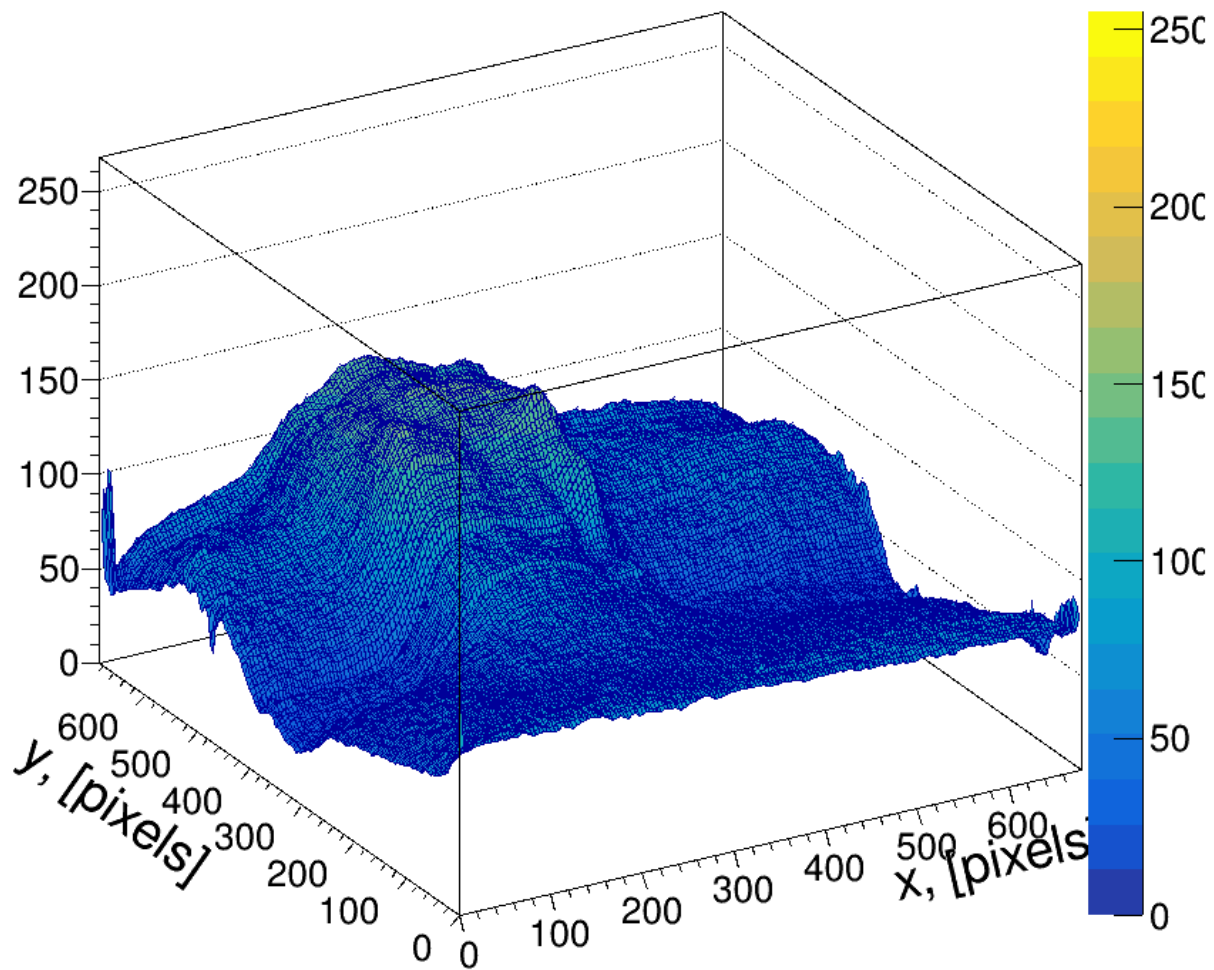Data without distortion & negative values (cut applied)
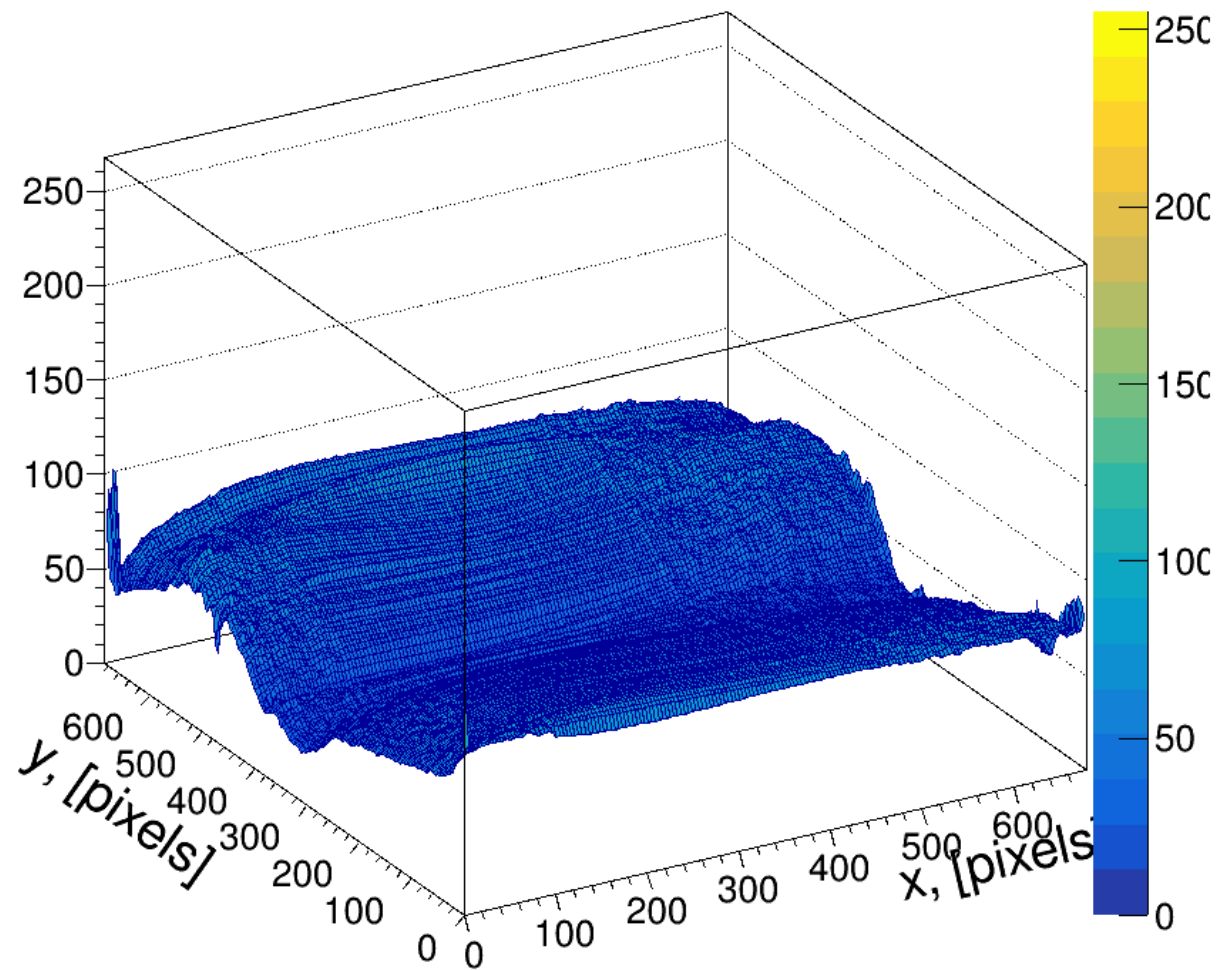
1 min 10 sec

Original data

Background distortion

1 min 10 sec

Data without distortion

Data without distortion & negative values (cut applied)
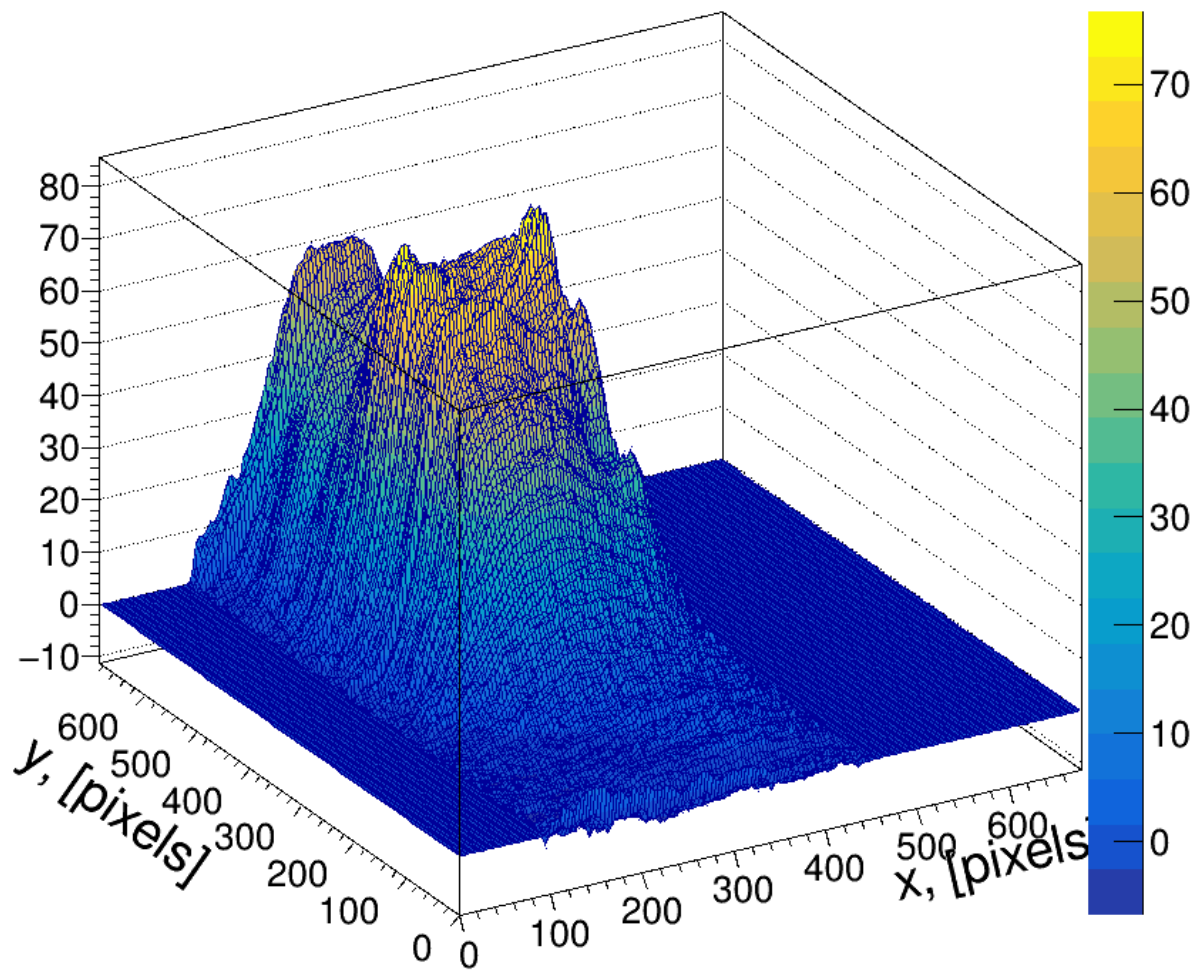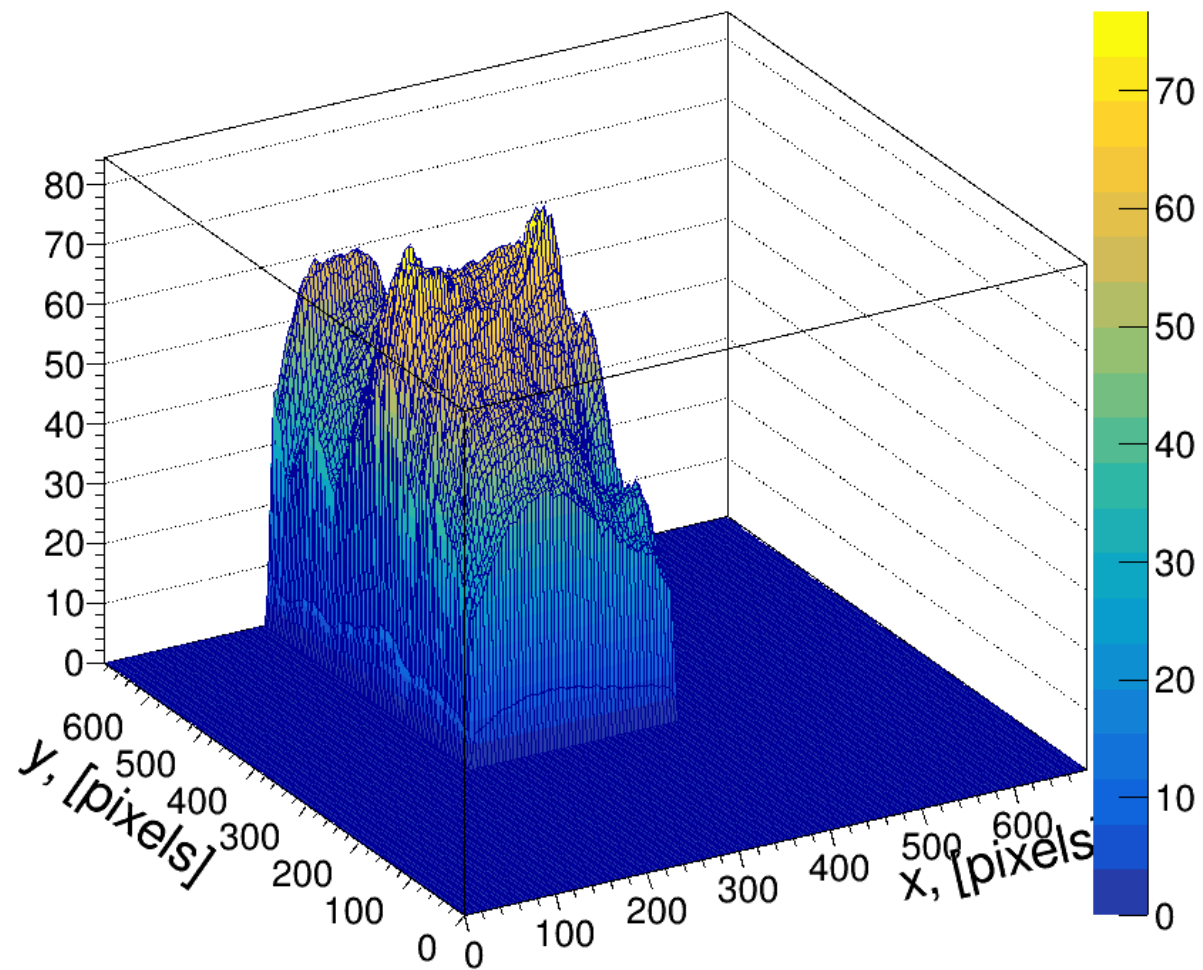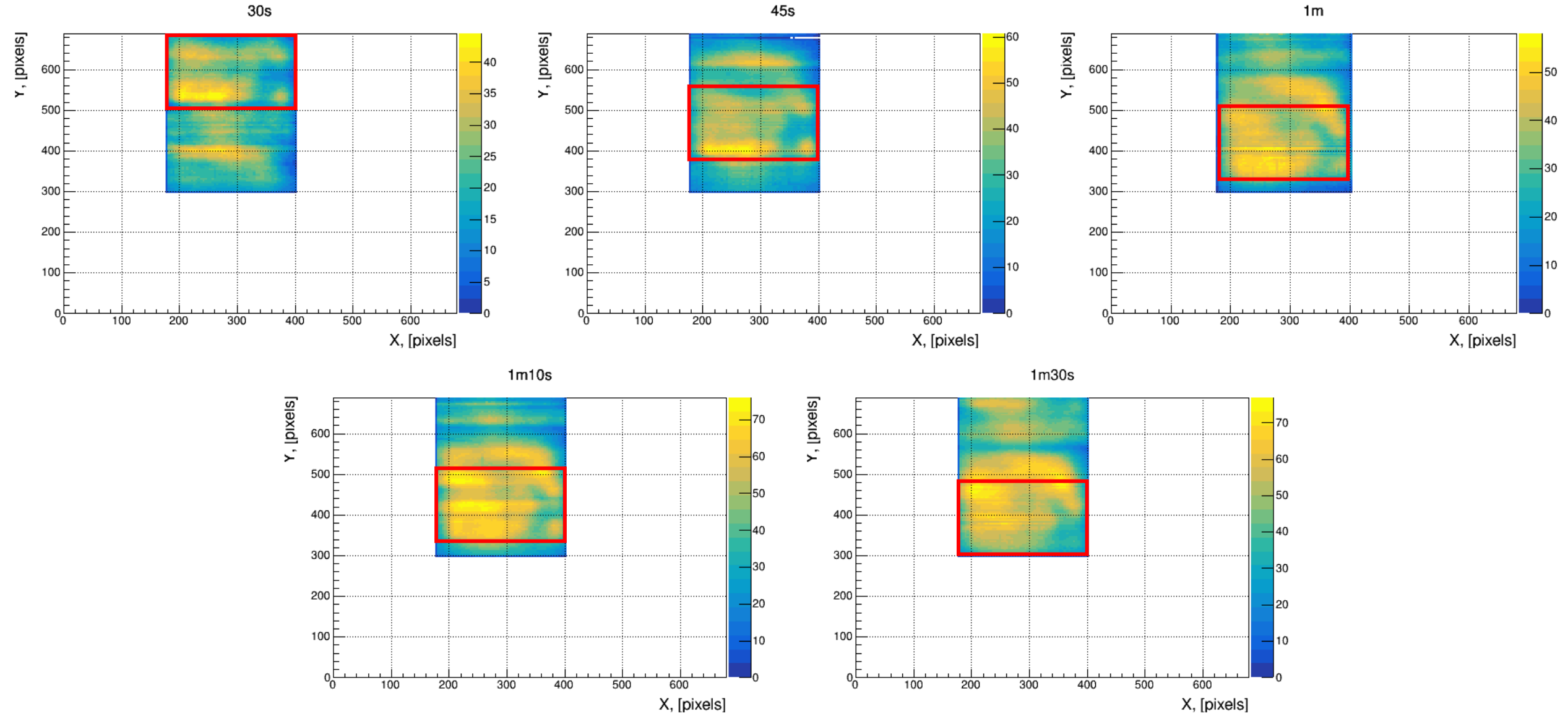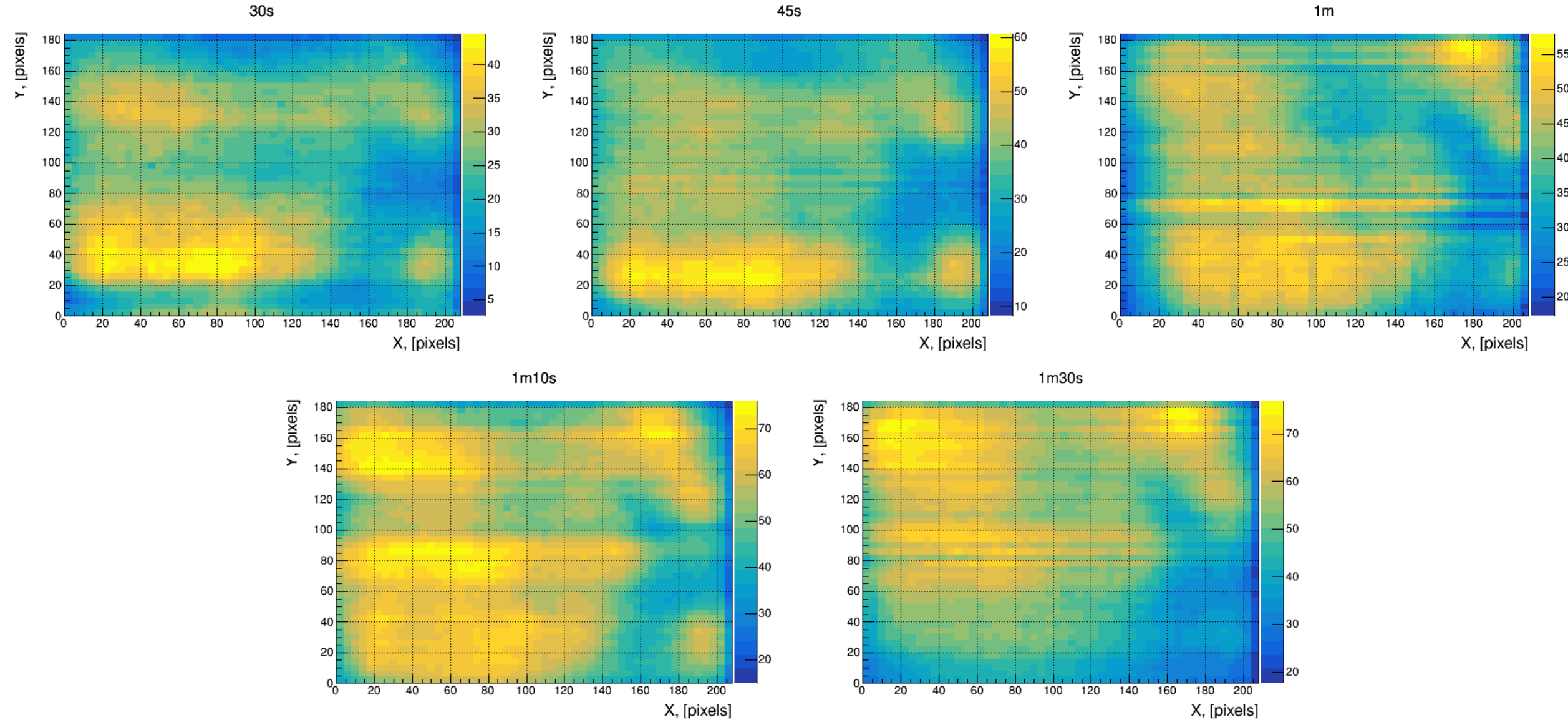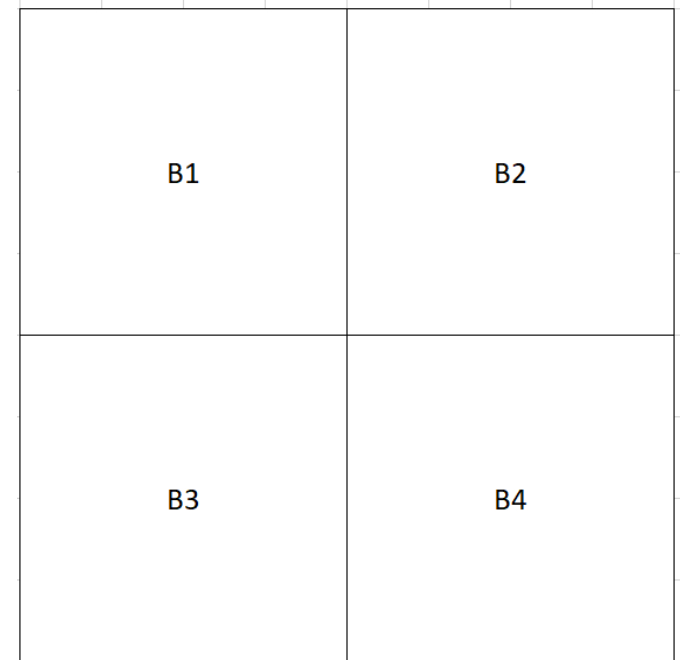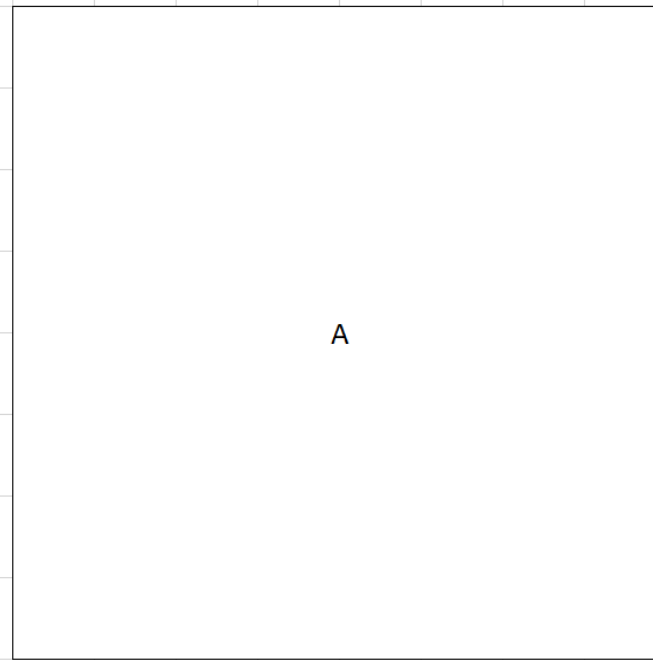
1 min 30 sec

Original data

Background distortion

1 min 30 sec

Data without distortion

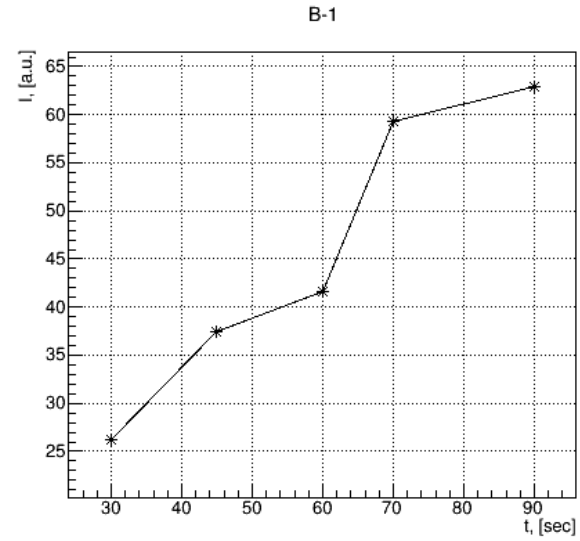Data without distortion & negative values (cut applied)

Data (prepared for Intensity comparisons)
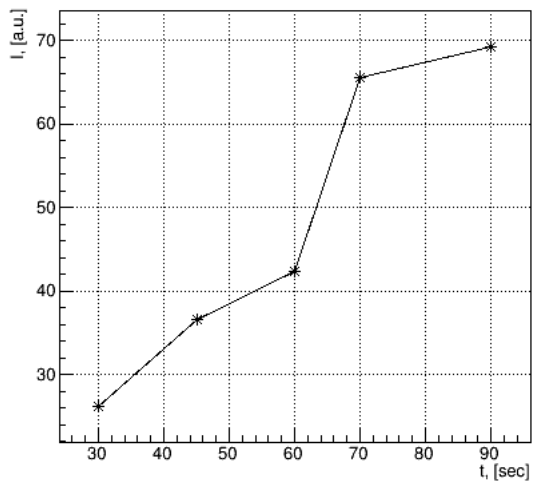
Data (prepared for Intensity comparisons)
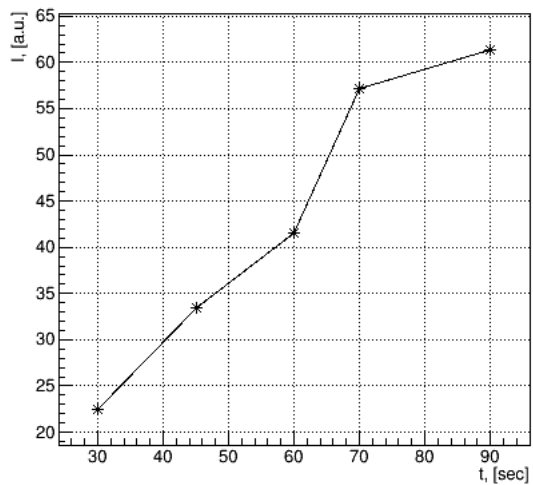
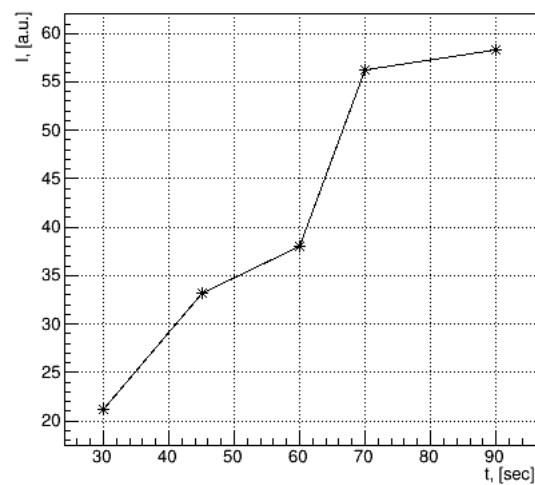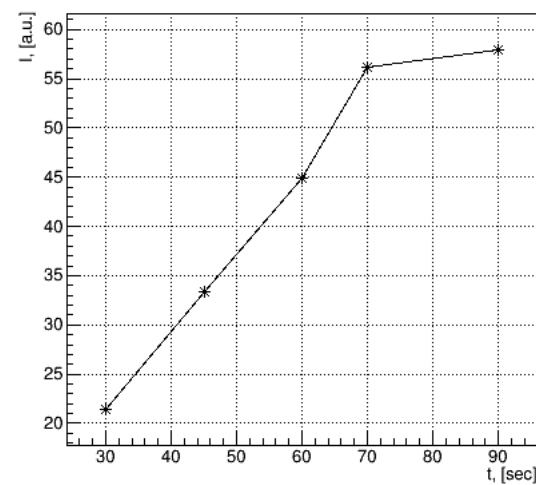# Options of intensity plots

Option A
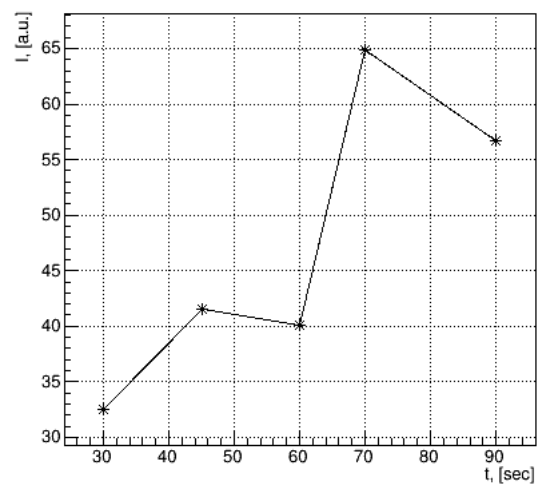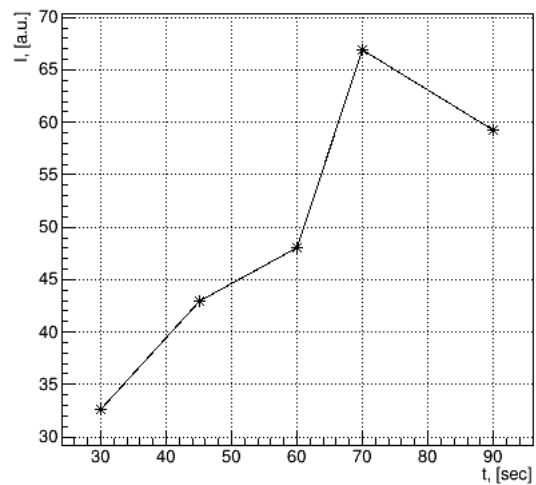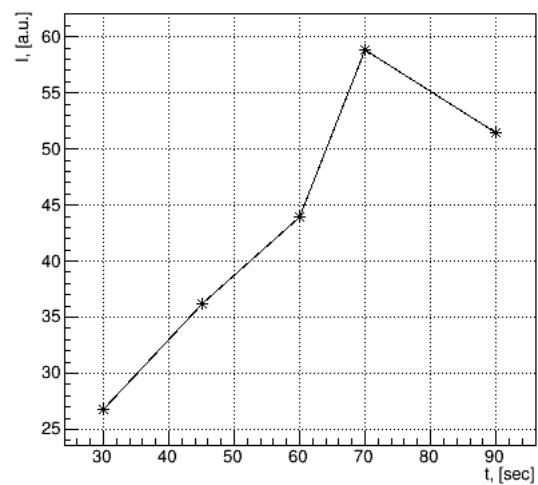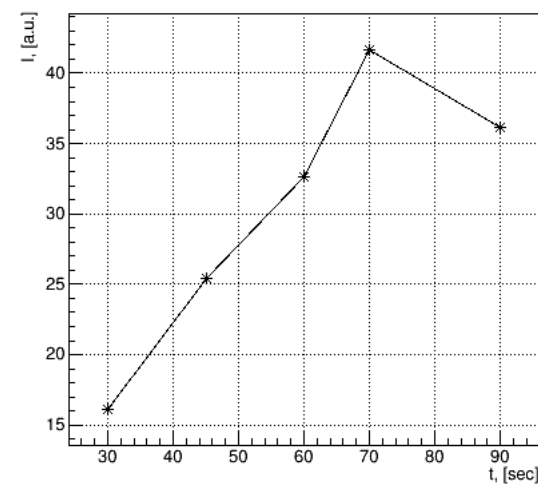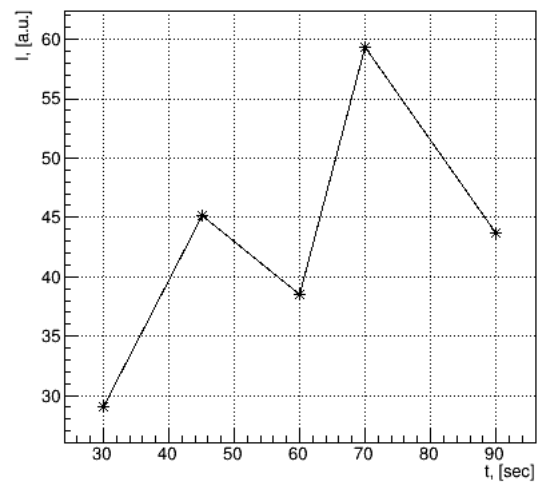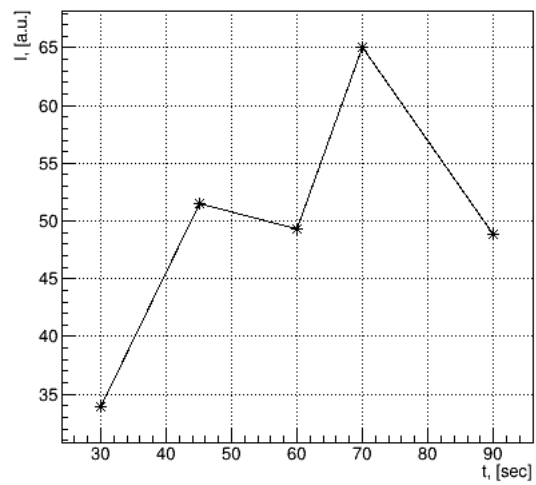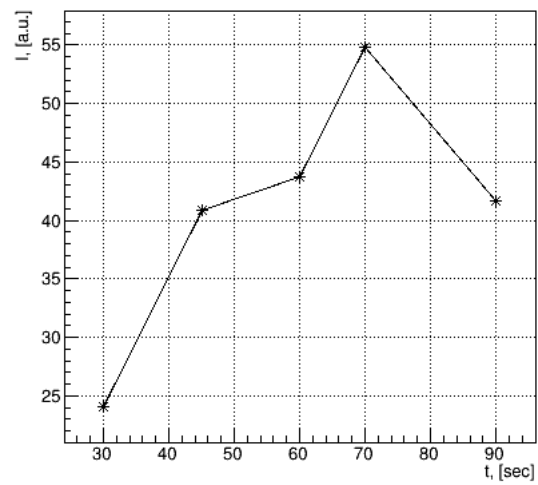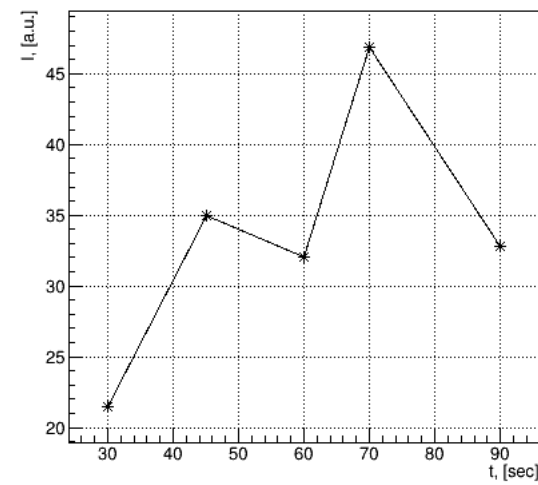
A-1
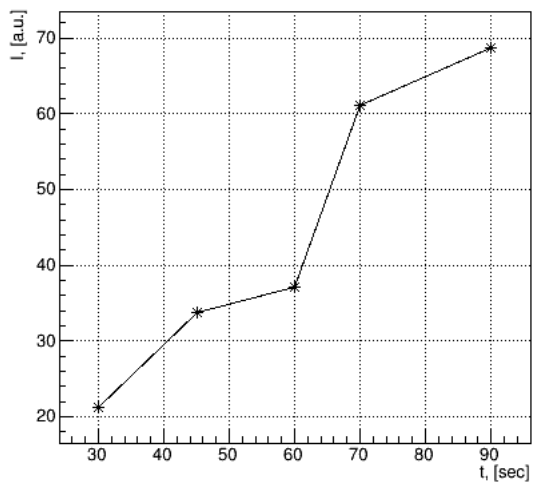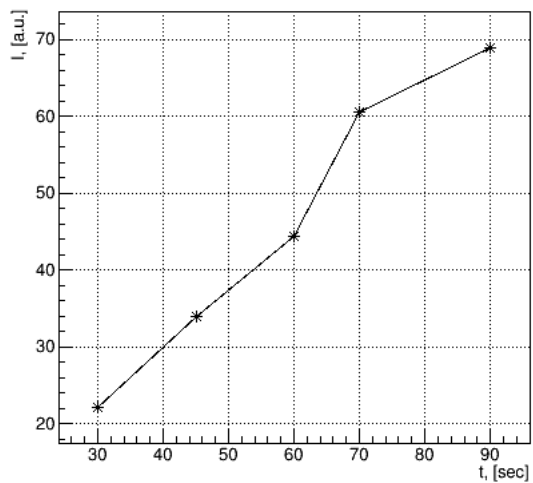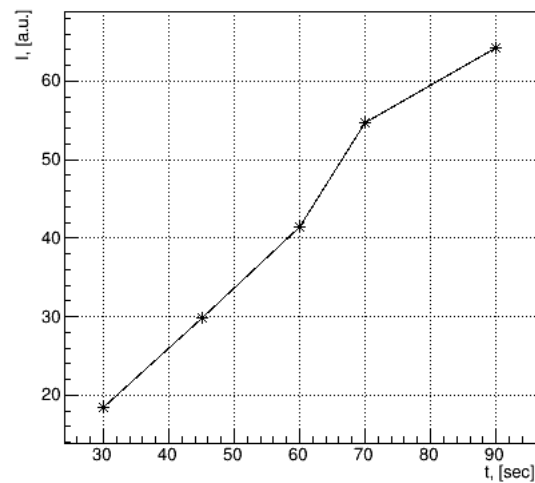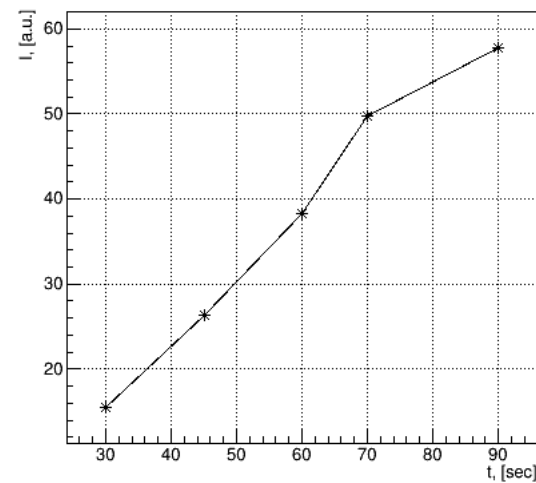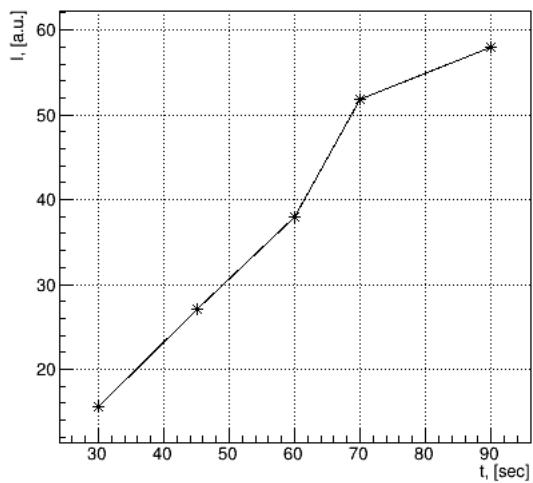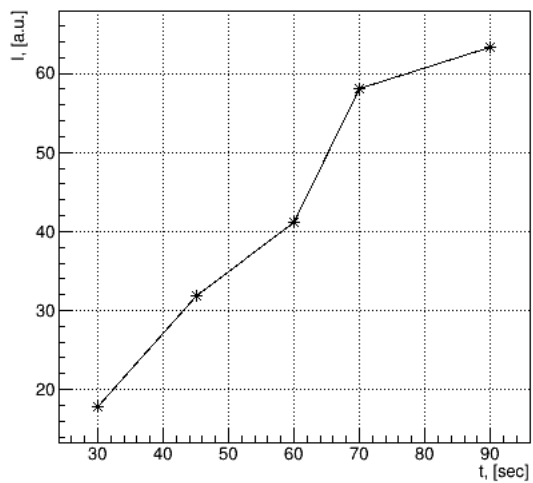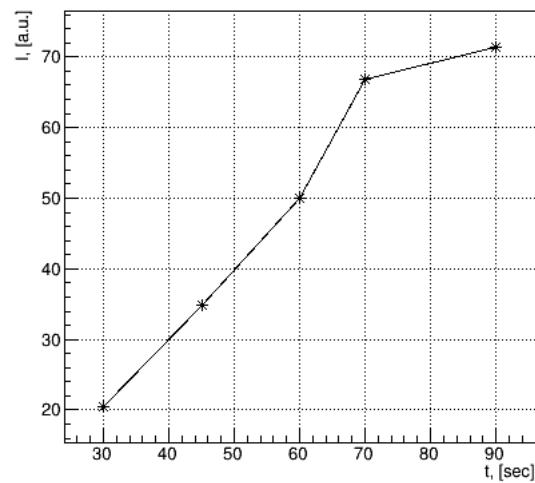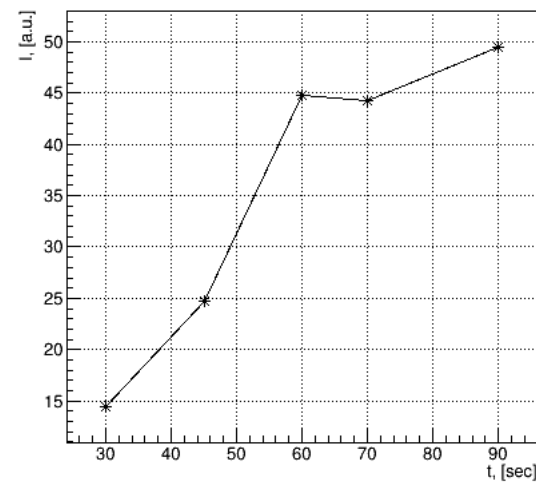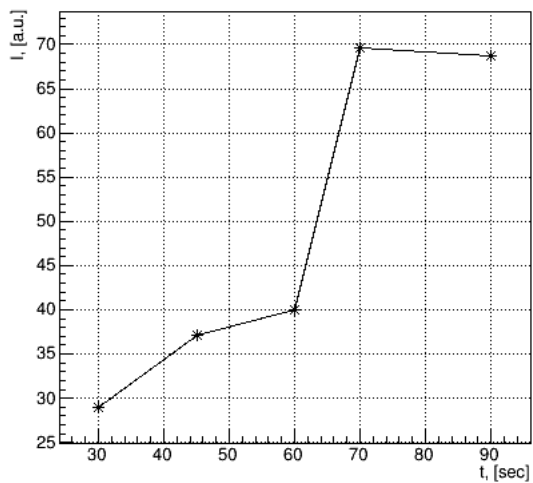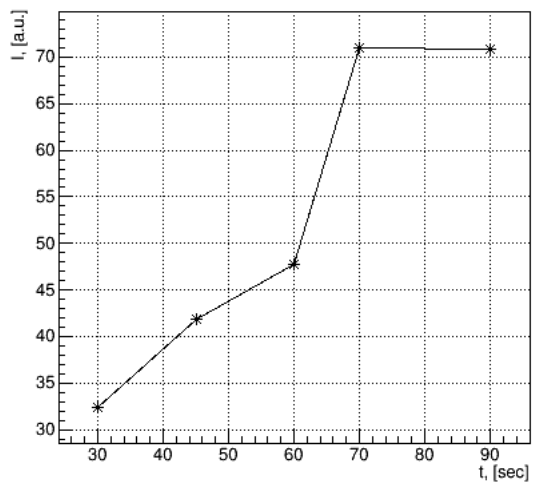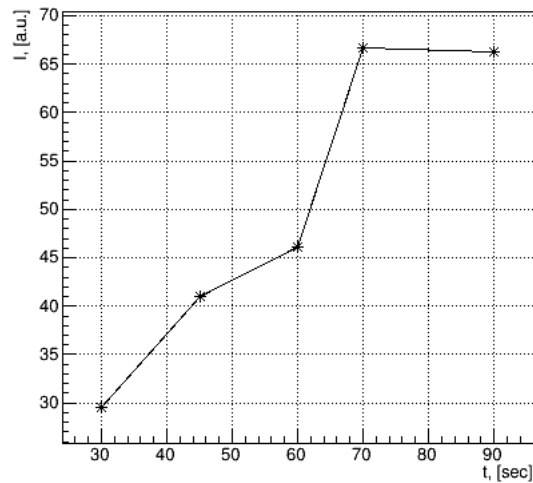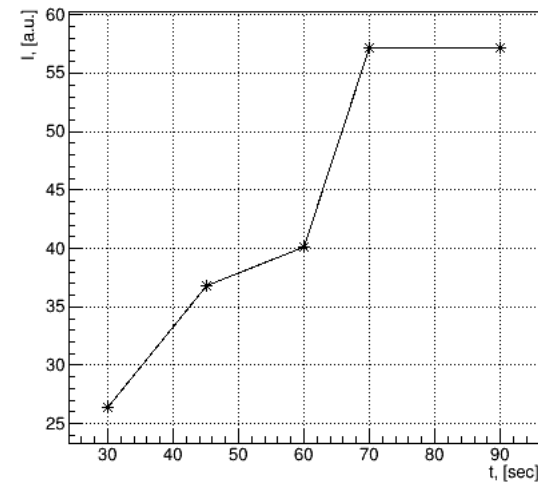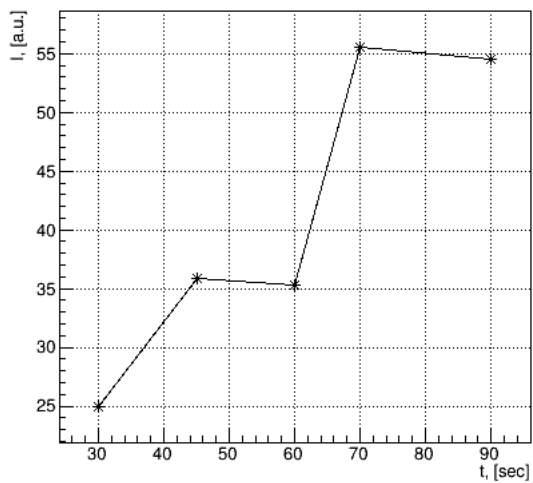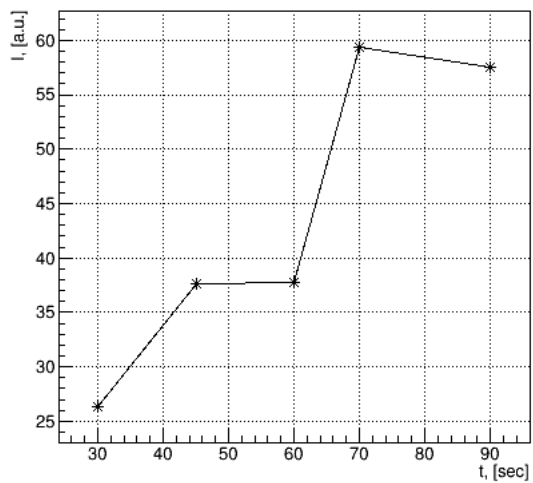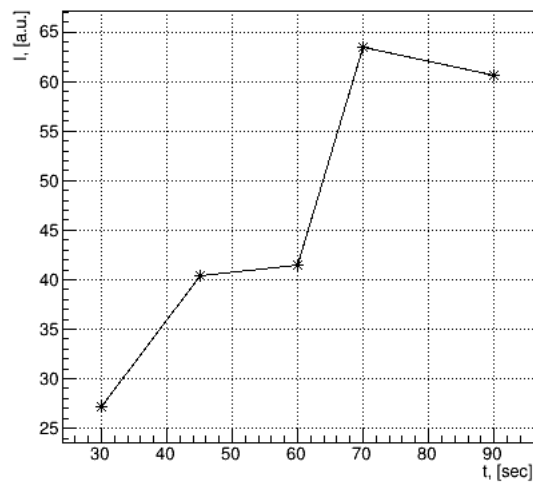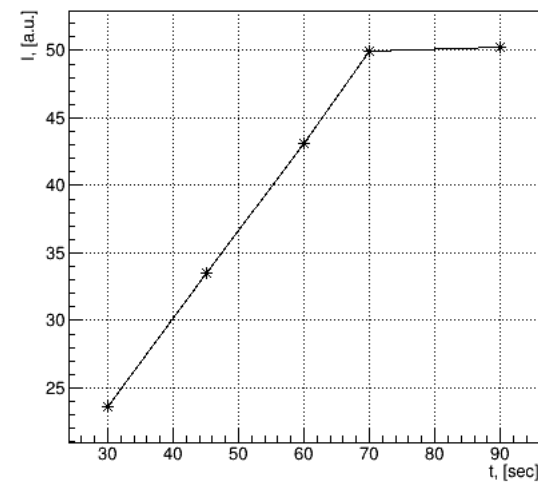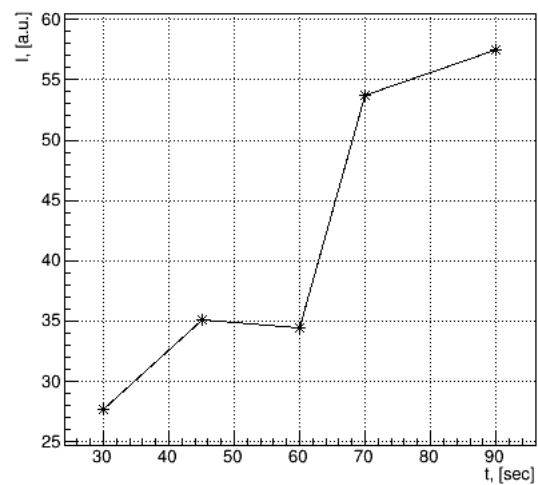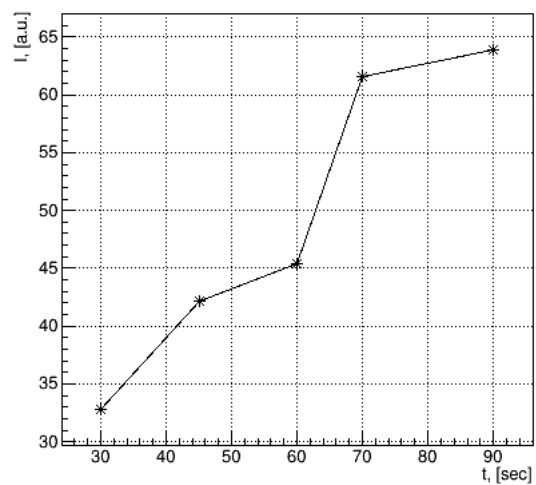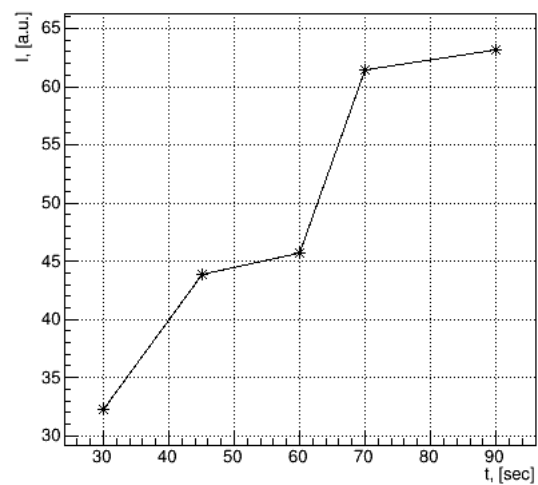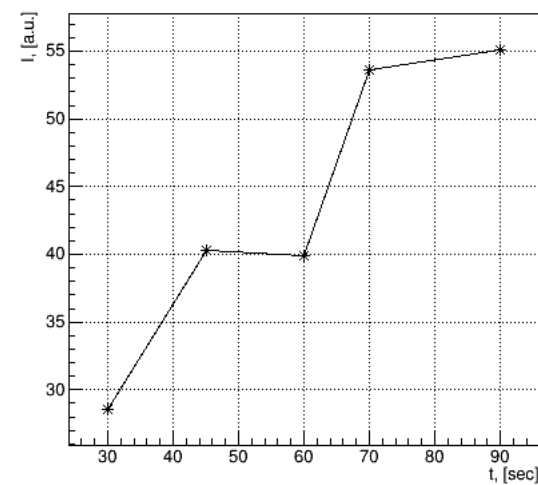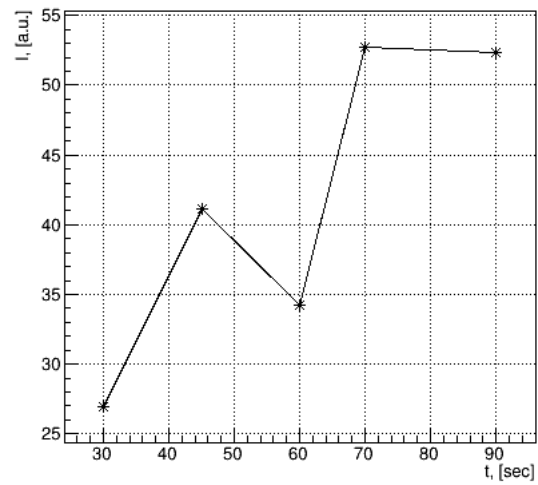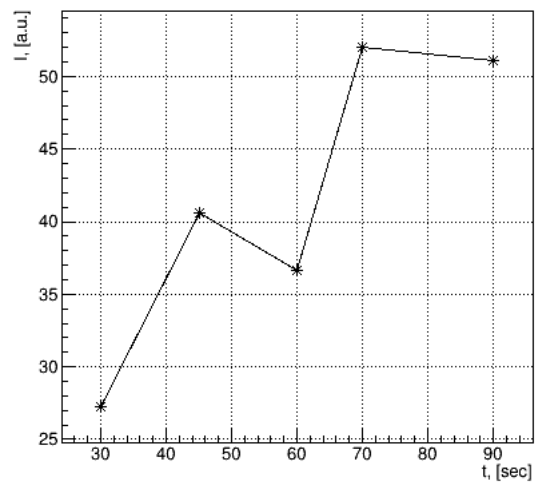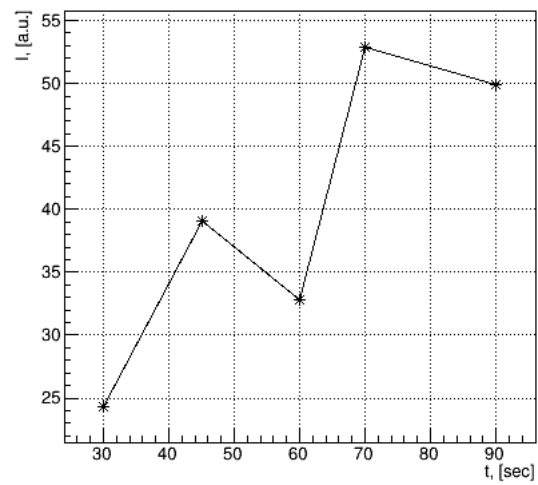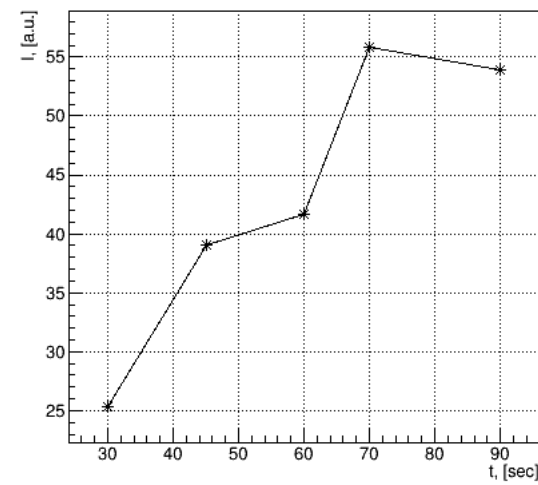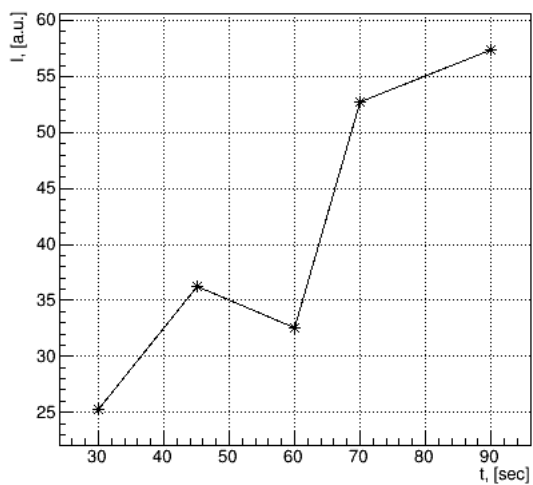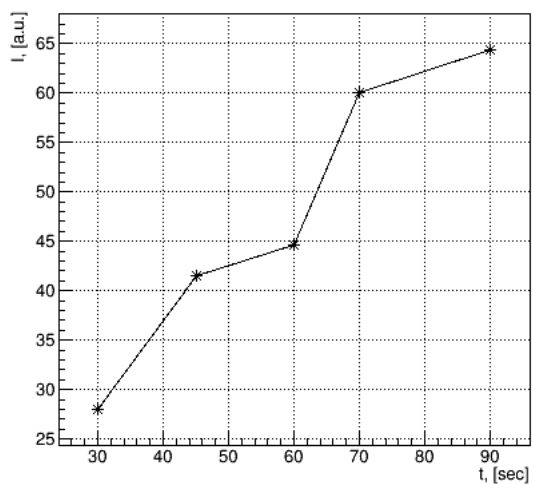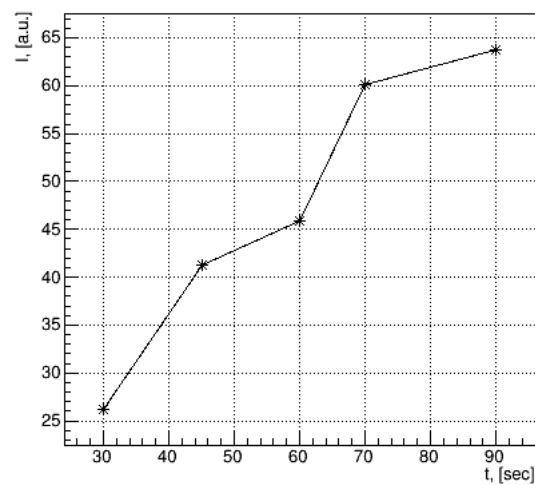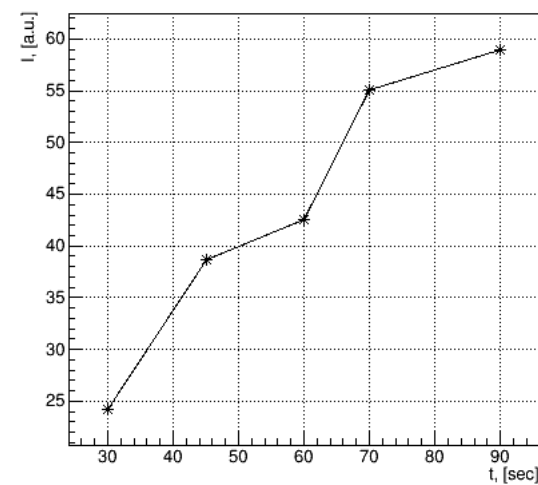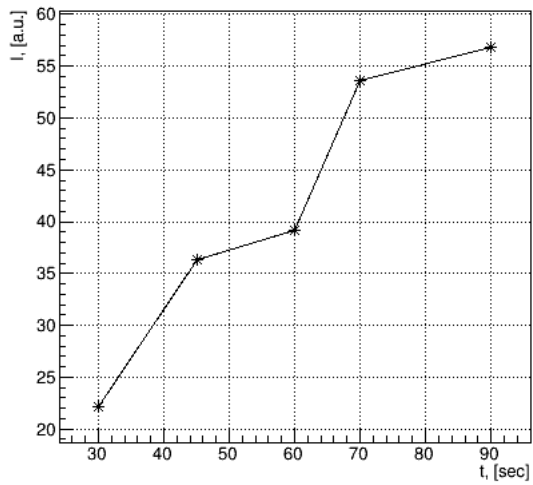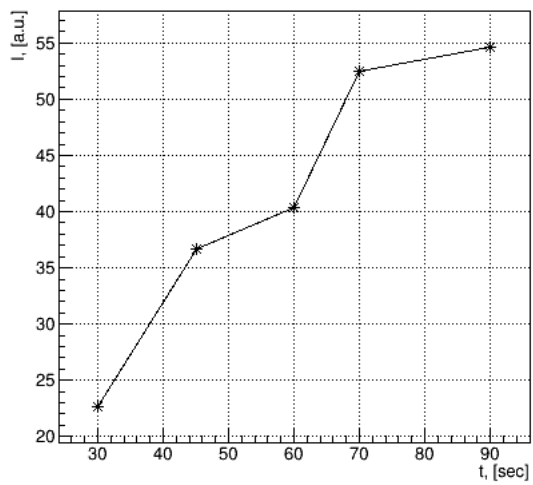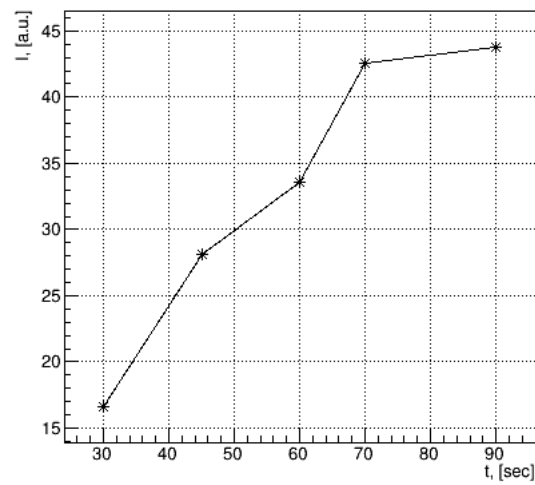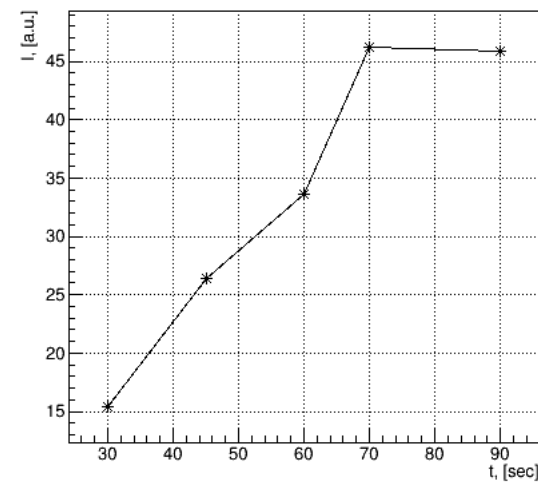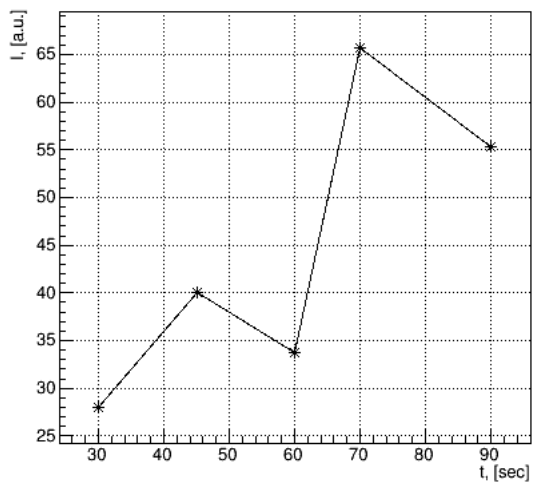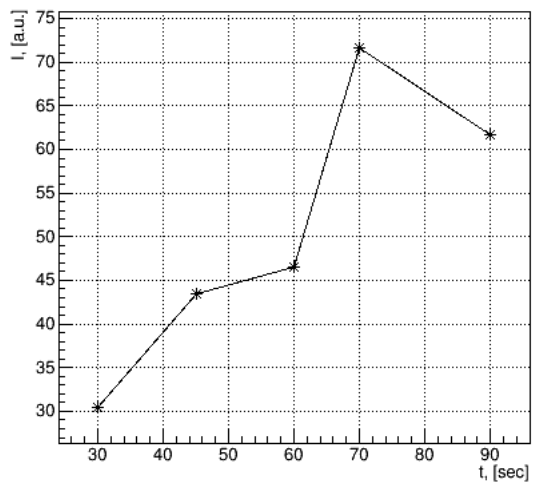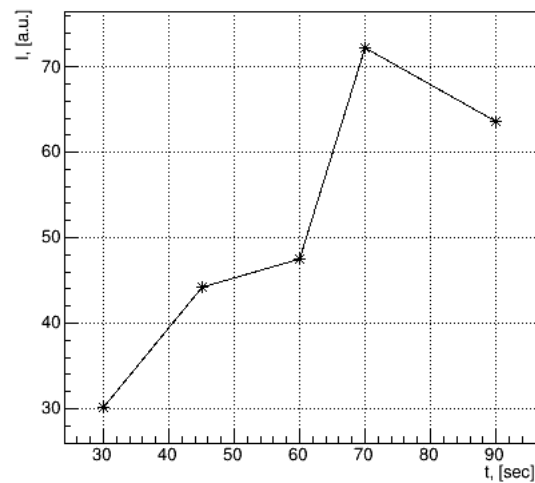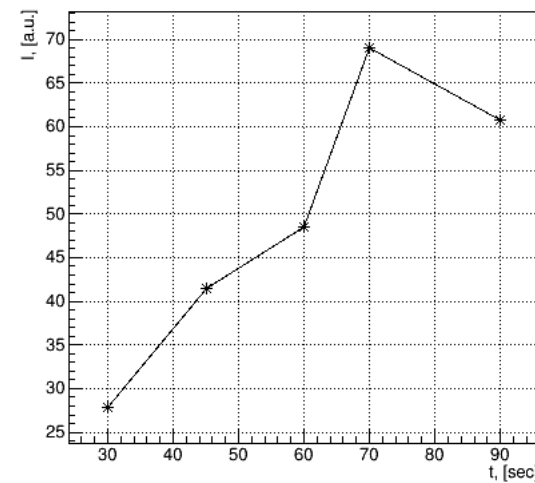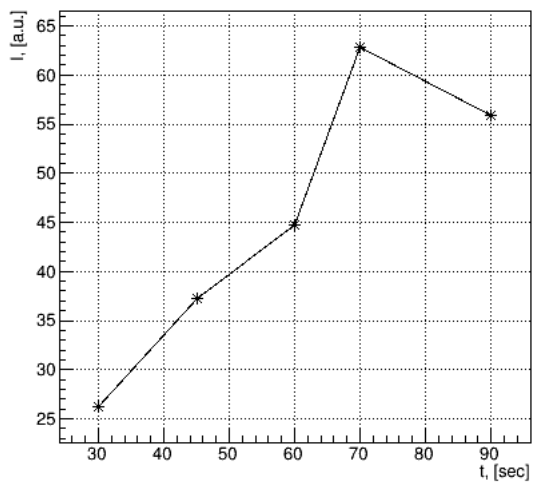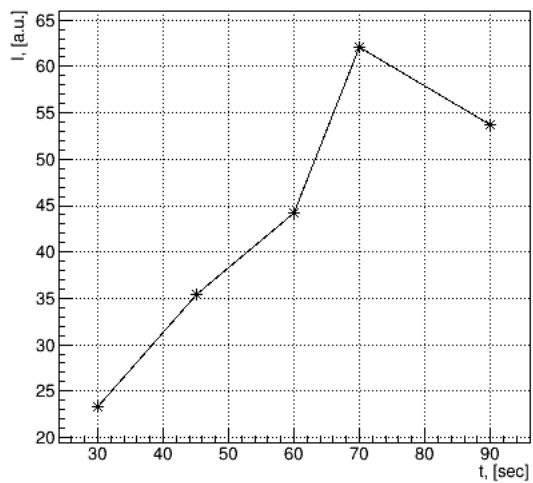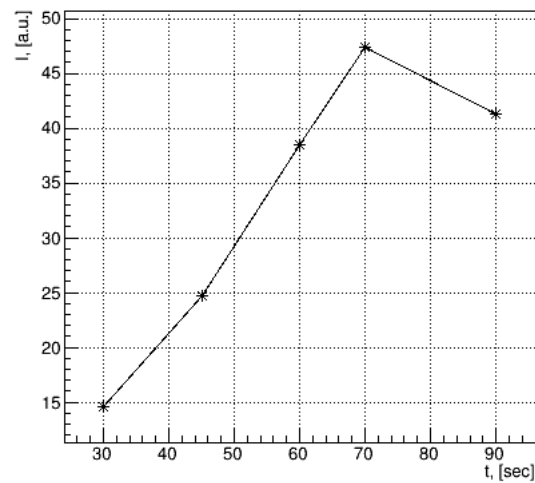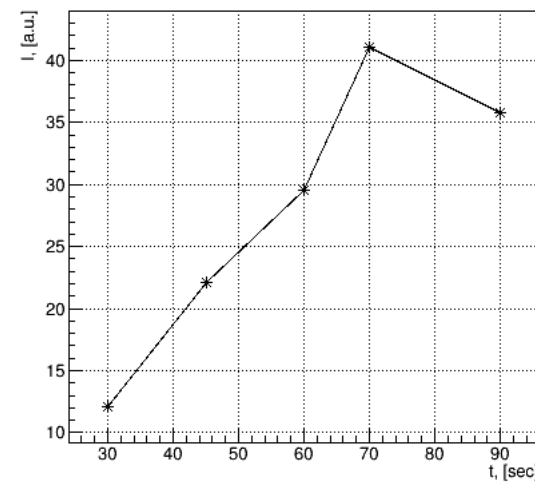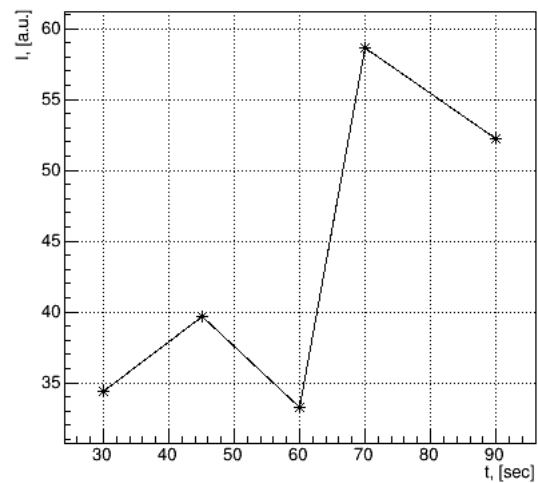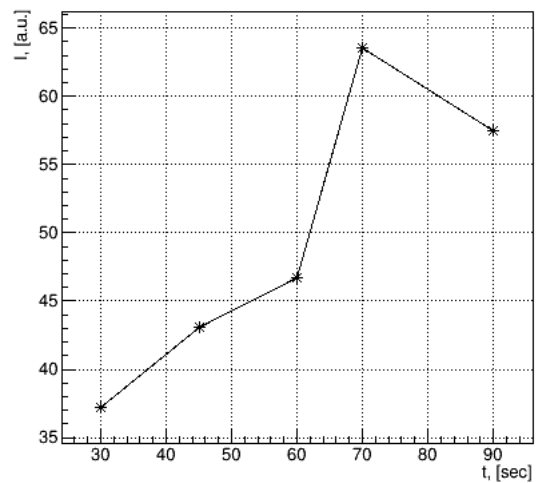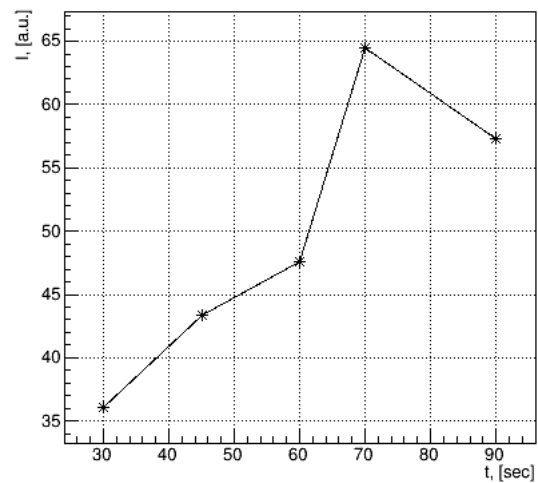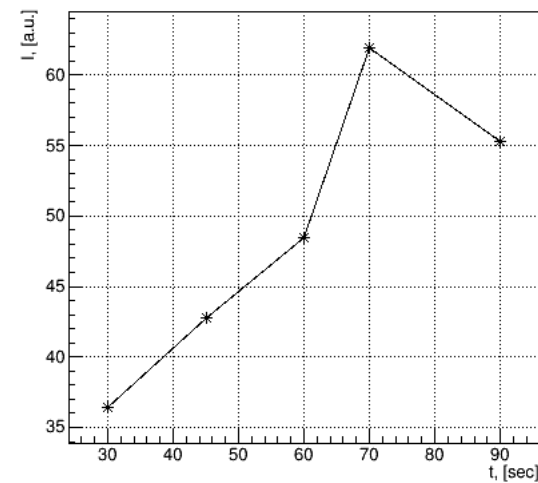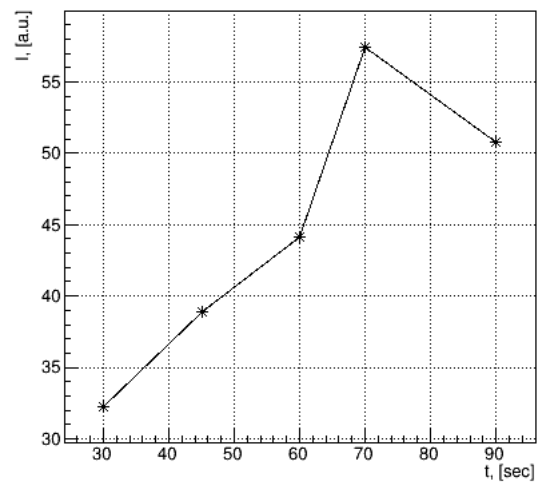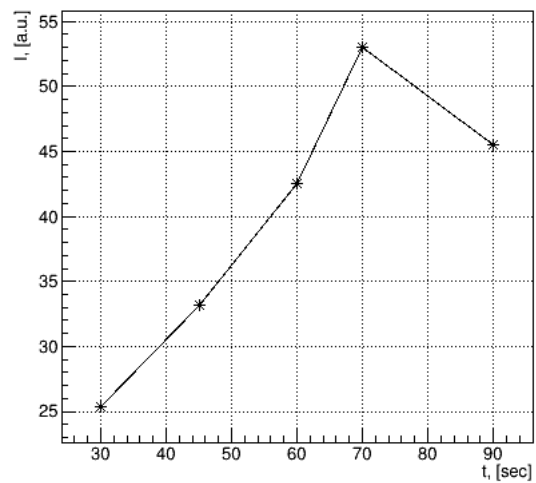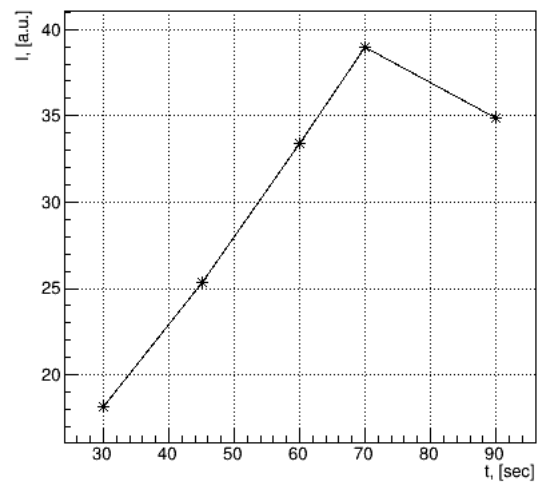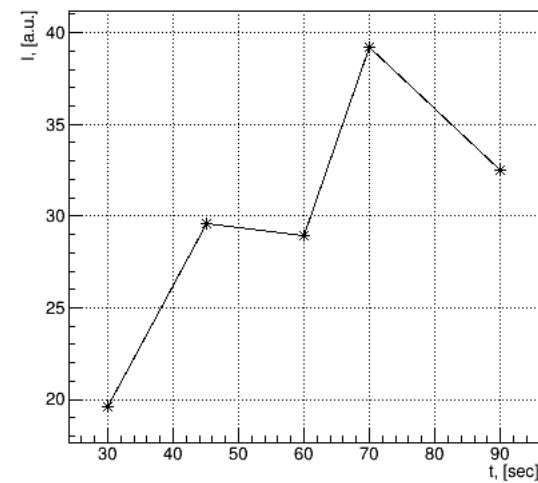
Option B

Option C
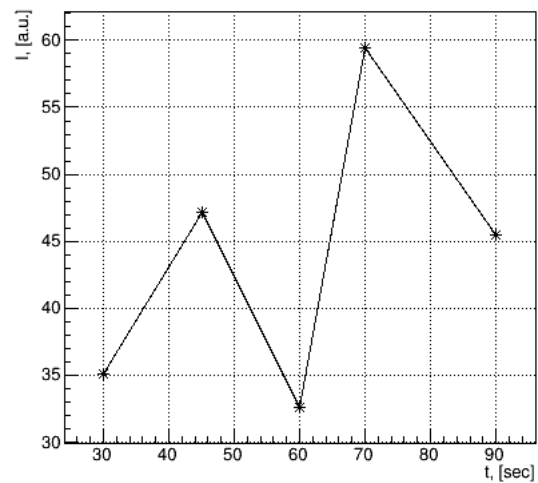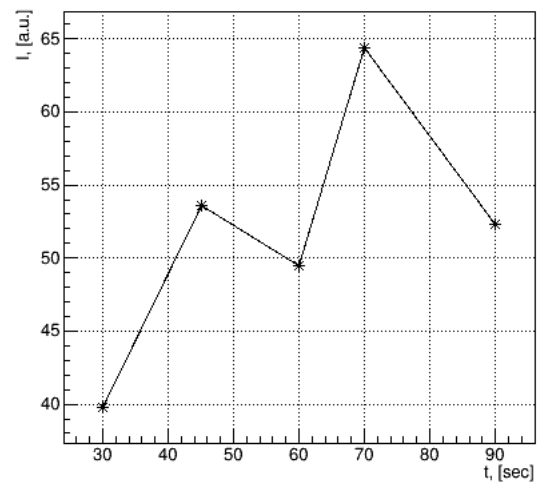
Option C
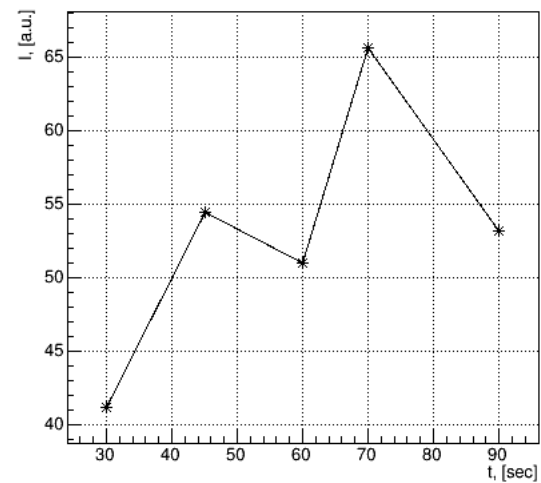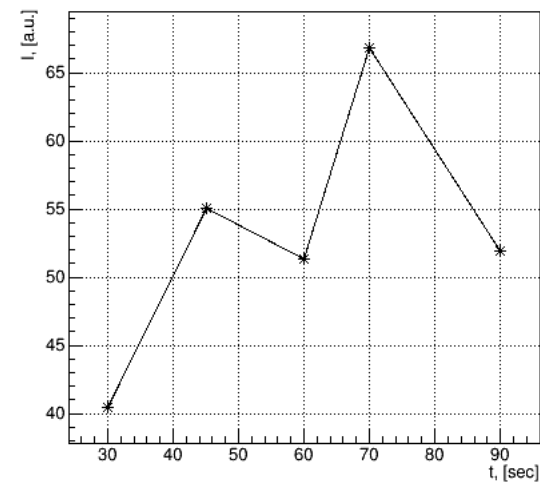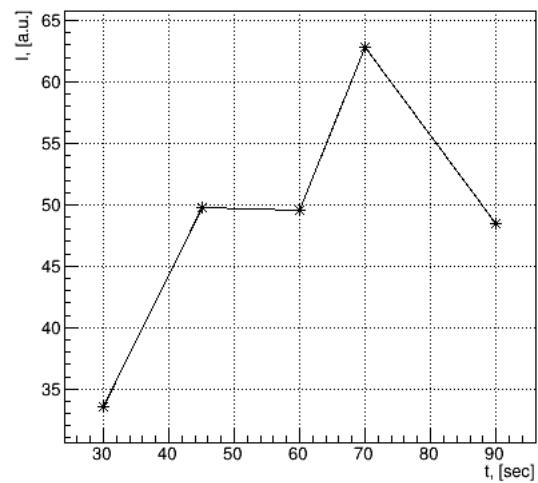
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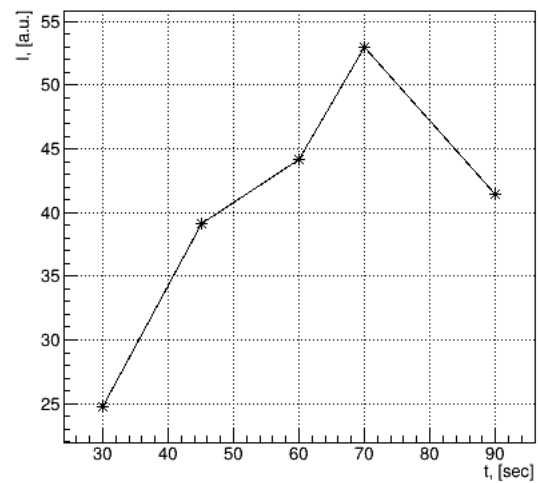
Option D

Option D

Option D

Option D

Option D

Option D

Option D

Summary

- Background removal algorithm using polynomial function gave us reasonable results.

- Sample with 1 min 10s shows significantly increased values on intensity plots.
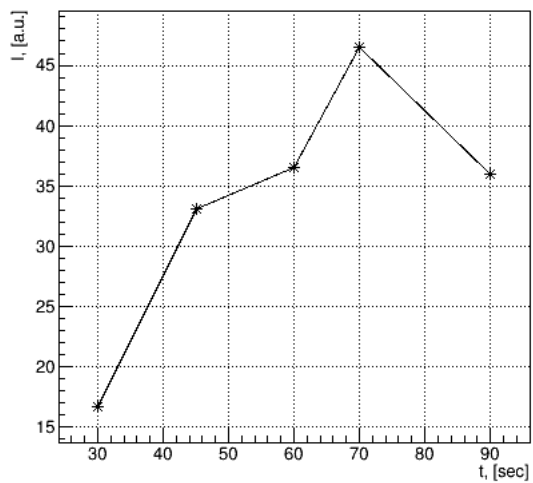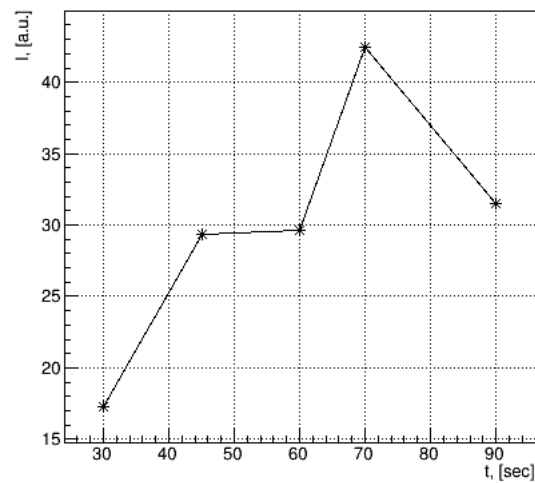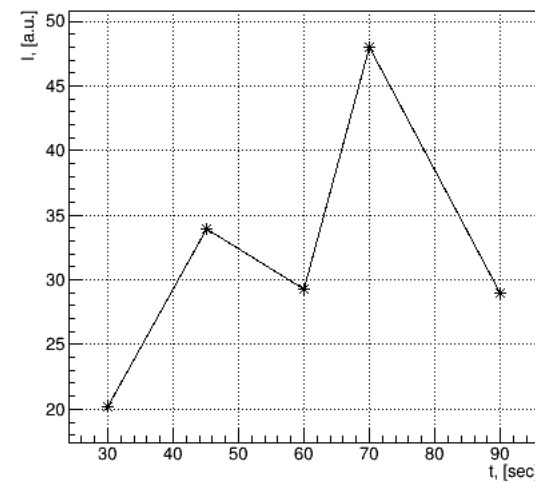
Thank you!