A Search for Some Contrived SUSY Model

Thaddeus Q. Student

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Gerald Advisor, Associate Professor, Physics

Supervisor of Dissertation

Joshua Klein, Professor, Physics

Graduate Group Chairperson

Dissertation Committee

(Committee Prof. 1), Professor, Physics

(Committee Prof. 2), Associate Professor, Physics

(Committee Prof. 3), Professor, Physics

(Committee Prof. 4), Professor, Physics

Gerald Advisor, Associate Professor, Physics

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ABSTRACT

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Thaddeus Q. Student

G. Advisor

This is the abstract text.

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Preface

This is the preface. It's optional, but it's nice to give some context for the reader and stuff.

T. Q. Student

Philadelphia, April 20XX

63 FUCK BITCHE$ GET MONEY

Chapter 1

Introduction

The Standard Model (SM)[1] has been remarkably successful...

[1] Here's a footnote.

Chapter 2

Theoretical Framework

(Some example introductory text for this chapter)...

2.1 Introduction to the Standard Model

Modern particle physics is generally interpreted in terms of the Standard Model (SM). This is a quantum field theory which encapsulates our understanding of the electromagnetic, weak, and strong interactions...

2.2 Electroweak Mixing and the Higgs Field

When the theory of the electroweak interaction was first developed [1, 2], the W and Z bosons were predicted to be massless (a typical mass term in the Lagrangian would violate the SU(2) symmetry). However, these were experimentally observed to have masses...

Chapter 3

LHC and the ATLAS Detector

3.1 The Large Hadron Collider

The Large Hadron Collider (LHC) [3] is...

3.2 The ATLAS Detector

ATLAS is a general-purpose particle detector...

3.2.1 The Inner Detector

The Inner Detector serves the primary purpose of measuring the trajectories of charged particles...

3.2.1.1 Pixel Detector

The Pixel detector consists of four cylindrical barrel layers and three disk-shaped endcap layers...

3.2.1.2 Semiconductor Tracker

The Semiconductor Tracker uses the same basic technology as the Pixels, but the fundamental unit of silicon is a larger "strip"...

3.2.1.3 Transition Radiation Tracker

The Transition Radiation Tracker is the outermost component of the ID...

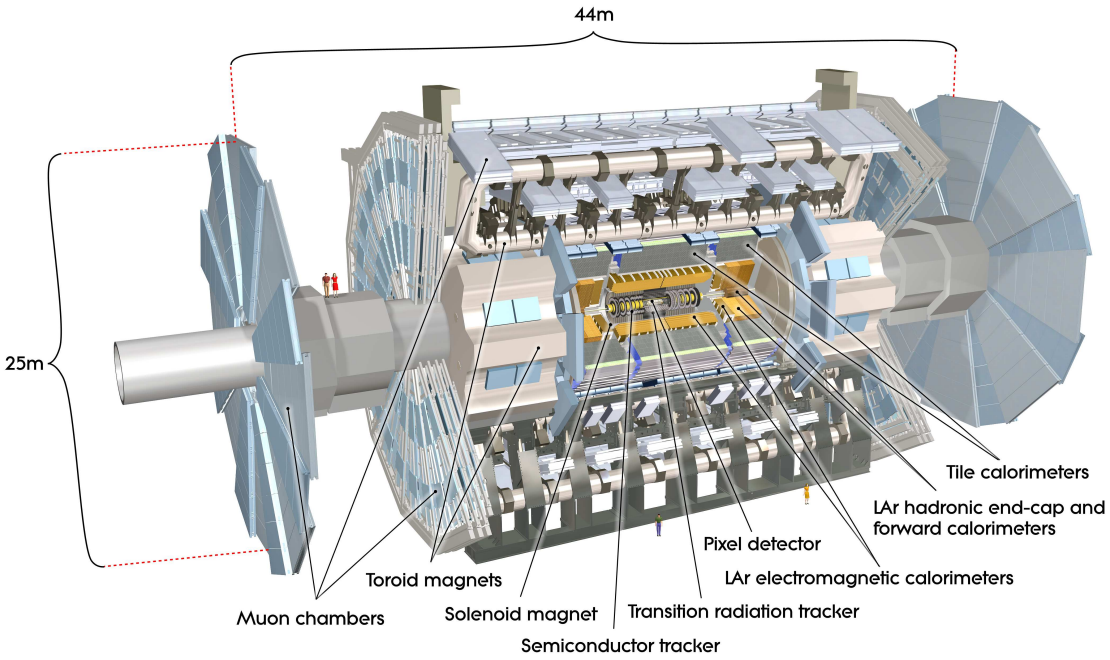

Figure 3.1: General cut-away view of the ATLAS detector [4].

3.2.2 The Calorimeters

ATLAS includes two types of calorimeter system for measuring electromagnetic and hadronic showers. These are the Liquid Argon (LAr) calorimeters and the Tile calorimeters. Together, these cover the region with $|\eta| < 4.9$...

3.2.2.1 Liquid Argon Calorimeters

The Liquid Argon system consists of...

3.2.2.2 Tile Calorimeters

The Tile calorimeter provides coverage for hadronic showers...

Chapter 4

Conclusion

Here's where you wrap it up.

Looking Ahead

Here's an example of how to have an "informal subsection".

Bibliography

[1] S. L. Glashow, *The Renormalizability of Vector Meson Interactions*, Nucl. Phys. **10** (1959) 107–117. 2.2

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[3] L. R. Evans and P. Bryant, *LHC Machine*, JINST **3** (2008) S08001. https://cds.cern.ch/record/1129806. This report is an abridged version of the LHC Design Report (CERN-2004-003). 3.1

[4] ATLAS Collaboration, *The ATLAS Experiment at the CERN Large Hadron Collider*, JINST **3** (2008) S08003. 3.1