



Springer

1st
edition

2012, XII, 380 p.

Printed book

Hardcover

Printed book

Hardcover

ISBN 978-3-642-23904-5

£ 119,99 | CHF 154,00 | 139,99 € |
153,99 € (A) | 149,79 € (D)

Available

Discount group

Science (SC)

Product category

Proceedings

SeriesContributions in Mathematical and
Computational Sciences**Other renditions**

Softcover

ISBN 978-3-642-43942-1

Mathematics : Number Theory

Stix, Jakob (Ed.), University of Heidelberg MATCH - Mathematics Center Heidelberg, Heidelberg, Germany

The Arithmetic of Fundamental Groups

PIA 2010

- The book contains the lecture notes of the Heidelberg lectures on fundamental groups/on Coleman integration. These are introductory texts aiming to familiarize non-specialists with essential techniques of the subject
- An important development in Minhyong Kim's non-abelian Chabauty method by introducing the motivic fundamental group into the subject is reported on by Gerd Faltings and Majid Hadian
- The book contains current research on important questions in the arithmetic of fundamental groups

In the more than 100 years since the fundamental group was first introduced by Henri Poincaré it has evolved to play an important role in different areas of mathematics. Originally conceived as part of algebraic topology, this essential concept and its analogies have found numerous applications in mathematics that are still being investigated today, and which are explored in this volume, the result of a meeting at Heidelberg University that brought together mathematicians who use or study fundamental groups in their work with an eye towards applications in arithmetic. The book acknowledges the varied incarnations of the fundamental group: pro-finite, -adic, p -adic, pro-algebraic and motivic. It explores a wealth of topics that range from anabelian geometry (in particular the section conjecture), the -adic polylogarithm, gonality questions of modular curves, vector bundles in connection with monodromy, and relative pro-algebraic completions, to a motivic version of Minhyong Kim's non-abelian Chabauty method and p -adic integration after Coleman. The editor has also included the abstracts of all the talks given at the Heidelberg meeting, as well as the notes on Coleman integration and on Grothendieck's fundamental group with a view towards anabelian geometry taken from a series of introductory lectures given by Amnon Besser and Tamás Szamuely, respectively.

Order online at springer.com/booksellers**Springer Nature Customer Service Center GmbH**

Customer Service

Tiergartenstrasse 15-17

69121 Heidelberg

Germany

T: +49 (0)6221 345-4301

row-booksellers@springernature.com

ISBN 978-3-642-23904-5 / BIC: PBH / SPRINGER NATURE: SCM25001

Prices and other details are subject to change without notice. All errors and omissions excepted. Americas: Tax will be added where applicable. Canadian residents please add PST, QST or GST. Please add \$5.00 for shipping one book and \$ 1.00 for each additional book. Outside the US and Canada add \$ 10.00 for first book, \$5.00 for each additional book. If an order cannot be fulfilled within 90 days, payment will be refunded upon request. Prices are payable in US currency or its equivalent.

Part of **SPRINGER NATURE**