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Scope of the journal

Mechanics and Mechanical Engineering publishes original papers, notes, and invited review articles from all fields of theoretical and applied mechanics as well as mechanical engineering. In addition to the classical fields, such as Rigid Body Dynamics, Elasticity, Plasticity, Hydrodynamics and Gas Dynamics, it gives special attention to recently developed and boundary areas of mechanics. As a rule, only contributions written in English will be accepted.

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INTRODUCTION

The present issue of "Mechanics and Mechanical Engineering" is one of two special issues of this journal devoted to the widely understood subject scope of nonlinear stability, load carrying capacity, thermal stability and dynamics of structures presented at the 13th Symposium on Stability of Structures.

The Symposium was held on September 17–21, 2012 in Zakopane under the honorary patronage of Prof. Bogdan Kruszyński, Dean of Faculty of Mechanical Engineering, Lodz University of Technology. There were 82 participants, including 21 foreigners from Great Britain, Ukraine, Japan, Czech Republic, Slovakia, Germany, Portugal, Russia and Romania.

The symposia are organized by the Department of Strength of Materials and Structures, Lodz University of Technology, and the Lodz Branch of the Polish Society of Theoretical and Applied Mechanics.

Both special issues of "Mechanics and Mechanical Engineering" are published in the jubilee year of the 50th anniversary of the 1st Symposium on Stability of Structures. The organization of the symposia was initiated by Prof. Jerzy Leyko, a founder of the "Lodz school of stability of structures". On May 25, 1963, a modest, one-day-long 1st Symposium on Stability of Structures was held, 7 presentations were delivered and 27 participants took part.

Since that time the Symposia on Stability of Structures have entered the calendar of Polish scientific conferences on a regular basis. More and more numerous participants from abroad underlie the prestige of this monothematic conference.

Traditionally, the subject scope of the symposia covers issues devoted to stability, postcritical states and load carrying capacity of isotropic and composite thin-walled structures, in particular:

- rod structures: beams, columns, frames,
- plates and shells,
- dynamics of structures,
- interactive buckling,
- failure mechanisms,
- numerical modelling and simulation of postcritical (postbuckling) states,
- optimisation of structures,
- experimental investigations.

These special issues of "Mechanics and Mechanical Engineering" devoted to problems presented during the 13th Symposium on Stability of Structures will allow the authors to present their investigations to a broader group of readers and, as we do hope, will encourage them to participate in next symposia.

On behalf of the organizers, the authors and myself, I would like to thank Professor Tomasz Kapitaniak, the Editor in Chief of "Mechanics and Mechanical Engineering", for giving us an opportunity to present the contributions of the 13th Symposium on Stability of Structures on an international stage. Thanks are also due to the members of the Scientific Committee of the Symposium and to the reviewers of all papers.

Guest Editor
Prof. Zbigniew Kołakowski

