Inverse problems lie at the heart of contemporary scientific inquiry and technological development. Applications include a variety of medical and other imaging techniques, which are used for early detection of cancer and pulmonary edema, location of oil and mineral deposits in the Earth's interior, creation of astrophysical images from telescope data, finding cracks and interfaces within materials, shape optimization, model identification in growth processes, and modeling in the life sciences, among others.

The expository survey essays in this book describe recent developments in inverse problems and imaging, including hybrid or couple-physics methods arising in medical imaging, Calderón's problem and electrical impedance tomography, inverse problems arising in global seismology and oil exploration, inverse spectral problems, and the study of asymptotically hyperbolic spaces. The book is suitable for graduate students and researchers interested in inverse problems and their applications.

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Volumes 1–4, 6–8, and 10–27 are published by Springer-Verlag

Inverse Problems and Applications: Inside Out II

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The Mathematical Sciences Research Institute wishes to acknowledge support by the National Science Foundation and the *Pacific Journal of Mathematics* for the publication of this series.

CAMBRIDGE UNIVERSITY PRESS
Cambridge, New York, Melbourne, Madrid, Cape Town,
Singapore, São Paulo, Delhi, Mexico City

Cambridge University Press
32 Avenue of the Americas, New York, NY 10013-2473, USA

www.cambridge.org
Information on this title: www.cambridge.org/9781107032019

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First published 2013

Printed in the United States of America

A catalog record for this publication is available from the British Library.

ISBN 978-1-107-03201-9 Hardback

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