

RADIATION, STRUCTURE AND INTERACTIONS OF THE MATTER

Author: Mario Agustino Batet: 2018-2019

My research project is about particles physics, in that I will explain and analyze most of the physical theories that exist nowadays, orienting my research in the atomic structures and in the different experimental processes that are used to deal with these theories.

Objectives:

- Learn how to use a Timepix particle detector
- Know the characteristics of particles contained in Standard Model
- Study the quantum theories of gravity

Methodology:

Five different practices:

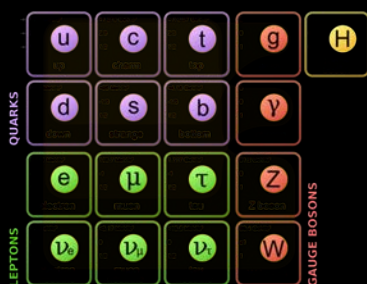
University of Barcelona (X rays machine)



Timepix particles detector



More theoretical content (matter structure)



References

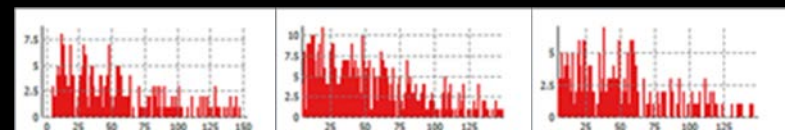
Física 2 Batxillerat (Primera edició).
Madrid: Mc Graw Hill

WIDEPIX MiniPix Quick Start Guide

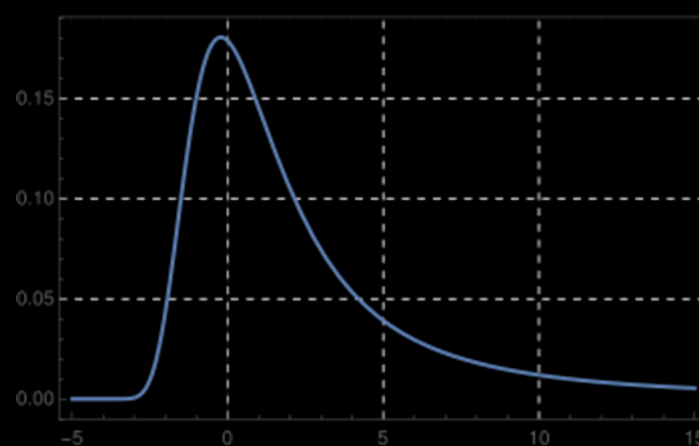
ADVACAM Pixet Pro User's Manual

Results of the practical part:

- It is observed a descend on the size of registered particles by the detector at the moment to increase its voltage



- When it is created an histogram from the detection of muons by the detector it is observed the named Landau distribution



Conclusions:

- I am satisfied with my work, since I have got comply mostly of my objectives
- After of have done this project I have confirmed my wish of dedicate myself professionally to the physics someday

Aknowledgements

I would like to thank my project tutor Daniel Parcerisas for guide me in some aspects of my work and to my project partner Carles Vallès for help me at the moment to realize this project.



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