

Modular Electromagnetic Simulations and Inversions

with applications to reservoir imaging

by

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Abstract

A thesis.

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Preface

Contribution of each chapter and my role in it.

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People, Funding.

Dedication

Family.

Chapter 1

Introduction

1.1 Motivation

1.2 Thesis Outline

Chapter 2

Physical properties across multiple length scales

Chapter 3

A Framework for numerical simulations and Inversions of Maxwells Equations

Chapter 4

Electromagnetic fields and fluxes in the presence of steel cased wells

Chapter 5

Approach for Simulating and Inverting EM data in the presence of Steel Cased Wells

Chapter 6

Inversion Incorporating A-priori Information

Chapter 7

Conclusions and Future Work

Bibliography

Appendix A

Framework for Geophysical Simulations and Inversions

A.1 Introduction

A.2 Attribution and Dissemination

Appendix B

Dissemination