This is my title

by

My name

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Abstract

This is my abstract.

Acknowledgments

These are my acknowledgments.

Statement of Originality

This is my statement of originality.

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Chapter 1

Introduction

Physics really begins with Newton. Newton's second law is given by

$$\vec{F}_{\text{net}} = m\vec{a} \tag{1.1}$$

where $\vec{F}_{\text{net}}$ is the net force acting on an object, m is the mass of the object, and $\vec{a}$ is the acceleration of the object. Equation (1.1) truly is fascinating.

Chapter 2

The Standard Model

This is my chapter about the Standard Model. In section 2.1, the field content of the Standard Model is discussed.

2.1 Field content of the Standard Model

The field content of the Standard model is summarized in table 2.1.

	$SU(3)_C$	$SU(2)_L$	$U(1)_Y$	Spin
H	**1**	**2**	$1/2$	0
Q_L^m	**3**	**2**	$1/6$	$1/2$
U_R^m	**3**	**1**	$2/3$	$1/2$
D_R^m	**3**	**1**	$-1/3$	$1/2$
L_L^m	**1**	**2**	$-1/2$	$1/2$
E_R^m	**1**	**1**	-1	$1/2$
B_μ	**1**	**1**	0	1
W_μ^a	**1**	**3**	0	1
G_μ^b	**8**	**1**	0	1

Table 2.1: Field content of the Standard Model. The index m goes from 1 to 3, a from 1 to 3, and b from 1 to 8. The L and R next to a spin $1/2$ field represents its chirality.

2.1.1 An example subsection

This is an example of a subsection.

Chapter 3

Supersymmetry

This is my chapter about supersymmetry. See Ref. [1] for a review of supersymmetry. Supersymmetry enforces the cancellation of quadratically divergent contributions to the masses of scalar particles. See figure 3.1 for an example of such cancellations.
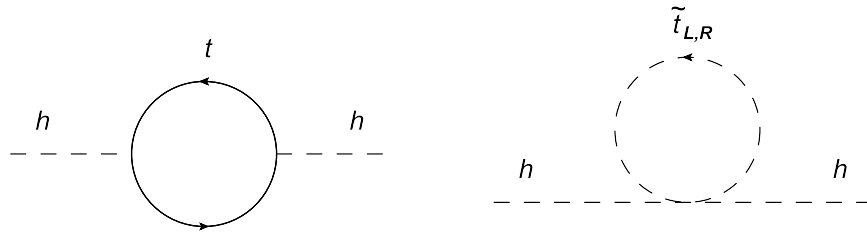

Figure 3.1: Contribution of the top and its partners to the Higgs mass. The quadratic divergences cancel.

Chapter 4

Conclusion

These are my conclusions.

Appendix A

Conventions

These are the conventions and notations used in this thesis.

References

[1] S. P. Martin, *A Supersymmetry primer*, hep-ph/9709356. [Adv. Ser. Direct. High Energy Phys.18,1(1998)].