Anode pad

fjwu

February 2020

1 Abstract

Microchannel-plate photomultipliers (MCP-PMT) are specialized vacuum photodetectors typically consisting of a photocathode, an amplification section consisting of several planes of glass micropores, and a segmented anode from which the amplified pulses are detected.
The spatial and temporal resolutions are determined by the conversion of the electron cascade pulse at the anode plane into a measurable signal, and also by the transport of that signal throughthe package wall to the diitizing electronics.

2 Introduction

2.1 cross-talk

3 some figs (draft)

4 a. "parameters"

The shape of one pad: regular/nose
The length of one pad:6 mm
radius of one laser spot:2
number of charges of one laser:1000
noise mean:1e-2 (Note: mean = 1e-2 * 1000 = 10)
noise variance:1e-3
number of simulation at one laser spot:3
number of laser pos:70
start pos:[-12,3]
end pos:[3,3]
(nose start:0.25
nose height ratio:0.2 sin height ratio:0.1)

Figure 1: this is the input.txt file, input parameters before running simulations

5 b. pad pattern

6 c.

rpad.png

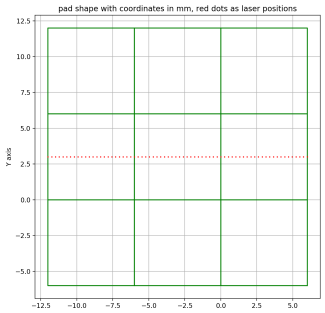

Figure 2: 9 square pads with width 6mm

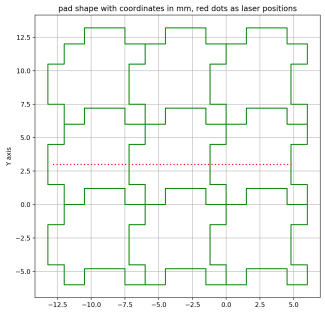

Figure 3: 9 modified pads with width 6mm. extra rectangle is 3mm height, 1.2mm width

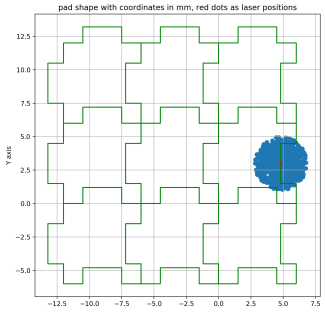

Figure 4: 9 square pads with width 6mm

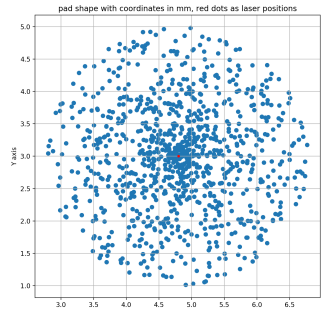

Figure 5: 9 modified pads with width 6mm. extra rectangle is 3mm height, 1.2mm width

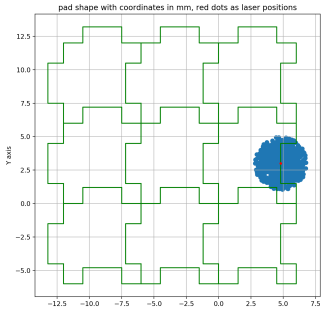

Figure 6: 9 square pads with width 6mm

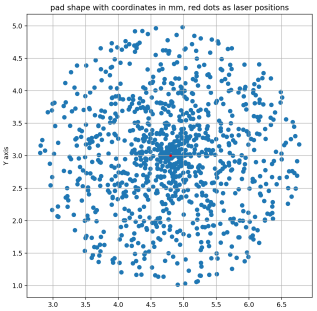

Figure 7: 9 modified pads with width 6mm. extra rectangle is 3mm height, 1.2mm width