

**THE SZEWALSKI INSTITUTE OF FLUID-FLOW MACHINERY
POLISH ACADEMY OF SCIENCES**

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Aims and Scope

Transactions of the Institute of Fluid-Flow Machinery have primarily been established to publish papers from four disciplines represented at the Institute of Fluid-Flow Machinery of Polish Academy of Sciences, such as:

- Liquid flows in hydraulic machinery including exploitation problems,
- Gas and liquid flows with heat transport, particularly two-phase flows,
- Various aspects of development of plasma and laser engineering,
- Solid mechanics, machine mechanics including exploitation problems.

The periodical, where originally were published papers describing the research conducted at the Institute, has now appeared to be the place for publication of works by authors both from Poland and abroad. A traditional scope of topics has been preserved.

Only original and written in English works are published, which represent both theoretical and applied sciences. All papers are reviewed by two independent referees.

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Preface

We are pleased to present a selection of papers originally presented at The First Central European Symposium on Plasma Chemistry held in Gdańsk, Poland in May 2006. The Symposium was a natural development of the series of seven Polish Symposiums on Plasma Chemistry originated in 1971.

These Symposiums have brought together scientists and engineers from Poland studying the plasma chemistry and its applications, in particular for environmental issues. Nowadays, after joining the European Community by Poland and several other Central European countries, we extended the formula of the national symposium to the international one. The topics of the First Central European Symposium on Plasma Chemistry covered both chemical and technological aspects of the plasma processing of gases, liquids and solids. The Symposium was focused on exchanging new results and ideas in the plasma applications for materials processing, surface modifications, medicine, environment protection and other fields related to the plasma chemistry.

In parallel to the First Central European Symposium on Plasma Chemistry a Workshop on the Plasma-Assisted Combustion and Plasma-Aftertreatment of Combustion Flue Gases for Power Industry was organized. The combined Symposium and Workshop provided excellent opportunities for exchanging various ideas.

There were 21 invited lectures and 51 posters presented at the First Central European Symposium on Plasma Chemistry and the Workshop on the Plasma-Assisted Combustion and Plasma-Aftertreatment of Combustion Flue Gases for Power Industry. Due to a limited publishing space in the Transactions of the Institute of Fluid-Flow Machinery issue devoted to the Symposium and Workshop, the International Scientific Committee had to select most interesting papers, which was not an easy task.

We hope that you will find the papers presented here useful, interesting, and stimulating for future progress in the fields related to the plasma chemistry.

The Organising Committee of the Symposium and the Workshop would like to gratefully acknowledge the generous financial support of the Central European Initiative and the Centre of Excellence CLEANERPAS, which enabled both scientific meetings to become fact.

We thank all the authors for their high quality contributions and the reviewers for their thorough and timely reviews of the manuscripts published in this issue.

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C O N T E N T S

F. Altendorfner, F. Dinkelacker, Th. Hammer, Th. Kappes, G. Lins, A. Sakrieh, Lin Sun and M. Vega: Plasma- and electric field control of natural gas combustion	5
J.-S. Chang and K. Urashima: Plasma fuel reforming: a critical review	17
M. Jasiński, M. Goch, Z. Zakrzewski and J. Mizeraczyk Microwave microdischarges of low-power at atmospheric pressure	29
S. Kanazawa: Laser diagnostics of NO molecules and OH radicals in DC positive streamer corona discharges	39
U. Kogelschatz: Plasma chemistry in non-equilibrium discharges: discharge physics and applications	55
E. Metel, J. Podliński, M. Dors and J. Mizeraczyk: Laser visualization of the flow of bubbles in a pulsed streamer discharge in water	65
A. Mizuno: Recent progress in electrostatic precipitation	79
A. M. Starik, A. M. Savel'ev and N. S. Titova: Combustion assisted plasma-chemical processes and environmental effects .	89
H. D. Stryczewska, K. Ebihara, T. Ikegami and M. Takayama: Products of dielectric barrier discharge in screw and pyramid reactors as a soil processing environment	103