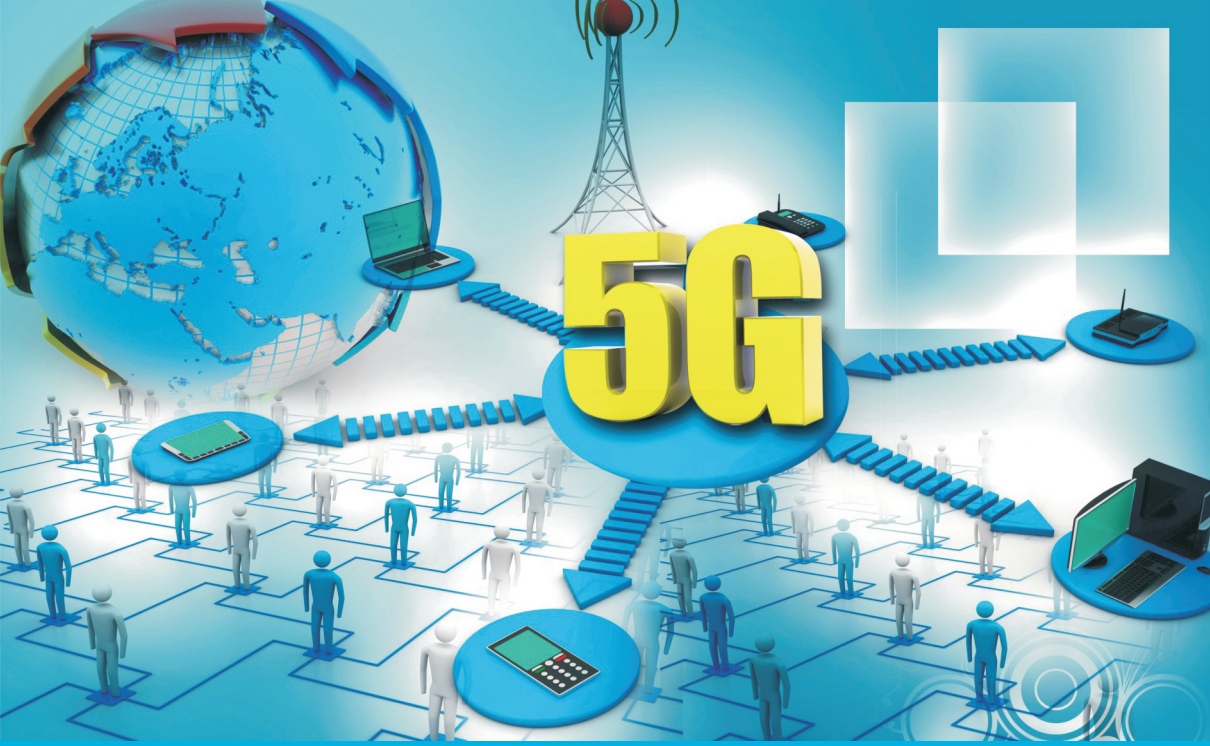

Self-optimization Technologies for Small Cells: Challenges and Opportunities

Zhang Qixun
Yang Tuo
Feng Zhiyong
Wei Zhiqing

SciencePG
Science Publishing Group

Self-optimization Technologies for Small Cells: Challenges and Opportunities

Zhang Qixun
Yang Tuo
Feng Zhiyong
Wei Zhiqing

SciencePG
Science Publishing Group

Published by

Science Publishing Group

548 Fashion Avenue

New York, NY 10018, U.S.A.

http://www.sciencepublishinggroup.com

ISBN: 978-1-940366-78-4

Preface

Considering the exponential surge of mobile data services driven by new applications and smart devices, the future fifth-generation (5G) mobile communications system will dramatically increase the system performances with a massive equipment connection and a high traffic volume density. To solve the capacity enhancement problem, small cells technologies have been proposed recently by reusing the spectrum resources efficiently. This book has proposed the capacity analysis and coverage self-optimization technologies with numerical evaluation results. The interference mitigation technologies, such as the eICIC technology, are designed to minimize the inter-cell and intra-cell interferences among multi-tier small cell networks. Both theoretical analysis and simulation results are described in detail for the potential researchers and engineers in this field. Some parts of the materials are reproduced based on existing published papers by the authors and permissions are granted for the use of copyrighted materials.

The authors would like to thank the National Natural Science Foundation of China (61540021, 61421061), and the National High-tech R&D Program (863 Program 2015AA01A705) for the financial support. The authors would also like to thank the Key Laboratory of Universal Wireless Communications, Ministry of Education and Beijing University of Posts and Telecommunications (BUPT) for the assistance in preparing this book. The authors would like to thank Jia Hou and Yuhang Sun for their comments, editors and faculties of Science Publishing Group for their revision and publishing work of this book.

Contents