

CONTENTS

PART 1: SURVEY PAPERS

Z. Schuss and B.J. Matkowsky

Dynamical systems driven by small white noise: asymptotic analysis and applications. 2

Introduction to the paper by V.S. Butuzov and A.B. Vasil'eva. 35

V.F. Butuzov and A.B. Vasil'eva

Singularly perturbed differential equations of parabolic type. 38

J. Grasman

Asymptotic methods in mathematical biology. 76

Introduction to the paper by A.S. Bakaj. 96

A.S. Bakaj

Integral manifolds and adiabatic invariants of systems in slow evolution. 99

F. Verhulst

Asymptotic analysis of Hamiltonian systems. 137

Appendix by Els van der Aa: Non-genuine first-order resonance with three degrees of freedom. 184

E. Sanchez-Palencia

Homogenization method for the study of composite media. 192

V. Drăgan and A. Halanay

Uniform asymptotic expressions for the fundamental matrix of singularly perturbed linear systems and applications. 215

PART 2: SURVEY PAPERS WITH RESEARCH ASPECTS

Robert E. O'Malley, Jr.

Slow/fast decoupling for linear boundary value problems. 248

P.W. Hemker

Numerical aspects of singular perturbation problems. 267

Jan A. Sanders

The (driven) Josephson equation: an exercise in asymptotics. 288

<i>Richard Cushman</i>	
Periodic solutions of the autonomous Josephson equation.	319
<i>A. van Harten</i>	
On the interaction of flames and sound.	327
PART 3: RESEARCH PAPERS	
Introduction to the research papers.	348
<i>G.G. Rafer</i>	
Application of a combined Galerkin-averaging method	349
<i>V. Drăgan</i>	
Asymptotic expansions for singularly perturbed differential matrix Riccati equations with applications to linear-quadratic optimization problems.	370
<i>J. Grasman and B.J. Matkowsky</i>	
Singular perturbations of epidemic models involving a threshold.	400
<i>A.H.P. van der Burgh</i>	
An asymptotic theory for the free vibrations of an iced two-conductor bundled transmission line.	413
<i>V.N. Bogaevsky and A.Ya. Povzner</i>	
Linear methods in nonlinear problems with a small parameter.	431
<i>Wiktor Eckhaus</i>	
Relaxation oscillations including a standard chase on French ducks.	449
BIOGRAPHICAL MATERIAL	495