Search for Dark Matter Direct Production in proton-proton collisions at $\sqrt{s} = 8$ TeV With the CMS Detector at the LHC

Thesis by

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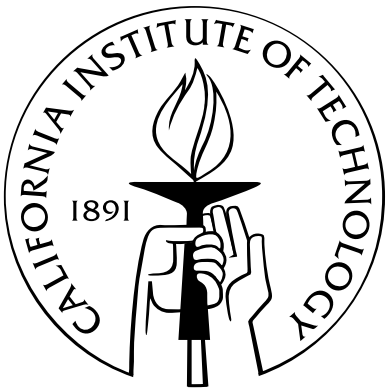
In Partial Fulfillment of the Requirements

for the Degree of

Doctor of Philosophy



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Abstract

A search for dark matter (DM) is carried out using 18.8 fb^{-1} of data collected by the CMS Experiment located at the Large Hadron Collider (LHC)

0.1 Introduction

Here is the text of your introduction.

$$\alpha = \sqrt{\beta} \tag{1}$$

0.2 The Large Hadron Collider

0.3 The Compact Muon Sollenoid

0.3.1 The Tracker System

0.3.2 The Electromagnetic Calorimeter

0.3.3 The Hadronic Calorimeter

0.3.4 The Superconducting Solenoid

0.3.5 The Muon Chambers

0.4 Physics Object Reconstruction

0.5 Dark Matter and Weakly Interacting Particles

0.5.1 Introduction

0.5.2 Cosmological Preliminaries

0.5.3 Observational Evidence for Dark Matter Existance

0.5.4 Supersymmetry

0.5.5 Simplified Models

0.5.6 Effective Field Theories at the LHC

Write your subsection text here.

0.6 Conclusion

Write your conclusion here.