

PREFACE

*„The reliability of machinery is inversely proportional to the number and significance of any persons watching it.“
Watson's Law*

Special Topic Volume entitled *Operation and Diagnostics of Machines and Production Systems Operational States II* is focused on the operation, technology and diagnostics of operational states of machines and manufacturing systems. The topic covers research fields that are mainly solved at the Faculty of Manufacturing Technologies of Technical University of Košice with a seat in Prešov for long period of time. Dealing with such kind of research is necessarily associated with high theoretical demands, so authors would like to disseminate achieved knowledge in research, educational and entrepreneurial areas.

The Volume contains selection of scientific papers that present knowledge resulting mainly from work on scientific projects supported by the Structural Funds of the European Union, OPVaV-2009/2.2/01-SORO, ITMS 26220220103 “Research and Development of the Intelligent Non-conventional Actuators Based on Artificial Muscles”; OPVaV-2009/2.2/04-SORO - ITMS 26220220125 “Research and Implementation of Experimental Simulation Methods for Processes Optimisation at Technological Workstations” and OPVaV-2009/2.2/02-SORO, by the grants of Slovak Ministry of Education, e.g. VEGA 1/0975/11 and 1/0409/13, by institutional tasks of the Faculty of Manufacturing Technologies and by other projects.

Most of the presented experimental work was performed at internal laboratories of the Faculty of Manufacturing Technologies. Part of the contributions reports also the knowledge based on scientific cooperation of the Faculty with collaborating laboratories and with major international partner companies, to mention some of the most important: National Instruments, LB-acoustics, Omega, BMC, Polytec, Brüel & Kjaer and others.

More detailed, papers within this volume are focused on monitoring and diagnostics of operational states of machining and other technical devices. Objects are investigated by using specific models, tools and instruments along with their verification and evaluation of the operation and operational states of technical systems. Substantial part of presented achievements is sourcing from the research with participation of young researchers. We are pleased that the collection includes significant part of scientific papers, authors of which are young holders of PhD degree.

Finally, we hope that knowledge presented in this collection as well as methods, technical systems and their applications have strong potential to attract and impress researchers as well as other professionals and will contribute to the process of giving an answers that still are to be given or questions that still are to be formulated.

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