

**Dr. Alexander M. Starik**

P. I. Baranov Central Institute of Aviation Motors  
2 Aviamotornaya Str., Moscow 111116, Russian Federation

**Dr. Sergey M. Frolov**

N. N. Semenov Institute of Chemical Physics  
Russian Academy of Sciences  
4 Kosigin Str., Moscow 119991, Russian Federation

**ББК 24.54+26.23**

**Д 70**

**УДК 662.61+628.395**

**Advances in Nonequilibrium Processes: Plasma, Combustion, and Atmosphere** / [Edited by A. M. Starik and S. M. Frolov]. — Moscow: TORUS PRESS, 2014. — 344 p. Tabl. 12, ill. 158.

ISBN 978-5-94588-155-6

This volume contains 46 revised, edited, and formatted articles written by international experts in physical and chemical kinetics, physics of low temperature and cluster plasma, physics of shock and detonation waves, physics and chemistry of aerosols and nanoparticles, combustion and atmospheric chemistry, physics and chemistry of high-speed flow, plasma and laser chemistry, plasma, laser- and combustion-assisted technologies. The volume provides an overview of the state-of-the-art in these interrelated disciplines and is published in connection with the 6th International Symposium on Nonequilibrium Processes, Plasma, Combustion, and Atmospheric Phenomena held in Sochi, Russia, October 5–10, 2014.

The book is addressed to practicing engineers and researchers and can serve as a reference book for graduate studies in plasma and aerosol physics, combustion science and technology, propulsion, and environmental protection

**ББК 24.54+26.23**

**ISBN 978-5-94588-155-6**

© TORUS PRESS, 2014

Publication of this volume was partly supported by the Russian Foundation for Basic Research (grant No. 14-08-20353).

All rights reserved. No part of this book may be reproduced in any form by photostat, microfilm, or any other means without permission from the publishers.

*Front cover:* Snapshot of predicted pressure field in the continuous-detonation combustor of the Center for Pulse-Detonation Combustion at N. N. Semenov Institute of Chemical Physics.

Technical Editor *L. Kokushkina*

Art Editor *M. Sedakova*

Managing Editor *T. Torzhkova*

Cover Design *K. Seiful-Mulyukova*

Printed in Russian Federation