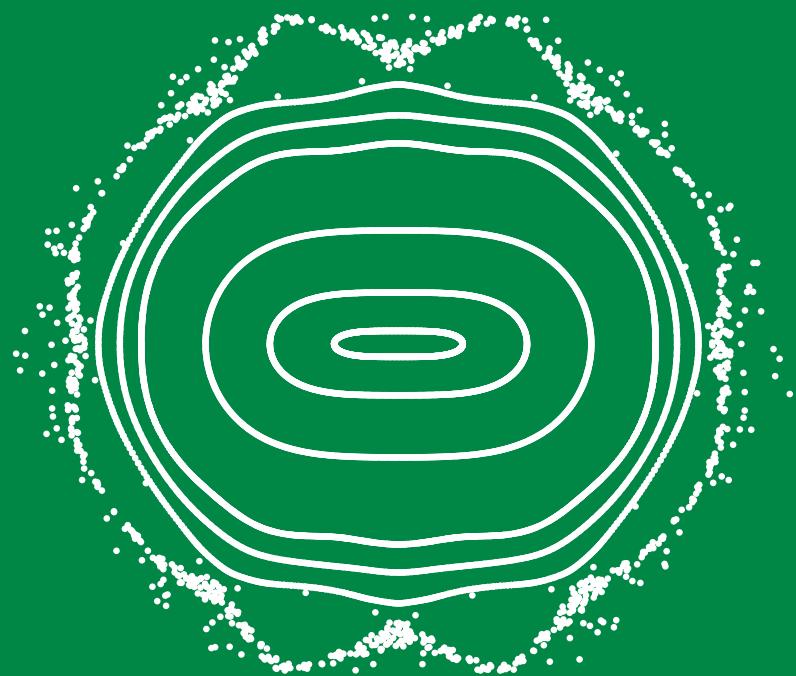


Acta Numerica

Volume 27 2018



CAMBRIDGE
UNIVERSITY PRESS

Managing editor

A. Iserles

*DAMTP, University of Cambridge,
Centre for Mathematical Sciences, Wilberforce Road,
Cambridge CB3 0WA, England*

Editorial Board

- D. N. Arnold, *University of Minnesota, Minneapolis, USA*
F. Brezzi, *Instituto di Analisi Numerica del CNR, Italy*
P. G. Ciarlet, *City University of Hong Kong, China*
W. Dahmen, *RWTH Aachen, Germany*
B. Engquist, *University of Texas, Austin, USA*
N. Higham, *University of Manchester, UK*
I. Ipsen, *North Carolina State University, USA*
E. Tadmor, *University of Maryland, College Park, USA*
R. Temam, *Indiana University, Bloomington, USA*
L. N. Trefethen, *University of Oxford, UK*
B. Wohlmuth, *Technical University of Munich, Germany*
S. J. Wright, *University of Wisconsin, USA*

Acta Numerica

Volume 27 2018



Published by the Press Syndicate of the University of Cambridge
The Pitt Building, Trumpington Street, Cambridge CB2 1RP
One Liberty Plaza, Floor 20, New York, NY 10006, USA
10 Stamford Road, Oakleigh, Melbourne 3166, Australia

© Cambridge University Press 2018

First published 2018

Printed in Great Britain at the University Press, Cambridge

Library of Congress cataloguing in publication data available

A catalogue record for this book is available from the British Library

ISBN 978-1-108-47052-0

ISSN 0962-4929

Contents

Modern regularization methods for inverse problems	1
<i>Martin Benning and Martin Burger</i>	
Geometric integrators and the Hamiltonian Monte Carlo method	113
<i>Nawaf Bou-Rabee and J. M. Sanz-Serna</i>	
Numerical methods for nonlinear equations	207
<i>C. T. Kelley</i>	
Finite-volume schemes for shallow-water equations	289
<i>Alexander Kurganov</i>	
Adaptive multiscale predictive modelling	353
<i>J. Tinsley Oden</i>	