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MASTER OF SCIENCE IN APPLIED GEOPHYSICS
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MASTER OF SCIENCE THESIS

for the degree of Master of Science in Applied Geophysics at
Delft University of Technology
ETH Zürich
RWTH Aachen University
by

YourName

March 4, 2015

Department of Geoscience & Engineering	·	Delft University of Technology
Department of Earth Sciences	·	ETH Zürich
Faculty of Georesources and Material Engineering	·	RWTH Aachen University



Delft University of Technology

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IDEA LEAGUE
JOINT MASTER'S IN APPLIED GEOPHYSICS

Delft University of Technology, The Netherlands
ETH Zürich, Switzerland
RWTH Aachen, Germany

Dated: *March 4, 2015*

Supervisor(s):

Name of first supervisor

Name of second supervisor

Committee Members:

Name of first supervisor

Name of second supervisor

Name of third supervisor or committee member

Abstract

Please pay particular attention to the preparation of your abstract; use this text as a guide. Every master thesis report must be accompanied by an informative abstract of no more than one paragraph (max 300 words). The abstract should be self-contained. No references, figures, tables, or equations are allowed in an abstract. Do not use new terminology in an abstract unless it is defined or is well-known from the literature. The abstract must not simply list the topics covered in the paper but should (1) state the scope and principal objectives of the research, (2) describe the methods used, (3) summarize the results, and (4) state the principal conclusions. Do not refer to the master thesis report itself in the abstract. For example, do not say, "In this thesis we will discuss". Furthermore the abstract must stand alone as a very short version of the master thesis report rather than as a description of the contents. Remember that the abstract will be the first and most widely read portion of the master thesis report. Readers will be influenced by the abstract to the point that they decide to read the master thesis report or not.

Acknowledgements

First of all I want to thank all the people who have participated in this project .. Remember, often more people have (in some way) contributed to your final thesis than you would initially think of....

Delft University of Technology
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RWTH Aachen University
March 4, 2015

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Acronyms

DUT Delft University of Technology

ETH Swiss Federal Institute of Technology

RWTH Aachen University

Chapter 1

Introduction

Welcome to the standard layout for your IDEA LEAGUE MSc thesis written in \LaTeX . \LaTeX has a variety of advantages over conventional/ standard text editing programs, which you will soon enough discover yourself. \LaTeX almost forms a standard in the Scientific Community, especially due to its effective and straightforward mathematical capabilities. This is Chapter 1. If you want to know more about \LaTeX you better read [Knuth, 1984] or use the extensive help available on the internet. . This 'hidden' index command helps you making an index at the end of your thesis. You can add this flag anywhere you want to make an index hit. You can see here also how to use acronyms, like Delft University of Technology (DUT). The acronyms are automatically listed in the corresponding section. Also, hyperlinks are created automatically with the developed class file, such that your digital PDF version of your thesis can be read dynamically. Have fun with \LaTeX and your M.Sc. research project and good luck!

The purpose of the introduction is to tell readers why they should want to read what follows the introduction. This chapter should provide sufficient background information to allow readers to understand the context and significance of the problem. This does not mean, however, that authors should use the introduction to rederive established results or to indulge in other needless repetition. The introduction should (1) present the nature and scope of the problem; (2) review the pertinent literature, within reason; (3) state the objectives; (4) describe the method of investigation; and (5) describe the principal results of the investigation.

Part I

First Part

Chapter 2

First Real Chapter

This is a demonstration chapter. I will explain some of the possibilities of L^AT_EX. Here something will be shown of control theory, 'the transfer function' $H(s)$. Subscripts and superscripts can be put in the nomenclature list. Other things can also be added to the nomenclature list, like explanations of symbols being used throughout the thesis.

2-1 First section

This is the section. Referring to equations, figures and tables can easily be done by the commands `\eqnref{}`, `\figref{}` and `\tabref{}`.

$$H(s) = \frac{1}{s+2} \quad (2-1)$$

You see? Refer to equations like this Eq. (2-1), i.e. the name of the label you have given the specific equation, figure or table.

2-1-1 The first subsection

Now I demonstrate, numbering equations, using subequations:

$$\nabla \times \mathbf{L} = \frac{\partial \mathbf{G}}{\partial t} \quad (2-2a)$$

$$\nabla \times \mathbf{G} = \frac{\partial \mathbf{L}}{\partial t} + \mathbf{J} \quad (2-2b)$$

$$\mathbf{G} = \sigma \mathbf{J} \quad (2-2c)$$

Or we can make matrices:

$$\mathbf{Q}_{12} = \begin{bmatrix} 0 & 1 & 0 \\ 1 & 0 & 1 \\ 0 & 1 & 0 \end{bmatrix}$$

This can also be done using the `\align{}` command. Equation arrays are also possible:

$$\nabla \times \mathbf{L} = \frac{\partial \mathbf{G}}{\partial t} \quad (2-3)$$

$$\nabla \times \mathbf{G} = \frac{\partial \mathbf{L}}{\partial t} + \mathbf{J} \quad (2-4)$$

$$\mathbf{G} = \sigma \mathbf{J} \quad (2-5)$$

The first sub-subsection with a very very very long title, but in the table of contents one can only see the short title in square brackets

Impressed by the capabilities? If you want to know more about the capabilities of \LaTeX , take a look at the "**The Not So Short Introduction to \LaTeX 2 ϵ** ", which can be found on the internet.

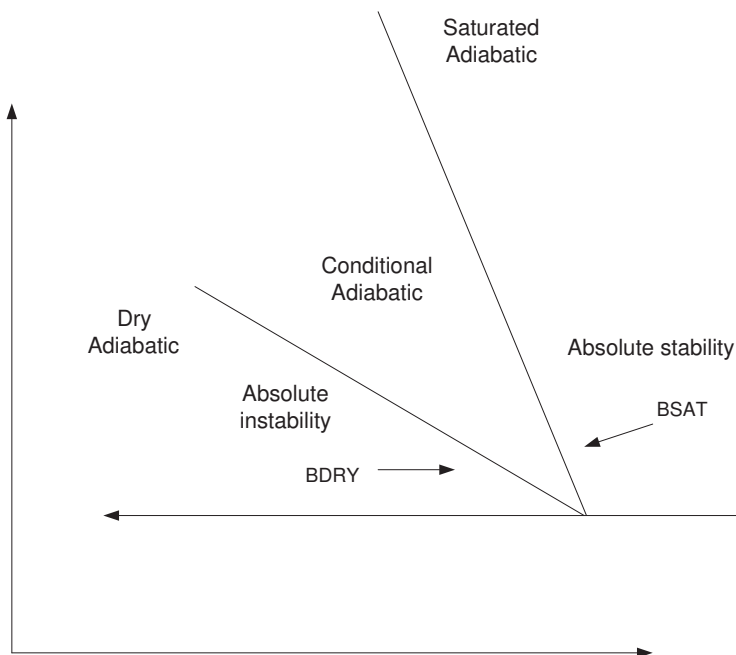


Figure 2-1: Stability conditions for the vertical stability of saturated and unsaturated air.

Next paragraph. .

And finally I end this example file with a table which will be centered in the middle of the following page

<i>Data files listed in a table</i>	
First part	
Fabracadabra.m	- Saturation computation
Fobracadabra.m	- Pressure computation
Fibricadibri.m	- Permeability computation
Structural rock model	
struct.m	- Rock structural data using symmetric boundary condition
bstruct.m	- Rock structural data using anti-symmetric boundary condition

Table 2-1: Good-looking program data deck files.

Bibliography

[Knuth, 1984] Knuth, D. E. (1984). *The T_EXbook*. Addison-Wesley.

Appendix A

The back of the thesis

A-1 An appendix section

A-1-1 An appendix subsection with C++ Listing

```
// 1
// C++ Listing Test
//
#include <stdio.h>
for(int i=0;i<10;i++)
{
    cout << "Ok\n";
}
6
```

A-1-2 A Matlab Listing

```
%
% Comment
%
n=10;
for i=1:n
    disp('Ok');
end
5
```

Appendix B

Yet another appendix

B-1 Another test section

Ok, all is well.

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