

Book Review

Nonlinear Problems of the Theory of Vibrations and Control Theory

Vibration Mechanics

For the 80 – th Anniversary of I. Blekhman

Book Editors: V. Beleckij, D. Indeitsev, A. Fradkov
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In the book important problems of the theory of nonlinear vibrations, of nonlinear control theory and of vibration mechanics are presented. A number of research papers are based on the material presented by the authors in the seminar on Vibration mechanics which took place on the 27 - th of November, 2008 and was dedicated to the 80 – th anniversary of I. Blekhman. Among the authors there are leading scientists from Russia, Germany, Latvia, Lithuania, Netherlands, USA, Ukraine, who are Blekhman's friends and colleagues, together with young scientists who are his progenies.

The book starts with a short scientific biography and a List of Publications of I. Blekhman, which includes more than 300 research papers, more than 10 research monographs, more than 50 patents. The paper by L. Vaisberg is devoted to I. Blekhman and Vibration mechanics. A scientific – review paper of I. Blekhman, which was previously printed in the journal “Nature” in 2003, serves as a good introduction to the field of problems which are analyzed in most of the research papers in the book. His direct interest to a number of diverse different phenomena in nature and engineering and to the scientific investigations of those phenomena and also his favorable attitude to the research work of other scientists, especially the young ones, resulted in the fact that many scientific results and even new scientific directions were created and developed due to him. Some of those scientific directions are reflected in this book.

The greater part of scientific investigations of I. Blekhman is related with Vibration mechanics and nonlinear vibrations. His investigations of nonlinear dynamical systems in the field of division of motions, in the creation of theoretical basis of materials with unusual dynamical characteristics, in the field of control of vibrating systems are to be noted.

Among the wonderful qualities of I. Blekhman one is to note his great interest to the mysteries of creation of the world, to scientific methodology, to basic ideas and paradoxes of applied mathematics and mechanics.

In the book research papers which are mainly devoted to the development of the ideas of I. Blekhman and of related ideas are presented.

The book ends with some quotations from publications and presentations of scientists from a number of countries devoted to I. Blekhman and also with a short selection of photos covering a time period of a number of years.