

Thesis for the degree of Doctor of Technology
Sundsvall 2015

Simulating Pixels

Monte Carlo and Charge transport simulation in
Medipix detector systems

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This is dedicated to...

ABSTRACT

This thesis is about...

SAMMANFATTNING

Den här avhandlingen handlar om...

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LIST OF TABLES

LIST OF PAPERS

This thesis is based on the following papers, herein referred to by their Roman numerals:

PAPER I

This is the title of my first paper

D.Krapohl, H.-E. Nilsson, S. Petersson, S. Pospisil, T- Slavicek
and G. Thungström, Journal of Instrumentation, 2011 13

PAPER II

PAPER III

PAPER IV

PAPER V

PAPER VI

PAPER VII

PAPER VIII

— Chapter 1 —

INTRODUCTION

Background, related work, motive,scope?

METHODS

Hello, here is some text without a meaning. This text should show what a printed text will look like at this place. If you read this text, you will get no information. Really? Is there no information? Is there a difference between this text and some nonsense like “Huardest gefburn”? Kjift – not at all! A blind text like this gives you information about the selected font, how the letters are written and an impression of the look. This text should contain all letters of the alphabet and it should be written in of the original language. There is no need for special content, but the length of words should match the language.

Check the last word.

2.1 Some tests

$$E' = \hbar\omega' = \frac{\hbar\omega}{1 + \frac{\hbar\omega}{m_e c^2} (1 - \cos \theta)} \quad (2.1)$$

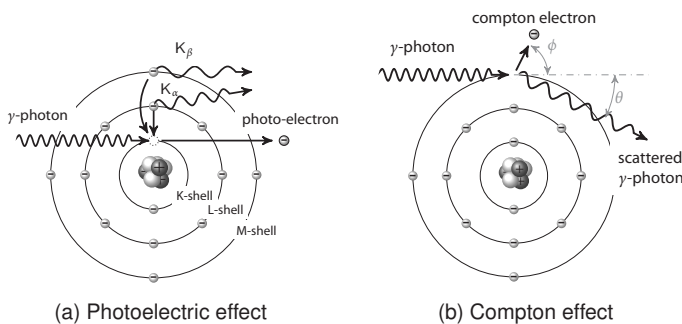


Figure 2.1: Sketch showing the processes of the photoelectric effect (a) and Compton effect (b).

2.2 Hybrid pixel detectors

Figure 2.2 shows a hybrid pixel detector.

Rember to write more text here...

cite
Medipix
paper

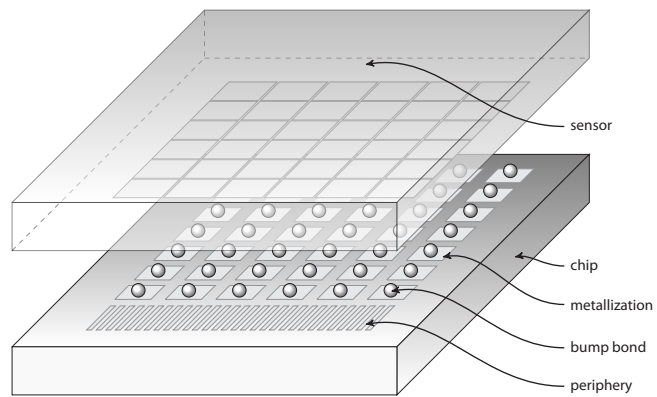


Figure 2.2: Sketch of a hybrid pixel detector. The chip contains amplifiers and pixel logic as well as controlling periphery. Solder bumps are placed on the bump pads on the chip and pressed against their counterpart on the sensor.

THEORY

Hello, here is some text without a meaning. This text should show what a printed text will look like at this place. If you read this text, you will get no information. Really? Is there no information? Is there a difference between this text and some nonsense like “Huardest gefburn”? Kjift – not at all! A blind text like this gives you information about the selected font, how the letters are written and an impression of the look. This text should contain all letters of the alphabet and it should be written in of the original language. There is no need for special content, but the length of words should match the language.

3.1 Introduction

Hello, here is some text without a meaning. This text should show what a printed text will look like at this place. If you read this text, you will get no information. Really? Is there no information? Is there a difference between this text and some nonsense like “Huardest gefburn”? Kjift – not at all! A blind text like this gives you information about the selected font, how the letters are written and an impression of the look. This text should contain all letters of the alphabet and it should be written in of the original language. There is no need for special content, but the length of words should match the language.

CONCLUSION AND OUTLOOK

4.1 Conclusion

4.1. Conclusion

ACRONYMS

CCD

Charged Coupled Device

CdTe

Cadmium-Telluride

CSA

Charge sensitive amplifier

CSM

Charge summing mode

CZT

Cadmium-Zinc-Telluride

GAAs

Gallium-Arsenide

GEANT4

GEometry ANd Tracking

LET

Linear energy transfer

MPX

Medipix

SPM

Single pixle mode

TOA

Time-of-Arrival

TOT

Time-over-threshold

Acronyms

TPX

Timepix

XRF

X-ray fluorescence

This is the title of my first paper

D.Krapohl, H.-E. Nilsson, S. Petersson, S. Pospisil, T- Slavicek and
G. Thungström

