

Table of Contents

Preface

Chaotic Zones in Triple Pendulum Dynamics Observed Experimentally and Numerically J. Awrejcewicz, G. Kudra and G. Wasilewski	1
Geometric Instability vs. Lyapunov's Exponents of a Double Physical Pendulum J. Awrejcewicz and D. Sendkowski	19
Dynamics of Continuous Systems Subjected to Traveling Loads R. Bogacz	31
Interface Conditions and Loss of Stability for Stepped Columns R. Bogacz, K. Frischmuth and K. Lisowski	41
Decomposition of Symptom Observation Matrix and its Optimization in Vibration Condition Monitoring of Machines C. Cempel	51
Application of Computer Simulation Methods for Running Safety Assessment of Railway Vehicles in Example of Freight Cars A. Chudzikiewicz and M. Opala	61
Mechanics of Track Structure with Y-Shaped Steel Sleepers in Sharp Curves W. Czyżuła and R. Bogacz	71
Wave Propagation Modelling in Composite Plates P. Kudela and W.M. Ostachowicz	89
A Dynamic Friction Law Describing Heat and Wear in Contact Zones G.P. Ostermeyer	105
On Pain Detection in Multibody Systems G.P. Ostermeyer and F. Schiefer	115
Simulation of Guided Waves Propagation in Axial Transmission Measurements in Human Radius Ł. Pieczonka, T. Uhl and A. Martowicz	127
Modal Analysis of Bridges for the SHM Purposes K. Mendrok and T. Uhl	143
An Internal Variable Update Procedure for the Treatment of Inelastic Material Behavior within an ALE-Description of Rolling Contact M. Ziefle and U. Nackenhorst	157