

# APPLIED MATHEMATICS AND OPTIMIZATION an international journal

**Managing Editors:** A. V. Balakrishnan, Los Angeles · J. L. Lions, Rocquencourt  
G. I. Marchuk, Novosibirsk · L. S. Pontryagin, Moscow

**Subscription Information:** 1976, Vol. 3 (4 issues). Sample copies upon request.

**North America:** 1976, \$58.00, including postage  
Send your order or request to: Springer-Verlag New York Inc.,  
175 Fifth Avenue, New York, NY 10010

**Rest of the World:** 1976, DM 144,—, plus postage  
Send your order or request to: Springer-Verlag 4021, Heidelberger Platz 3,  
D-1000 Berlin 33

## CONTENTS

### Volume 1, Numbers 1-4

A. V. Balakrishnan:  
A Note on the Structure of Optimal  
Stochastic Controls.

A. V. Balakrishnan:  
Stochastic Optimization Theory in  
Hilbert Spaces-I.

A. Bensoussan and J. L. Lions:  
Nouvelles Méthodes en Contrôle  
Impulsionnel.

G. Chavent and P. Lemonnier:  
Identification de la Non-Linearité  
d'une Equation Parabolique  
Quasilineaire.

V. Comincioli:  
On Some Oblique Derivative Problems  
Arising in the Fluid Flow in Porous  
Media. A Theoretical and Numerical  
Approach.

G. B. Dantzig:  
On a Convex Programming Problem  
of Rozanov.

H. O. Fattorini:  
The Time-Optimal Control Problem  
in Banach Spaces.

B. Francis, O. A. Sebakhy, and  
W. M. Wonham:  
Synthesis of Multivariable Regulators:  
The Internal Model Principle.

W. Hullett:  
Optimal Estuary Aeration: An Appli-  
cation of Distributed Parameter  
Control Theory.

K. Itô:  
Stochastic Differentials.

A. Jameson and R. E. O'Malley, Jr.:  
Cheap Control of the Time-Invariant  
Regulator.

J. P. Kernevez and D. Thomas:  
Numerical Analysis and Control of  
Some Biochemical Systems.

A. Lindquist:  
On Fredholm Integral Equation,  
Toeplitz Equations and Kalman-Bucy  
Filtering.

L. Pontryagin:  
On the Evasion Process in Differential  
Games.

I. Rubin:  
Path Delays in Communication  
Networks.

### Volume 2, Number 1

G. I. Marchuk:  
Formulation of the Theory of Pertur-  
bations for Complicated Models.

H. H. Buchler:  
Application of Newstadt's Theory of  
Extremals to an Optimal Control  
Problem with a Functional Differen-  
tial Equation and a Functional  
Inequality Constraint.

#### Technical Notes

H. Strasser:  
Several Remarks on Convex Optimiza-  
tion on Infinite Dimensional Vector  
Spaces.

T. Hida:  
White Noise Analysis and Nonlinear  
Filtering Problems.

S. Watanabe:  
Solution of Stochastic Differential  
Equations by Random Time Change.



Springer-Verlag  
Berlin  
Heidelberg  
New York