Springer Series in Chemical Physics 104

Progress in Ultrafast Intense Laser Science

Volume IX

Bearbeitet von
Kaoru Yamanouchi, Katsumi Midorikawa

1. Auflage 2013. Buch. xi, 228 S. Hardcover
ISBN 978 3 642 35051 1
Format (B x L): 15,5 x 23,5 cm
Gewicht: 526 g

Preface

We are pleased to present the ninth volume of Progress in Ultrafast Intense Laser Science. As the frontiers of ultrafast intense laser science rapidly expand ever outward, there continues to be a growing demand for an introduction to this interdisciplinary research field that is at once widely accessible and capable of delivering cutting-edge developments. Our series aims to respond to this call by providing a compilation of concise review-style articles written by researchers at the forefront of this research field, so that researchers with different backgrounds as well as graduate students can easily grasp the essential aspects.

As in previous volumes of PUILS, each chapter of this book begins with an introductory part, in which a clear and concise overview of the topic and its significance is given, and moves onto a description of the authors' most recent research results. All chapters are peer-reviewed. The articles of this ninth volume cover a diverse range of the interdisciplinary research field, and the topics may be grouped into four categories: ultrafast molecular responses to an intense laser field (Chaps. 1–3), advanced techniques for attosecond pulse generation (Chaps. 4–6), atomic and molecular responses to attosecond and XUV pulses (Chaps. 7–10), and attosecond pulse interaction with solid materials (Chaps. 11 and 12).

From the third volume, the PUILS series has been edited in liaison with the activities of the Center for Ultrafast Intense Laser Science at the University of Tokyo, which has also been responsible for sponsoring the series and making the regular publication of its volumes possible. From the fifth volume, the Consortium on Education and Research on Advanced Laser Science, the University of Tokyo, has joined this publication activity as one of the sponsoring programs. The series, designed to stimulate interdisciplinary discussion at the forefront of ultrafast intense laser science, has also collaborated since its inception with the annual symposium series of ISUILS (http://www.isuils.jp/), sponsored by JILS (Japan Intense Light Field Science Society). The present volume has been compiled as a special edition commemorating the discussions at the ICOMP12-ATTO3 joint conference (the 12th International Conference on Multiphoton Processes and the 3rd International Conference on Attosecond Physics) held in Sapporo, Japan, in July 2011. Presenters

from this conference have kindly contributed to this volume, introducing us to their fields and reporting on their latest research results.

We would like to take this opportunity to thank all of the authors who have kindly contributed to the PUILS series by describing their most recent work at the frontiers of ultrafast intense laser science. We also thank the reviewers who have read the submitted manuscripts carefully. One of the co-editors (KY) thanks Ms. Chie Sakuta for her help with the editing processes. Last but not least, our gratitude goes out to Dr. Claus Ascheron, Physics Editor of Springer-Verlag at Heidelberg, for his kind support.

We hope this volume will convey the excitement of ultrafast intense laser science to the readers, and stimulate interdisciplinary interactions among researchers, thus paving the way to explorations of new frontiers.

Tokyo, Japan — Kaoru Yamanouchi
Saitama, Japan — Katsumi Midorikawa