Preface

The 10th International Symposium on Nonequilibrium Processes, Plasma, Combustion, and Atmospheric Phenomena was held in Sochi, Russia, from October 3 to 7, 2022. The symposium discussed the current status in physics and chemistry of the various nonequilibrium phenomena including the kinetics of elementary processes during combustion, in plasma, and in the atmosphere; physics of aerosols, clusters, and nanostructures; ignition and combustion of organic, metallized, and synthetic fuels including processes in jet and internal combustion engines; physics of high-speed reacting flows, shock and detonation waves; as well as new technologies based on nonequilibrium physical and chemical processes. Despite the apparent diversity of topics and disciplines, they are closely interrelated. The book contains extended abstracts of scientific reports presented at the symposium. All materials are carefully edited and logically grouped by subject in the form of six chapters:

Chapter 1 Elementary Processes;

Chapter 2 Ignition;

Chapter 3 Combustion;

Chapter 4 Detonation;

Chapter 5 Engines; and

Chapter 6 Technology.

All materials are presented both in English and in Russian. For convenience, the book contains an author's index, information about the authors' affiliations and working addresses, as well as the authors' e-mail addresses which, if necessary, will allow you to request additional information from the authors.

The preparation and holding of the symposium and the publication of this book are the result of long and hard work of the Organizing Committee and the TORUS PRESS publishers. We express our deep gratitude to all those who participated in this work, in particular, Ms. Olga Rein, Ms. Tatiana Mikhailova, and Ms. Olga Frolova. We thank the authors for their active participation in the symposium and preparation of manuscripts. We hope this book will become a useful addition to the up-to-date scientific literature on nonequilibrium physical and chemical phenomena.

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