

INDEX

Vibrations

A. Akay, Z. Xu

Effects of Inertia in Compressible Squeeze Films 17

R. B. Bhat, , H. Larrondo, V. Topalián, D. R. Avalos, P. A. A. Laura

Free Vibrations of Annular Circular Plates of Discontinuously Varying Thickness and Elastically Restrained Edges 23

P. Caravani, E. De Santis

Worst Case Control of Discrete Dynamic Structures with Uncertain Parameters 29

B. S. Choo, G. Q. Li

A Design Chart for Estimating Fundamental Frequencies of Coupled Shear Walls 35

S. H. Crandall

A Stable Model for the Transition from Oil Whirl to Oil Whip 41

D. De Andrade

On a Symbolic and Numerical Simulation of a Simplified Helicopter Ground Resonance Analytical Model 48

L. Ercoli, S. La Malfa, P. A. A. Laura

El Solapamiento de los Espectros Vibratorios en el Diagnóstico de Máquinas 54

D. Feit, M. Strasberg

The Structural Fuzzy as a Source of Vibration Damping 60

M. Grigoriu

Response of Nonlinear Systems to Poisson White Noise 66

R. H. Gutiérrez, P. A. A. Laura

Recent Applications of the Differential Quadrature Method 72

P. Hagedorn, U. Pabst

Some Remarks on the Identification of Damping Parameters at the Boundary of Vibrating Systems 77

F. Y. Huang, C. D. Mote Jr.

On the Stability Mechanisms of Spinning Disk under Rotating Damping Forces 83

M. H. Kargarnovin, A. Khazandi	Vibrational Analysis in Compound Bodies with Rotational Symmetry Using Finite Element Method	89
J. Lee	Random Vibration of Termally Buckling/Buckled Plates	95
A. W. Leissa, S. M. Shihada	Convergence Considerations for the Ritz Method	99
G. Q. Li, B. S. Choo	Design Charts for Evaluating Fundamental Frequencies of Prismatic Structures	104
Y. K. Lin, G. Q. Cai	On the Equivalency of Quasi-Conservative Averaging and Dissipation Energy Balancing Methods	110
J. J. Mccoy	Enhanced Dissipation of Dynamical Microsystems	116
A. Muravyov, S. G. Hutton	Free Vibration Response of Discrete Systems with General Damping Characteristics	121
F. Quetin, D. Osmont	Parametric Updating of Finite Element Models. Application to an Helicopter Like Structure	127
R. E. Rossi, J. A. Reyes, P. A. A. Laura	Dynamic Stiffening of Orthogonal Beam Grillages	133
A. Ses tieri	Force Balance Updating of Nonconservative Finite Element Models	139
L. E. Suárez, A. Shokoooh	On the Response of Systems with Damping Materials Modeled Using Fractional Calculus	147
J. G. Tseng, J. A. Wickert	On the Vibration of Bolted Plate and Flange Assemblies	153

Dynamics of Structures

R. Brad, C. Mazzilli	Influence of Disordered Loading in Mode Localization in Periodic Structures	161
-----------------------------	--	-----

K. W. Buffinton	
The Effect of Driving Force Application Point on the Dynamics and Stability of a Beam moving over Supports	167
A. O. Cifuentes, N. Shulga	
Dynamic Behavior of PW Boards: A Sensitivity Analysis Technique Based on Multi-Linear Expansions	173
M. A. Eisenberg	
Dynamic Loads on Step Ladders: Simple Mechanics – Complex Problem	179
W. Fang, J. A. Wickert	
Response of a Periodically Driven Impact Oscillator	184
C. P. Filipich, M. B. Rosales	
An Alternative Approach for the Solution of the Forced Vibrations of Beams	190
H. W. Haslach Jr.	
Dynamic Response to Degenerate Singularities in the Potential	196
A. Lerusse, M. Gérardin, A. Cardona	
Analysis of Non-Linear Dynamic Systems by a Multiharmonic Method	202
E. M. Lopes Carvalho, R. Carvalho Batista	
Fatigue Life of Deep Water Rigid Risers	208
S. A. Lukasiewicz, R. Babaei	
Effects Of Dependent Variables and Instrumental Errors in Filtering of Experimental Data	214
H. Luo, S. Hanagud	
On the Dynamics of Vibration Absorber with Elastic Stops	220
A. Mioduchowski	
Dynamics of Multi-Disk Rotors Containing a Transverse Symmetrical Crack	224
F. Puntiglano, R. Pereira	
Manoeuvring Simulations with Simbel	230
B. Qian, R. Reiss, W. Aung	
Approximate Analytic Periodic Solutions for Non-Linear Dynamics	236
D. Redekop, G. Shouchun	
Efficient Sizing of the MOI of a Flywheel	242
G. Rega, F. Benedettini, A. Salvatori	
Finite Oscillations of Elastic Cables as a Case Study for Bifurcation. Chaotic and Interaction Phenomena in Structural Dynamics	248

Y. A. Rossikhin, M. V. Shitikova	
Impact of a Rigid Sphere upon an Elastic Layer Resulting in the Crack Formation	254
H. Schmieg	
Stationary Shifting Motions of an Unconstraint System with Friction	260
A. Sinopoli	
A Geometric Formulation for Rigid-Body Dynamics: The Locking of the Rod	266
V. Sonzogni	
Implicit and Explicit Analysis of a Hollow Beam Impact	272
J. S. Torok, K. A. Playfoot	
Suppression of Transient Solution in Time-Invariant Linear Systems	278
J. Verspohl	
Drift Phenomena in Vibratory Systems with Dry Friction	283

Chaos and Bifurcations in Dynamical Systems

D. C. Lin	
The Less Energetic Mode Vibrations in the Chaos of a Thin Beam - An Information Processing Viewpoint Versus an Energy Criterion	291
A. C. J. Luo, R. P. S. Han	
Universality of Duffing's Equation via its Discrete Map	297
J. L. Moiola, P. D. Doñate, M. C. Colantonio	
Elementary Static Bifurcations via Feedback Systems Theory	303
C. Sansour, J. Sansour	
A Dynamical Formulation of Shells at Finite Rotations and Corresponding Finite Element Computations of Chaotic Vibrations	309

Fluid-Structure Interaction

J. T. Borggaard, T. L. Herdman, J. Turi	
On an Application of the Boundary Element Method to Study Flow Induced Vibrations	317
G. M. Cerezo, E. Fernandez Berdaguer, T. L. Herdman, J. Turi	
Parameter Identification Techniques for Singular Neutral Equations	322

D. De Andrade	
Symbolic Algebra Applied to a Generalized Dynamic Inflow Model for Helycopter Aeroelastic Analysis	328
R. Engelstad, E. G. Lovell	
Dynamic Response of Flexible Tubes Conveying Fluid subjected to Planar Sequential Impulses	334
D. Mateescu, M. P. Paidoussis, A. Mekanik	
Analysis of 3-D Unsteady Annular Flows based on Time-Dependent Coordinate Transformation	340
M. P. Paidoussis, N. W. Mureithi, S. J. Price	
Nonlinear and Chaotic Dynamics of a Loosely-Supported, Impacting Cylinder in a Heat-Exchanger Array Subjected to Cross-Flow	346
M. Pfeil, P. Gardel, R. C. Batista	
Aerodynamic Coupling in Bridge Flutter Analysis	352
M. Silva Correa, D. De Andrade	
Coupling of Finite-State Inflow to Elastic Restraint Rigid Blade Equations for Helycopter Rotor Aeroelastic Analysis in Hover	359
W. G. Sim, K. N. Han, S. T. Hwang	
Dynamic Stability of a Flexible Cylinder in a Confined Inviscid Flow Based on Spectral Method	365
M. A. Vaz Dos Santos, A. M. Awruch	
Numerical Analysis of Compressible Fluids and Elastic Structures Interaction	372

Wave Motions in Solids

H. D. Espinosa, N. S. Brar	
Dynamic Failure of Brittle Materials	381
F. Medina, K. Bataille	
Finite Element Approximation for One-Dimensional Elastic Wave Propagation in Large Domains	388
Y. M. Tsai	
Wave Diffraction by Penny-Shaped Cracked in a Finitely Deformed Incompressible Elastic Medium	396

Astronautics (Celestial and Orbital Mechanics)

A. F. B. De Almeida Prado, R. Brouke	
A Classification of Swing-By Trajectories Using the Moon	403
R. Alonso, M. D. Shuster	
Un Nuevo Método para la Calibración de Magnetómetros	409
V. Carrara, M. C. Ricci	
A Test Experiment for the Spin Plane Magnetic Coil of the SCD2	415
I. M. Fonseca, P. M. Bainum	
On the Simultaneous Structural and Control Optimization of Large Space Structures	421
G. Nakhaie- Jazar	
Equation of Motion of a Series Planer Pendulums	427
G. Nakahie Jazar	
Perturbation of Satellites by Oblate Earth's Gravitational Field	432
W. C. C. Da Silva, L. G. C. DeSouza	
Spin Reduction of Space Vehicles Using Gas Jets	438

Optimization

K. Y. Choi, G. S. Dulikravich	
Sensitivity Analysis Method for Acceleration of Iterative Algorithms	445
A. R. Diaz, R. Lipton	
A New Formulation of the Problem of Optimun Layout in 3D Elasticity	450
A. M. Frangopol	
On Reliability-Baaed and Multicriteria Optimization of Inelastic Structures	456
L. A. Godoy, S. R. Raichman	
Design Sensitivity of Buckling State: Simplified Analysis and Errors	462
P. Hajela, Y. Teboub	
Optimal Placement of Sensors in Composite Structures for Damage Detection	468
H. Jensen	
A Response Surface Method for Design Sensitivity Analysis	472
J. Kowalski, Y. Borquez	
Optimum Mechanical Design: A Psychological Study	478

C. Y. Lin, Y. Y. Yao	
Global Optimization with Local Optimun Region. Identification Techniques	485
M. Rysz, D. Serrano	
On Some Aspects of Optimal Shaping of Cilyndrical Shell under Creep	489

Control

R. A. Burdisso	
Adaptive Control of Civil Structures to Seismic Inputs	497
J. A. Burns, B. B. King	
A comparison of Minmax and LQR Control for a Hybrid Nonlinear Continuous System	503
S. H. Chang, S. M. Lo	
Piezoelectric Actuator for Axial-Flexural Vibration Excitation of Parallel Cantilever Frame	507
A. Chattopadhyay, C. E. Seeley	
Optimun Design of Smart Composite Structures with Multidisciplinary Structures/ Controls Coupling	513
P. Dechent	
Control e Vibraciones en Estructuras Mediante Elementos Disipadores en Base a Fricción	519
L. Morley Hanagan, C. E. Minor Fellow	
Floor Vibration! A new Application for Active Control	525
S. S. Rao	
Multi-Ojective Optimization of Control Augmented Structures with Mixed Design Variables	531
D. Rubio, S. D. Olds, L. C. V. Beisgen	
Non Linear Control for Chaotic System	537

Robotics

N. Baclschmid, G. Mimmi, E. Tanzi	
Experimental Analysis and Modeling of the Behavior of Harmonic Drives in Robotics	545
F. Bernelli-Zazzera, A. Ercoli-Finzi, P. Mantegazza	
Cooperattion Strategies for Space Robots	553

A. Meghdari

Conceptual Design and Characteristics of Dual-Arm Cam-Lock
Manipulator 559

AUTHOR INDEX 568

R. Jensen — Harmonic Motion in Harmonic Admittance Surface Method for Design.

J. Kowalek, V. Borgangos and M. T. Oktayuk, Mechanical Design, A Period