

Very first basic outline for thesis :

Title: ???????

Chapter 1 :Introduction

Particle history till Higgs discovery, Why physics beyond standard model?

Introduction to supersymmetry 2hdm ,mssm , etc..

Summary of past present and Future results from LHC

Chapter 2 : $gg \rightarrow (h \rightarrow b\bar{b})(h \rightarrow b\bar{b})$ Two higgs production via gluon fusion

Different approaches for loop calculations

Cross section calculation for $gg \rightarrow hh$ (standard model and MSSM)

Higgs decay into $b\bar{b}$

Standard model back grounds $PP \rightarrow hh \rightarrow 4b$

Chapter 3: $bb \rightarrow (h \rightarrow b\bar{b})(h \rightarrow b\bar{b})$ Two Higgs production via b quark fusion

Amplitudes were calculated in two ways

- Analytically
- Using MadGraph

Signal and background calculation and results.

Chapter 4:Higgs Production at ILC , analysis of Trilinear Higgs couplings at ILC

Chapter 5: compare and conclude

- $gg \rightarrow hh \rightarrow 4b$
- $gg \rightarrow hh \rightarrow b\bar{b}t\bar{t} \rightarrow b\bar{b}l\bar{l}j\bar{j}$
- $gb \rightarrow bh \rightarrow bbb$
- $bb \rightarrow hh \rightarrow 4b$

Appendix

Bibliography