

Title of the Thesis

Author's name

Masterarbeit in Physik
angefertigt im Physikalischen Institut

vorgelegt der
Mathematisch-Naturwissenschaftlichen Fakultät
der
Rheinischen Friedrich-Wilhelms-Universität
Bonn

MMM 2013

I hereby declare that this thesis was formulated by myself and that no sources or tools other than those cited were used.

Bonn,
Date

.....
Signature

1. Gutachter: Prof. Dr. John Smith
2. Gutachterin: Prof. Dr. Anne Jones

Acknowledgements

I would like to thank ...

You should probably use `\chapter*` for acknowledgements at the beginning of a thesis and `\chapter` for the end.

Contents

1	Introduction	1
A	Useful information	3
	Bibliography	5
	List of Figures	7
	List of Tables	9

Introduction

The introduction usually gives a few pages of introduction to the whole subject, maybe even starting with the Greeks.

For more information on L^AT_EX and the packages that are available see for example the books of Kopka [1] and Goossens et al [2].

A lot of useful information on particle physics can be found in the “Particle Data Book” [3].

I have resisted the temptation to put a lot of definitions into the file `thesis_defs.sty`, as everyone has their own taste as to what scheme they want to use for names. However, a few examples are included to help you get started:

- cross-sections are measured in pb and integrated luminosity in pb⁻¹;
- the K_S^0 is an interesting particle;
- the missing transverse momentum, p_T^{miss} , is often called missing transverse energy, even though it is calculated using a vector sum.

Note that the examples of units assume that you are using the `siunitx` package.

It also is probably a good idea to include a few well formatted references in the thesis skeleton. More detailed suggestions on what citation types to use can be found in the thesis guide [4]:

- articles in refereed journals[3, 5];
- a book [6];
- a PhD thesis [7] and a Diplom thesis [8];
- a collection of articles [9];
- a conference note [10];
- a preprint [11] (you can also use `@online` for such things, but then the title is usually in italic rather than upright text);
- something that is only available online [4].

At the end of the introduction it is normal to say briefly what comes in the following chapters.

The lines at the end of this file are used by AUCTeX to specify which is the master L^AT_EX file, so that you can compile your thesis directly within emacs.

APPENDIX **A**

Useful information

In the appendix you usually include extra information that should be documented in your thesis, but not interrupt the flow.

Bibliography

- [1] H. Kopka and P. W. Daly, *Guide to L^AT_EX*, 4th ed., Addison-Wesley, 2004.
- [2] F. Mittelbach and M. Goossens, *The L^AT_EX Companion*, 2nd ed., Addison-Wesley, 2004.
- [3] Particle Data Group, K. Nakamura et al., “Review of Particle Physics”, *J. Phys. G* 37 (2010) 075021, URL: <http://pdg.lbl.gov>.
- [4] I. C. Brock,
Users Guide to Writing a Thesis in a Physics/Astronomy Institute of the Universität Bonn,
URL: http://pi.physik.uni-bonn.de/pi_only/thesis.php.
- [5] ATLAS Collaboration, G. Aad et al., “Measurement of the top quark-pair production cross section with ATLAS in pp collisions at $\sqrt{s} = 7$ TeV”, *Eur. Phys. J. C* 71 (2011) 1577, doi: [10.1140/epjc/s10052-011-1577-6](https://doi.org/10.1140/epjc/s10052-011-1577-6), arXiv:[1012.1792](https://arxiv.org/abs/1012.1792).
- [6] F. Halzen and A. D. Martin,
Quarks and Leptons: An Introductory Course in Modern Particle Physics, 1984,
ISBN: 9780471887416.
- [7] T. Loddenkötter, “Implementation of a kinematic fit of single top-quark production in association with a W boson and its application in a neural-network-based analysis in ATLAS”, BONN-IR-2012-06, PhD Thesis: University of Bonn, 2012,
URL: http://hss.ulb.uni-bonn.de/diss_online.
- [8] S. Mergelmeyer, “D*-Photoproduktion mit assoziierten Jets und Vertices bei ZEUS”, BONN-IB-2011-01, Universität Bonn, 2011,
URL: http://brock.physik.uni-bonn.de/zeus_pub.php.
- [9] O. S. Brüning et al., eds., *LHC Design Report. 1. The LHC Main Ring*, CERN-2004-003-V-1, CERN-2004-003, Geneva, 2004,
URL: <https://cdsweb.cern.ch/record/782076>.
- [10] ATLAS Collaboration, “Determination of the muon reconstruction efficiency in ATLAS at the Z resonance in proton-proton collisions at $\sqrt{s} = 7$ TeV”, ATLAS-CONF-2011-008, CERN, Feb. 2011.
- [11] ATLAS Collaboration, G. Aad et al.,
“Expected Performance of the ATLAS Experiment – Detector, Trigger and Physics”, 2009,
arXiv:[0901.0512](https://arxiv.org/abs/0901.0512).

List of Figures

List of Tables
