

Abstract of thesis entitled

This is the title of my thesis

Submitted by

Cheuk Yee LO

for the degree of Doctor of Philosophy
at The University of Hong Kong
in August 2018

These are the motivations. These are the methods. These are the results. These are the discussions. These are the significance.

An abstract of exactly 499 words

This is the title of my thesis

by

Cheuk Yee LO

A thesis submitted in partial fulfilment of the requirements for
the Degree of Doctor of Philosophy
at The University of Hong Kong.

August 2018

Declarations

I declare that this thesis represents my own work, except where due acknowledgement is made, and that it has not been previously included in a thesis, dissertation or report submitted to this University or to any other institution for a degree, diploma or other qualifications.

Signed

Cheuk Yee LO

Acknowledgments

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List of Abbreviations and Symbols

LHC Large Hadron Collider

SUSY Supersymmetry

Chapter 1

Experimental Setup

1.1 Introduction

Our experimental data was collected from the ATLAS particle detector in the Large Hadron Collider (LHC). The following section will introduce LHC and the ATLAS particle detector.

1.2 The Large Hadron Collider

The Large Hadron Collider (LHC) was built in the border between France and Switzerland by the European Organization for Nuclear Research (CERN). It is a circular particle collider under the ground with circumference 27 km. Two beams of protons will be accelerated in opposite directions, and then these two beams will collide with each other at the collision point. The center-of-mass energy of the two beams \sqrt{s} is 13 TeV, which is the energy used in this experiment. Figure 1.1 shows the schematic diagram of the CERN accelerator complex, which contains a series of accelerators, from low energy to high energy. The dark blue big circle in figure 1.1 represents the LHC, on which there are 4 particle detectors at 4 different points: ATLAS, CMS, LHCb and ALICE.

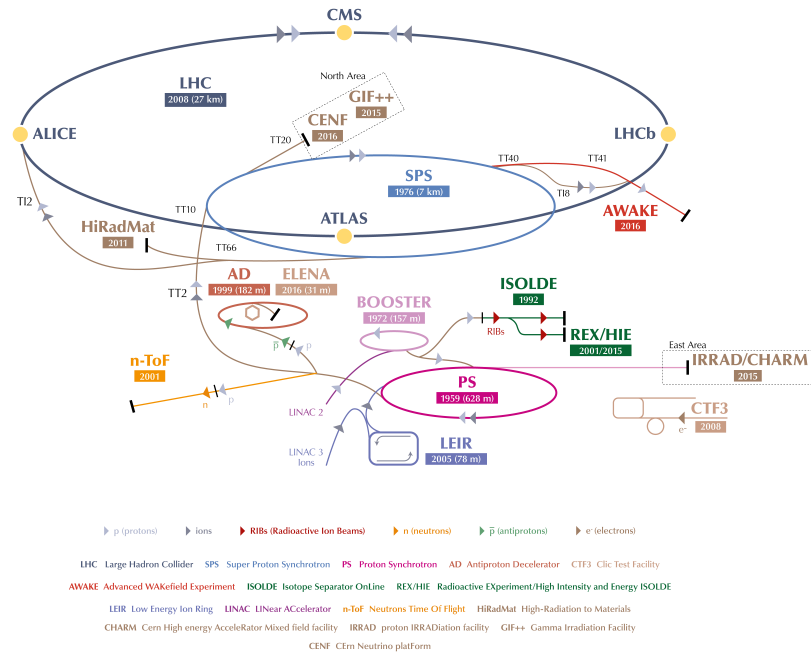


Figure 1.1: The schematic diagram of the CERN accelerator complex, which shows a series of accelerators and facilities. [1]

Appendix A

Appendix 1

A.1 First main stuff

This is Appendix 1.

Appendix B

Appendix 2

B.1 First main stuff

This is Appendix 2.

References

- [1] E. Mobs, *The CERN accelerator complex. Complexe des acclrateurs du CERN*, <https://cds.cern.ch/record/2197559>, General Photo.

List of Publications

Publications arising from this thesis:

1. Student and Teacher (2015). The title of the work. *The name of the journal*, 5(3):123-143. (part of Chapter 2 and part of Chapter 3)
2. Student, Dick and Harry (2016). The title of the work. *The name of the journal*, 6(8):1123-1143. (part of Chapter 2 and part of Chapter 4)