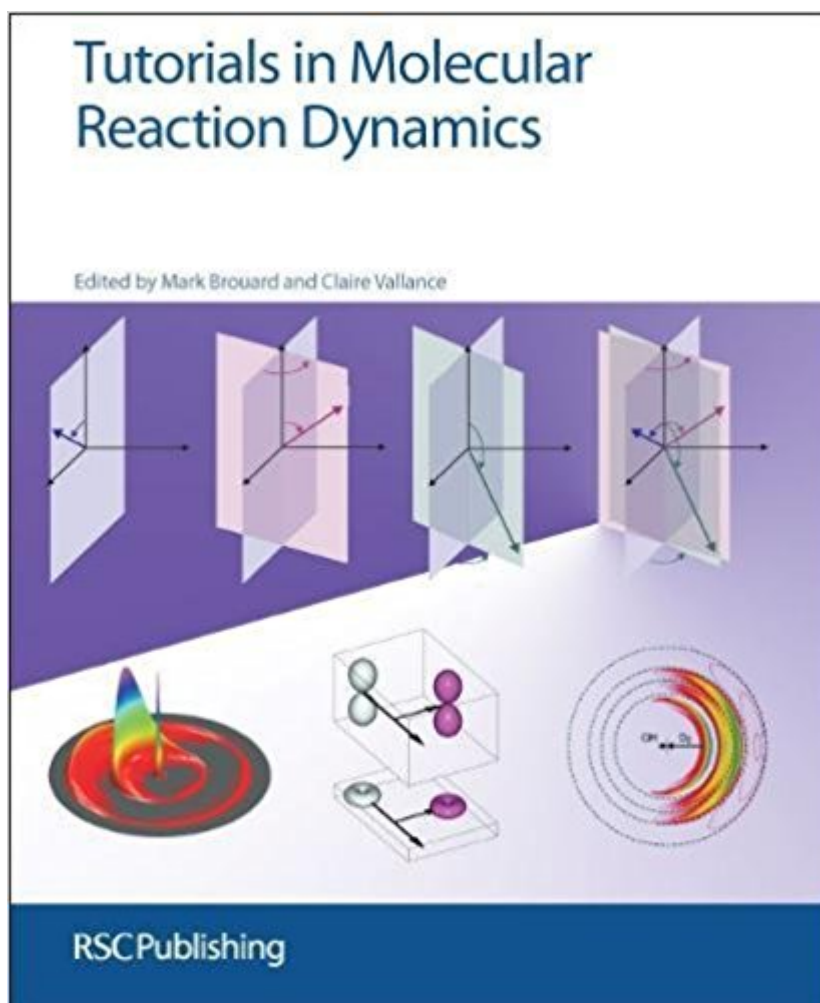




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Tutorials In Molecular Reaction Dynamics: RSC



Synopsis

The focus of this excellent textbook is the topic of molecular reaction dynamics. The chapters are all written by internationally recognised researchers and, from the outset, the contributors are writing with the young scientist in mind. The easy to use, stand-alone, chapters make it of value to students, teachers, and researchers alike. Subjects covered range from the more traditional topics, such as potential energy surfaces, to more advanced and rapidly developing areas, such as femtochemistry and coherent control. The coverage of reaction dynamics is very broad, so many students studying chemical physics will find elements of this text interesting and useful. Tutorials in Molecular Reaction Dynamics includes extensive references to more advanced texts and research papers, and a series of 'Study Boxes' help readers grapple with the more difficult concepts. Each chapter is thoroughly cross-referenced, helping the reader to link concepts from different branches of the subject. Worked problems are included, and each chapter concludes with a selection of problems designed to test understanding of the subjects covered. Supplementary reading material, and worked solutions to the problems, are contained on a secure website.

Book Information

Hardcover: 508 pages

Publisher: Royal Society of Chemistry; 1st Edition. edition (December 17, 2010)

Language: English

ISBN-10: 0854041583

ISBN-13: 978-0854041589

Product Dimensions: 7.4 x 1.2 x 9.7 inches

Shipping Weight: 2.8 pounds (View shipping rates and policies)

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Customer Reviews

How Reactions Really Happen Tutorials in Molecular Reaction Dynamics Mark Brouard and Claire Vallance (Eds.) RSC Publishing, Cambridge, UK, 2010, 508pp (HB) ISBN 9780854041589 Reviewed by Ben Whitaker Aimed at postgraduate students, this collection of tutorial essays written by internationally recognised researchers sets out to provide an overview of the experimental and

theoretical methods that have been developed to probe, understand and control chemicals at the quantum resolved level. The most obvious comparison to make is with Molecular reaction dynamics by Raphael Levine (2005) (ISBN 9780521842761). The two books cover much of the same ground and at approximately the same level, but the present volume takes a more didactic approach and provides a more comprehensive description of the theoretical framework to non-adiabatic interactions and scattering theory as well as recent experimental advances such as velocity map imaging, femtochemistry, coherent control and ultracold chemistry. Each chapter closes with a set of half a dozen or so well chosen illustrative problems, and each contains a number of study boxes to highlight important concepts or review background material. Since each chapter is written by a different author (or authors) there is a danger that such a volume simply becomes a collection of review papers, but through the inclusion of the study boxes and a common style for the figures and tables the editors, Mark Brouard and Claire Vallance, have done an excellent job of pulling the work together into a coherent whole. The volume is well proofread and extensively referenced. I am sure it will soon be seen on the desk of any young scientist embarking on a research career in the field. My only complaint is that the book binding is truly dreadful and I have already broken the spine of my copy. This is unfortunate in a book that is likely to be well thumbed and used as a study aid. Chemistry World, 2011, 8(2), p. 57

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