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Nota di contenuto	Applied Mechanics and Mechatronics; Preface; Table of Contents; Chapter 1: Design, Modeling and Simulation of Mechanics, Dynamics and Mechatronic Industry Systems; Passive Suspension of a Working Machine Horizontal Platform; Simulation Analysis of Pneumatic Rubber Bellows for Segment of Hyper-Redundant Robotic Mechanism; An Active Control of the Thin-Walled Mechanical Systems; Application of Karray-Bouc Hysteretic Model for Cumulative Damage Calculation Using Energy Fatigue Curve; Automatic Generation of Equations of Motion of Mechanical Systems Calculations of Phase Transformations in Welding Simulations Bending Tests and Simulations of GLT Beams; Control of a Robotic Arm on the Principle of Separate Decision of an Inertial Navigation System; Effective Methods of Parameters Refinement of Machinery in the Program MSC. ADAMS; Inverse Kinematic Model of Humanoid Robot Hand; Kinematic Analysis of Mechanisms Using MSC Adams; Kinematic Analysis of Crank Rocker Mechanism Using MSC Adams/View; Kinematic Analysis Planar Mechanism of a Pump Using MSC Adams; Kinematic Model of Nonholonomic Mobile Robots Methodology and Application of the Kruskal-Wallis Test Snake Robot Movement in the Pipe Using Concertina Locomotion; Mathematical Model of Four Wheeled Mobile Robot and its Experimental Verification;

Modeling of Newtonian and Non-Newtonian Liquid Sloshing in Road Tanks while Braking; Modelling a Liquid Material in Drop Test Simulations of a Cask for Liquid Radioactive Waste; Numerical Modelling of Glued Joints between Metal and Fibre Composites Using Cohesive Elements; Numerical Simulation of the Impact on Wide Composite Sandwich Beam
Parallelepiped Sandwich Shell - Searching for the Optimal Geometric Parameters Simulation Model of Manipulator for Model Based Design; The Simulation Model of Experimental Equipment for the Research of Pipe Conveyor Belts Using ABAQUS Software; Numerical Analysis of the Influence of Material Model on Response of Compressed Imperfect Thin-Walled Channel; Deformation and Stiffness of Spur Gearing Solved by FEM; Trajectories of Projectiles Launched at Different Elevation Angles and Modify Design Variable in MSC Adams/View; Drive Dynamic Analysis - The Key to Optimal Drive Performance
Hyperplastic Material Models and their Applications in Engineering Influence of Pipe Geometric Deviations on In-Pipe Machine Locomotion; Analytical and Numerical Proposal for Designing Plastic Vessels; Integrated System of Mixed Virtual Reality Based on Data Glove CyberGlove II and Robotic Arm MechaTE Robot; Modal Analysis of Circular Plates; Numerical Analysis of Stress States for Graphitic Cast Iron Structures; Puck Collecting Robot; Regression Model Design for the Prediction of Pipe Conveyor Belt Contact Forces on Idler Rollers by Experimental Tests
Stress Analysis of the Thin-Walled Vessels

Sommario/riassunto

The issue "Applied Mechanics and Mechatronics" contains results of research from researchers and designers from several prominent universities and research institutes of Central Europe. The publication is divided into three following chapters: Modeling and Simulation of Mechanic and Mechatronic Systems Analysis and Design of Mechanic and Mechatronic Systems Experimental methods in Mechanics and Mechatronics. The submitted publication provides insight on modern approaches and methods in designing, modeling and experimental analyzing of mechanic and mechatronics systems.
