

CONTENTS

Preface	vii
List of Participants	ix
From one to three Dimensions in Inverse Problems P C Sabatier	1
Linearized and Approximate Methods for Inversion of Scattered Field Data M A Fiddy	23
Current Research Topics in Diffraction Tomography A J Devaney	47
The Inverse Scattering Problem for Electromagnetic Waves D Colton	59
Sampling Theory, Resolution Limits and Inversion Methods M Bertero	71
Astronomy—The Ultimate Inverse Problem J C Brown	95
Inverse Problems in Neutron Reflection Xiao-Lin Zhou, Sow-Hsin Chen and G P Felcher	109
Inverse Problems in Seismology J Trampert, J-J Leveque and M Cara	131
Uniqueness and Nonuniqueness in Diffuse Tomography F A Grünbaum	146
Parametric Reconstruction in Biomagnetic Imaging A K Louis	156
Inverse Problems in Confocal Microscopy E R Pike	164
Wavelets in Inverse Optics B De Facio and C R Thompson	180
Effects of Coherence in Inverse Optics F Gori	204
An Inverse Scattering Approach to the Design of Multimode Optical Waveguides for Image Transmission A K Jordan, L S Tamil and J Xia	228
Elastic Wave Inverse Scattering as Applied to Nondestructive Evaluation K J Langenberg	246

Diffraction Tomography Applications in Seismics and Medicine J J Stamnes, L-J Gelius, I Johansen and N Sponheim	268
Thermal Imaging by Microwave Radiometry F Bardati and V J Brown	293
Some Applications of Diffraction Tomography to Electromagnetics— The particular Case of Microwaves J Ch Bolomey and Ch Pichot	319
A Critical Survey of Regularized Inversion Methods C De Mol	345
Statistical Inversion Methods G De Villiers	371
Optimality in Regularization A R Davies	393
Numerical Algorithms for One-dimensional Inverse Scattering Problems M. Corvi	411

