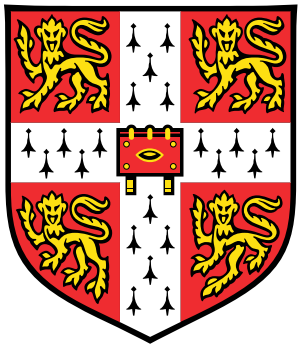
How to write your PhD Thesis in LyX



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This dissertation is submitted for the degree of

Doctor of Philosophy

King's College 2013

I would like to dedicate this thesis to my loving parents ...

Declaration

I hereby declare that except where specific reference is made to the work of others, the contents of this dissertation are original and have not been submitted in whole or in part for consideration for any other degree or qualification in this, or any other University. This dissertation is the result of my own work and includes nothing which is the outcome of work done in collaboration, except where specifically indicated in the text. This dissertation contains less than 65,000 words including appendices, bibliography, footnotes, tables and equations and has less than 150 figures.

Krishna Kumar

2013

Acknowlegements

And I would like to acknowledge ...

Abstract

This is where you write your abstract ...

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Chapter 1

Getting Started

1.1 What is Loren Ipsum?

Lorem Ipsum is simply dummy text of the printing and typesetting industry[1, 2]. Lorem Ipsum has been the industry's standard dummy text ever since the 1500s, when an unknown printer took a galley of type and scrambled it to make a type specimen book. It has survived not only five centuries, but also the leap into electronic typesetting, remaining essentially unchanged. It was popularised in the 1960s with the release of Letraset sheets containing Lorem Ipsum passages, and more recently with desktop publishing software like Aldus PageMaker including versions of Lorem Ipsum.

1.1.1 Fourier Series

For a function $f(x)$ you can write the Fourier Series:

$$f(x) = \sum_{-\infty}^{\infty} c_n e^{inx},$$

where the coefficients $c_n$are given by

$$c_n = \frac{1}{2\pi} \int_{-\pi}^{\pi} f(x) e^{inx} dx$$

1.1.2 Maxwell's Equations

There are four of the buggers, and I like them in terms of total charge and current:

$$\begin{array}{ll} \nabla.\mathbf{E} = \frac{\rho}{\varepsilon_0} & \nabla \times \mathbf{E} = -\frac{\partial \mathbf{B}}{\partial t} \\ \nabla.\mathbf{B} = 0 & \nabla \times \mathbf{B} = \mu_o \mathbf{J} + \mu_0 \varepsilon_0 \frac{\partial \mathbf{E}}{\partial t} \end{array}$$

Where **B** is the magnetic field, **E** is the electric field and **J** is the total current density. Also, ε_0 is the permittivity of free space (electric constant) and μ_0 is the permeability of free space (magnetic constant).

It's good to know what these mean in words and integral forms, so:

- *Gauss' Law:* Electric flux through any closed surface is proportional to the enclosed electric charge:

$$\Phi = \oint_S \mathbf{E}\, d\mathbf{A} = \frac{Q_{enc}}{\varepsilon_0}$$

- *Gauss' Magnetic Law:* Magnetic monopoles don't exist:

$$\oint_S \mathbf{B}\, d\mathbf{A} = 0$$

- *Faraday's Law of Induction:* The induced electromotive force in any closed circuit is equal to the rate of change of the magnetic flux through the circuit:

$$\epsilon = -\frac{d\Phi_B}{dt}$$

- *Ampere's Law:* The relation between integrated magnetic field and current flowing:

$$\oint_S \mathbf{B}\, d\ell = \mu_0 I_{enc}$$

That should be enough to get you started.

1.2 Thesis Overview

References

[1] Y. A. Abramovich, C. D. Aliprantis, and O. Burkinshaw. Another characterization of the invariant subspace problem. *Operator Theory in Function Spaces and Banach Lattices.* The A.C. Zaanen Anniversary Volume*, Operator Theory: Advances and Applications*, 75:15–31, 1995. Birkhäuser Verlag.

[2] J. B. Conway. *Functions of One Complex Variable.* Springer-Verlag, New York, 1978.