

CONTENTS

Preface	i
Daniel Alpay and Eduard Tsekanovskii Subclasses of Herglotz-Nevanlinna matrix-valued functions and linear systems ..	1
José F. Alves Stochastic behavior of asymptotically expanding maps	14
F. Balibrea and J.C. Valverde Extreme degenerations for some generic bifurcations and new transversality conditions	22
M. Bartušek and J.R. Graef Some limit-point/limit-circle results for third order differential equations	31
B.P. Belinskiy and P. Caithamer Energy of an elastic mechanical system driven by Gaussian noise white in time	39
H. Bercovici, V. Nitica Cohomology of higher rank abelian Anosov actions for Banach algebra valued cocycles	49
M. Büger and M.R.W. Martin Stabilizing control for an unbounded state-dependent delay equation	56
A. Cañada and A. J. Ureña Some new qualitative properties on the solvability set of pendulum-type equations	66
Paulo Cesar Carrião and Olímpio Hiroshi Miyagaki On a class of variational systems in unbounded domains	74
Florin Catrina and Zhi-Qiang Wang Asymptotic uniqueness and exact symmetry of k -bump solutions for a class of degenerate elliptic problems	80
C.Y. Chan Recent advances in quenching and blow-up of solutions	88
David N. Cheban Global attractors of nonautonomous quasihomogeneous dynamical systems	96
Yuming Chen Synchronized and nonsymmetric phase-locked periodic solutions in a network of neurons with McCulloch-Pitts nonlinearity	102
K.-L. Cheung and M.-C. Leung Asymptotic behavior of positive solutions of the equation $\Delta u + Ku^{\frac{n+2}{n-2}} = 0$ in \mathbb{R}^n and positive scalar curvature	109

M.A. Christou and C.I. Christov	
Fourier-Galerkin method for localized solutions of the sixth-order generalized Boussinesq equation	121
Jinqiao Duan, Vincent J. Ervin and Daniel Schertzer	
Dispersion in flows with obstacles and uncertainty	131
C.M. Evans and G.L. Findley	
Analytic solutions to a class of two-dimensional Lotka-Volterra dynamical systems	137
R.H. Fabiano and S.W. Hansen	
Modeling and analysis of a three-layer damped sandwich beam	143
Wei Feng, Xin Lu and Richard John Donovan Jr.	
Population dynamics in a model for territory acquisition	156
John R. Graef and János Karsai	
Oscillation and nonoscillation in nonlinear impulsive systems with increasing energy	166
M.R. Grossinho and R. Martins	
Subharmonic oscillations for some second-order differential equations without Landesman-Lazer conditions	174
Uchida Hidetake	
Analytic smoothing effect and global existence of small solutions for the elliptic-hyperbolic Davey-Stewartson system	182
Joey Y. Huang	
Trajectory of a moving curveball in viscid flow	191
P.M. Jordan and Louis Fishman	
Phase space and path integral approach to wave propagation modeling	199
R. Kannan and S. Seikkala	
Existence of solutions to some Phi-Laplacian boundary value problems	211
Chaudry Masood Khalique	
Some invariant solutions of certain soil water equations	218
Boris Khots and Dmitriy Khots	
P -groups applications in genetics	224
T. Krisztin	
The unstable set of zero and the global attractor for delayed monotone positive feedback	229
Kunquan Lan	
Eigenvalues of second order differential equations with singularities	241
H.T. Liu	
Impulsive effects on the existence of solutions for a fast diffusion equation	248
Víctor Jiménez López and Gabriel Soler López	
A topological characterization of ω -limit sets for continuous flows on the projective plane	254

Chunqing Lu	
Existence and uniqueness of single spike solution of the Carrier-Pearson problem	259
Ronald E. Mickens	
Analysis of a new class of predator-prey model	265
Mahesh G. Nerurkar	
Spectral and stability questions concerning evolution of non-autonomous linear systems	270
Gaston Mandata N'Guerekata	
Remarks on almost automorphic differential equations	276
Noboru Okazawa and Tomomi Yokota	
Smoothing effect for generalized complex Ginzburg-Landau equations in unbounded domains	280
Thomas Otway	
Compressible flow on manifolds	289
Steven M. Pederson	
Non-turning Poincaré map and homoclinic tangencies in interval maps with non-constant topological entropy	295
Paolo Perfetti	
Hamiltonian equations on \mathbb{T}^∞ and almost-periodic solutions	303
Mason A. Porter and Richard L. Liboff	
The radially vibrating spherical quantum billiard	310
Liudmila A. Pozhar	
Poiseuille flow of nanofluids confined in slit nanopores	319
Diego Rapoport	
Random representations of viscous fluids and the passive magnetic fields transported on them	327
David L. Russell	
Forced propagation of steady state waves in a supported elastic beam	337
Robert D. Sidman, Marie Erie and Henry Chu	
A method, with applications, for analyzing co-registered EEG and MRI data ..	349
Stefan Siegmund	
Normal form of Duffing-van der Pol oscillator under nonautonomous parametric perturbations	357
Roman Srzednicki	
A theorem on chaotic dynamics and its application to differential delay equations	362
John R. Tucker	
Attractors and kernels: linking nonlinear PDE semigroups to harmonic analysis state-space decomposition	366

Chui-Jie Wu and Hongliang Zhao	
Generalized HWD–POD method and coupling low-dimensional dynamical system of turbulence	371
Weiqing Xie	
A free boundary problem arising from the process of Czochralski crystal growth	380
Noriaki Yamazaki	
Almost periodicity of solutions to free boundary problems	386
Dmitry V. Zenkov and Anthony M. Bloch	
Dynamics of generalized Euler tops with constraints	398
Mei-Qin Zhan	
Gevrey class regularity for the solutions of the phase-lock equations of superconductivity	406
F. Hartung and J. Turi	
Linearized stability in functional differential equations with state-dependent delays	416
Maoan Han	
On some properties and limit cycles of Lienard systems	426
R.S. Dahiya and A. Zafer	
Oscillatory theorems of n -th order functional differential equations	435
List of Participants	444