

Advances in Quantitative MRI: Acquisition, Estimation, and Applications

by

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LIST OF ABBREVIATIONS

ABSTRACT

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We show that it is possible to get approximate solutions to analytically intractable equations using iterative methods. Thus we show that the author could pass an undergraduate class in numerical analysis. In addition, a unique extension to Brent's method is proposed that results in slight improvements in convergence.

CHAPTER 1

Introduction

`{c, intro}`

CHAPTER 2

Background

{c,bkgrd}

CHAPTER 3

MRI Parameter Estimation from Likelihood Models

$\{c, \text{relax}\}$

CHAPTER 4

Optimizing MR Scan Design for Model-Based T_1, T_2 Estimation

$\{c, \text{scn-ds}$

CHAPTER 5

MRI Parameter Estimation via Kernel Regression

$\{c, krr\}$

CHAPTER 6

Myelin Water Fraction Estimation from Steady-State Sequences

$\{c, \text{mwf}\}$

CHAPTER 7

Steady-State RF Pulse Design

$\{c, ss-rf\}$

CHAPTER 8

Future Work

`{c, future}`

APPENDIX A

Coil Data Combination from Multiple Datasets

{a, cc-mult

APPENDIX B

DESS in the Presence of Diffusion

$\{a, \text{dess-d.}$

BIBLIOGRAPHY