Operation Manual
Complex Resistivity suite
(CRMod/CRTomo)

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Contents

List of Figures

List of Tables

Chapter 1

Introduction

1.1 General remarks

1.1.1 CRMod

The forward modelling tool CRMod is a finite-element-based program for 2.5D modelling in electrically conductive and polarizable media. It calculates the electric potential due to a low-frequency (pseudo-dc) electric current point-source in a cross-scetion perpendicular to the strike direction of a two-dimensionallly heterogeneous medium. Since the potential is integrated along the direction of the strike in the wavenumber-frequency domain, it is a 2.5D approximation. The medium, typically represents the Earth's subsurface, but may also represent other objects as confined tanks or vessels. The finite-element method grants a huge range of flexibility in meshing the underlying medium.
For any given two-dimensional complex resistivity (comprising magnitude and phase) distribution, the modelled response is either a set of complex potential distributions in the considered cross-sectional planefor a given set of one- and/or two-pole current injection confugurations; a set of impedance values for a given set of two-, three- and/or four-pole measurement confugurations (one or two poles for current injection, another one or two poles for voltages measurement); and/or a set of complex sensitivity distributions in the cross-sectional plane corresponding to the given set of measurement configurations. If polarizability of the medium is disregarded, the underlying resistivity distribution, as well as the modelled potential

1.1.2 CRTomo

The inverse modelling tool CRTomo is the corresponding tomographic program to CRMod .

Chapter 2

CRMod

2.1 Boundary value problem and FE-Method

2.1.1 Dirichlet

2.1.2 Neumann

2.1.3 Mixed boundary values

2.1.4 2D vs. 2.5D

2.2 Induced Polarization (IP)

2.2.1 Spectral IP

2.3 Folder structure and input files

2.3.1 crmod.cfg

2.3.2 Grid file (elem.dat)

2.3.3 Electrode file (elec.dat)

2.3.4 Configuration file (conf.dat)

2.3.5 Model file (model.dat)

2.3.6 Pseudo data file (volt.dat)

Chapter 3

CRTomo

3.1 Electrical Resitivity Tomography (ERT)

3.1.1 Ordinary least squares (OLS) / Gauss-Newton optimization

3.1.2 Adjoint boundary value problem and Sensitivities

3.1.3 Conjugate Gradient linear solver

3.2 Electrical Impedance Tomography (EIT)

3.2.1 Complex Sensitivities

3.2.2 Final Phase Improvement (FPI)

3.3 Regularization

3.3.1 Smoothness constraints

3.3.2 Levenberg and Levenberg-Marquardt damping

3.3.3 Minimum Support and Minimum Gradient Support

3.4 Stochastic regularization

3.4.1 Empirical Variogram and Covariance estimator

3.4.2 Variogram and Covariance models

3.5 Error Model and Noise

3.5.1 Data Error Model

3.5.2 Noise implementation

3.6 Folder structure and input files

3.6.1 crtomo.cfg

3.6.2 Grid file (elem.dat)

3.6.3 Electrode file (elec.dat)

3.6.4 Pseudo data file (volt.dat)

3.6.5 Prior data

3.6.6 Difference inversion

Index