

# THEORY AND PRACTICE OF ENERGETIC MATERIALS

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(VOL. IX)

*Edited by*

LI Shengcai  
NIU Peihuan



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# **THEORY AND PRACTICE OF ENERGETIC MATERIALS (VOL. IX)**

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**Proceedings of the 2011 International Autumn Seminar on**

**Propellants, Explosives and Pyrotechnics**

**Nanjing, Jiangsu, China, September 20–23, 2011**

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*Edited by*

**LI Shengcai**

**NIU Peihuan**

*State Key Laboratory of Explosion Science and Technology  
Beijing Institute of Technology  
Beijing, P. R. China*



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## Introduction of Content

This monograph is the Proceedings of the 2011 International Autumn Seminar on Propellants, Explosives and Pyrotechnics (2011 IASPEP). Collected in this volume are 194 papers from 14 countries. These papers cover the following aspects: Synthesis and Manufacture, Characterization and Analysis, Combustion and Detonation, Modeling and Calculation, and Miscellaneous. Many novel research results on propellants, explosives and pyrotechnics achieved during the last few years are mentioned in the proceedings.

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## PREFACE

Following the success of the eight previous International Autumn Seminars on Propellants, Explosives and Pyrotechnics which were held in China's Beijing(1996), Shenzhen(1997), Chengdu(1999), Shaoxing(2001), Guilin(2003), Beijing(2005), Xi'an(2007), Kunming(2009), the ninth seminar with the same theme is to be held in Nanjing, Jiangsu Province, China, on September 20–23, 2011. The purpose of this seminar is to foster the exchange of ideas, evaluate new methods and new lines of investigation, and bring together scientists from all over the world, working in universities and research institutions.

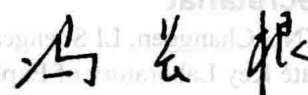
Collected in the proceedings are 194 papers accepted for presentation at the Seminar. These papers are contributed by 581 authors and co-authors from 14 countries which are: Australia, Belgium, Canada, China, Czech Republic, Egypt, India, Iran, Japan, Korea, Pakistan, Russia, Switzerland and USA. The contents of the proceedings have also been recorded in electronic form and provided on CDROM in color. I believe that the proceedings will benefit not only the participants of the meeting but also all of colleagues engaging in the research and development of propellants, explosives and pyrotechnics.

I wish to thank Academician ZHU Jianshi, Mr. Rutger WEBB and Prof. Karl RINK for their outstanding and dedicated contributions as the seminar co-chairmen. Thanks are also given to the members of International Advisory Committee of the Symposium for their tremendous contributions, and to all the authors for their valuable papers. And I also would like to express my sincere thanks to the National Natural Science Foundation of China for supporting this seminar.

In addition, I would like to express my sincere thanks to the staffs of the Editorial Department of *Journal of Safety and Environment* for their tireless efforts and outstanding services in the administration and preparation of the manuscript of the proceedings, to the staffs of Science Press for their diligence in publishing the proceedings.

Finally, I wish all participants a most enjoyable and informative experience.

**Dr. FENG Changgen**



*Vice-President of the China Association for Science and Technology*

*Professor of the Beijing Institute of Technology*

*Secretary General of 2011 International Autumn Seminar on Propellants, Explosives and Pyrotechnics*

*Beijing, China, July 2011*

# **2011 International Autumn Seminar on Propellants, Explosives and Pyrotechnics**

Nanjing, Jiangsu Province, China, September 20–23, 2011

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