Fields Institute Monographs

VOLUME 29

The Fields Institute for Research in Mathematical Sciences

The Fields Institute is a centre for research in the mathematical sciences, located in Toronto, Canada. The Institutes mission is to advance global mathematical activity in the areas of research, education and innovation. The Fields Institute is supported by the Ontario Ministry of Training, Colleges and Universities, the Natural Sciences and Engineering Research Council of Canada, and seven Principal Sponsoring Universities in Ontario (Carleton, McMaster, Ottawa, Toronto, Waterloo, Western and York), as well as by a growing list of Affiliate Universities in Canada, the U.S. and Europe, and several commercial and industrial partners.

For further volumes:
http://www.springer.com/series/10502

Nizar Touzi

Optimal Stochastic Control, Stochastic Target Problems, and Backward SDE

With Chapter 13 by Agnès Tourin

FIELDS The Fields Institute for Research in the Mathematical Sciences

Springer

Nizar Touzi
Département de Mathématiques Appliquées
École Polytechnique
Palaiseau Cedex
France

ISSN 1069-5273 ISSN 2194-3079 (electronic)
ISBN 978-1-4614-4285-1 ISBN 978-1-4614-4286-8 (eBook)
DOI 10.1007/978-1-4614-4286-8
Springer New York Heidelberg Dordrecht London

Library of Congress Control Number: 2012943958

Mathematics Subject Classification (2010): 03C64, 14P15, 26A12, 26A93, 32C05, 32S65, 34C08, 34M40, 37S75, 58A17

Cover illustration: Drawing of J.C. Fields by Keith Yeomans

Printed on acid-free paper

Springer is part of Springer Science+Business Media (www.springer.com)

I should like to express
all my love to my family:
Christine, our sons Ali and Héni, and our daughter Lilia,
who accompanied me during this visit to Toronto,
all my thanks to them for their patience while I was preparing these notes,
and all my apologies for my absence even when I was physically present...

Contents