Quantum Mechanics

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Preface

Welcome to our Quantum Mechanics book!

Here, we will attempt to cover all of undergraduate quantum mechanics, with some graduate content as well (to the extent that we've encountered with some topics). With this book, our objective is to provide intuitive approach to learning quantum mechanics, and share with you the tips and tricks we learned while we were studying this topic. Whether you're just getting started with QM, or are already familiar with the content in this book, we hope that there is something you can learn nonetheless.

Before we get started with the content, let's go over some basic elements you will see throughout this book. First, this book is separated into three sections: the first section focuses on the fundamental theory of QM, the second on approximation methods, and the third on some graduate-level topics. Within each section are chapters, which contain individual topics. Clicking on any chapter will navigate to its content page. Second, we use a variety of colored boxes to denote important content, which we list below.

Theorem 0.1. *This is what a theorem box looks like.*

Definition 0.1. Important definitions will go here.

These boxes are dedicated to highlighting specific mathematical notation that we may use.

Remark. Any small remarks we have will go here.

Example 0.1. Example problems will go here.

Read these! These contain common mistakes and things to be careful.

We will also try our best to keep theorems and important results cross-referenceable, for instance clicking Theorem 0.1 will take you to the corresponding theorem. Finally, this book combines elements from various books that we've encountered over our own journey through quantum mechanics, a full list of which can be found in the references page.

One last thing: there is a lot of content in this book. If you find that there are any errors, or you wish to make any suggestions, please reach out via email and let us know! We both want this book to be as approachable as it can be, and are always looking for ways to improve it. You can find our emails in the author list at the top of the page.

Part I

I: Fundamental Theory

This chapter aims to…

1 Introduction

This is a book created from markdown and executable code.

See Knuth (1984) for additional discussion of literate programming.

Theorem 1.1. *testing the numbering*

2 Summary

In summary, this book has no content whatsoever.

Theorem 2.1. *testing*

References

Knuth, Donald E. 1984. "Literate Programming." *Comput. J.* 27 (2): 97–111. https://doi.org/10.1093/comjnl/27.2.97.