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Nota di contenuto	Designing and Researching of Machines and Technologies for Modern Manufacture; Preface, Committees and Sponsors; Table of Contents; Chapter 1: Designing and Researching of Machines and Equipments for Manufacture; A New Fixture for Automobile Belt Tensioner Brace; Key Technology Research on Dynamic Design of a Large Vibrating Screen; Effect of Expansion Tube Structure on Regeneration of Diesel Particulate Filter; Effect of Temperature Distribution on Critical Speeds of a Dual-Rotor System Finite Element Analysis about Push Plates of Dismounting Coupler and Buffer from Passenger Train Base on ANSYSStructural Principle of Hydraulic Engine; The Mechanical Structure of a New Energy-Saving Pumping Unit Analysis by Pro/E; The Research of Stemming Making Jam Machine; The Strength Analysis of Francis Turbine Runner Based on the Fluid-Solid Coupling; Influence of Diversion Tunnels on Insulation Design of the High Temperature Pneumatic Duct; Vertical Assembled Sprayer for Supplying Water and Liquid Fertilizer; Rotating Detonation

Instabilities in Hydrogen-Oxygen Mixture
Dynamic Characteristics Optimization of Joint Interface of Machine Tool Based on Porous Oily MaterialsModeling Analysis and Experiment Research on Rotary Motor Buffer Overflow Valve; Numerical Simulation for Premixed Combustion of Multiple Ejection/ Tangential Burner; Simulation Research of the Effect of Compression Ratios on Combustion and Emission for Methanol/Diesel Dual Fuel Engine; Experimental Research on Premixed Porous Media Combustion in Multiple Ejection/Tangential Burner; Design of Pocket Dies for Metal Extrusion Using the Finite Element Method
Chapter 2: Theory and Practice of Computational MechanicsAbout Experience of Determining Stiffness and Strength Characteristics of Structural Joints for Modeling Nonlinear Processes of Deformation and Failure of Long Span Structures; Boundary Element Method with Runge-Kutta Convolution Quadrature for Three-Dimensional Dynamic Poroelasticity; About Verification of Wavelet-Based Discrete-Continual Finite Element Method for Three-Dimensional Problems of Structural Analysis Part 1: Structures with Constant Physical and Geometrical Parameters along Basic Direction
About Verification of Wavelet-Based Discrete-Continual Finite Element Method for Three-Dimensional Problems of Structural Analysis Part 2: Structures with Piecewise Constant Physical and Geometrical Parameters along Basic DirectionDirect BEM for Three-Dimensional Transient Dynamic Piezoelectric Analysis; Laplace Domain Boundary Element Method for 3D Poroelastodynamics; Generalized Multiquadrics with Optimal Shape Parameter and Exponent for Deflection and Stress of Functionally Graded Plates; The Performance Comparison Analysis on Hydraulic Muffler of Quality Room with Parallel Line
Fiber Orientation Angles Optimization for Maximum Fundamental Frequency of Laminated Composite Plates by the Genetic Algorithm and Meshless Method

Sommario/riassunto

Collection of selected, peer reviewed papers from the 2014 3 rd International Conference on Mechanical Design and Power Engineering (ICMDPE 2014), October 19, 2014, Jeju Island, Korea. The 109 papers are grouped as follows: Chapter 1: Designing and Researching of Machines and Equipments for Manufacture; Chapter 2: Theory and Practice of Computational Mechanics; Chapter 3: Mechatronics, Robotics and Control; Chapter 4: Advanced Materials Engineering and Processing Technologies; Chapter 5: Biomedical Engineering and Environmental Science; Chapter 6: Methods and Systems of Measurement, Testing an