



EDITED VOLUMES

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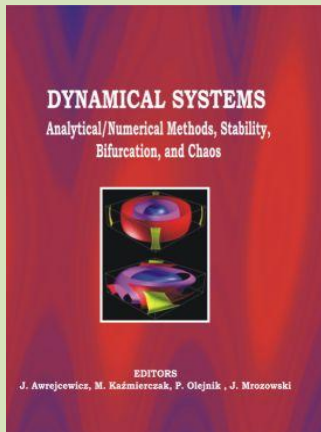
Dynamical Systems - Analytical/Numerical Methods, Stability, Bifurcation, and Chaos

(with M. Kaźmierczak, P. Olejnik, J. Mrozowski)

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SUMMARY



This is the eleventh time when the conference “Dynamical Systems: Theory and Applications” gathers a numerous group of outstanding scientists and engineers, who deal with widely understood problems of dynamics met in daily life.

Organization of the conference would not have been possible without a great effort of the staff of the Department of Automation and Biomechanics. The patronage over the conference has been taken by the Polish Society of Theoretical and Applied Mechanics, and the financial support has been given by the City of Lodz Office.

It is a great pleasure that our invitation has been accepted by so many people, including good colleagues and friends as well as a large group of researchers and scientists, who decided to participate in the conference for the first time. With proud and satisfaction we welcome nearly 120 persons from 22 countries all over the world. They decided to share the results of their research and many years experiences in a discipline of dynamical systems by submitting many very interesting papers.

The proceedings of the 11th Conference „Dynamical Systems -Theory and Applications” summarize 112 best papers of university teachers and students, researchers and engineers from whole the world. The papers was chosen by the International Scientific Committee from about 157 papers submitted to the conference. The reader thus obtains an overview of the recent developments of dynamical systems and can study the most progressive tendencies in this field of science.

The proceedings consist of two volumes. This book includes the invited papers and the papers dealing with control in dynamical systems, dynamics in life sciences and bioengineering, engineering systems and differential equations, non-smooth systems, vibrations of lumped and continuous systems and other problems.

The second book encompasses the following topics:

- asymptotic methods in nonlinear dynamics,
- bifurcations and chaos in dynamical systems,
- mathematical approaches to dynamical systems,
- original numerical methods of vibration analysis,
- stability of dynamical systems.

As the proceedings present recent developments in both theoretical and experimental approaches, no engineer, designer, researcher, university teacher and student interested in the mentioned topics can ignore them.

Our previous experience shows that an extensive thematic scope comprising dynamical systems stimulates a wide exchange of opinions among researchers dealing with different branches of dynamics. We think that vivid discussions will influence

[Preface & Contents](#)

[Book Review](#)

positively the creativity and will result in effective solutions of many problems of dynamical systems in mechanics and physics, both in terms of theory and applications. We do hope that DSTA 2011 will contribute to the same extent as all the previous conferences to establishing new and tightening the already existing relations and scientific and technological co-operation between both Polish and foreign institutions.