



Femtochemistry and Femtobiology: Ultrafast Events in Molecular Science

Edited By Monique M. Martin [MR CARS-ENS 8640, Pasteur, Department of Chemistry, Paris Cedex, France
James T. Hynes (MR CARS-ENS 8640, Pasteur, Department of Chemistry, Paris Cedex, France and Department of
Chemistry and Biochemistry, University of Colorado, Boulder, CO 80309-0215, USA

This book reflects the heights of knowledge of ultrafast chemical processes attained in these early years of the 21st century: the latest research in femtosecond and picosecond molecular processes in Chemistry and Biology, carried out around the world, is described here in more than 110 articles. The results were presented and discussed at the Vth International Conference on Femtochemistry, in Paris, France, from July 6 to July 10, 2003. The articles published here were reviewed by referees selected from specialists in the Femtochemistry community, guaranteeing a collective responsibility for the quality of the research reported in the next 564 pages. Femtochemistry is an ever-growing field, where new research areas are constantly opening up, and one which both stimulates and accompanies the development of ultrafast technologies. The increasing interest in femtobiology and chemistry at the frontier with biology is an obvious indicator of the present impact of life sciences in our society. New materials and reactions at surfaces are also some of the relatively new topics that promise rapid developments. New methodologies and technologies for probing and following in real time molecular dynamical phenomena have appeared within the last ten years or so. These methods, based on multidimensional IR spectroscopies, ultrafast X-ray and electron diffraction techniques, are well represented in this book. Of ever-improving performance, they are now applied to the characterization of structural dynamics of an increasing number of chemical and biological systems. This book reports the state of research in Femtochemistry and Femtobiology presented at Paris, at the Maison de la Chimie, in July 2003, representing the tenth anniversary of the conference.

Audience: Chemists, physicists and biologists in the fields of atomic and molecular science.

Contents: 1. Gas Phase And Clusters. 2. Quantum Control. 3. Hydrogen-Bond Dynamics, Water and Proton Transfer. 4. Solvation Phenomena, Fluids And Liquids. 5. Relaxation And Reactions in Solution. 6. Time-Resolved X-Rays. 7. Protein Dynamics. 8. Primary Processes In Photobiology. 9. Dynamics In DNA, Polymers And Macromolecules. 10. Surfaces, Interfaces, Nanostructures and Solids.

Hardbound, ISBN: 0-444-51656-5, 589 pages, publication date: 2004 Copyright © 2004 Elsevier B.V. All rights reserved.