

Functional Analysis

— Selected Topics —

EDITOR

Pawan K. Jain



Narosa Publishing House
New Delhi Madras Bombay Calcutta

Contents

Preface

v

Topological Vector Spaces 1-22

1. A Method of Construction of Fréchet Spaces 1
A.A. Albanese and V.B. Moscatelli
2. Baire-Type Properties of Spaces of Continuous Functions 9
Jerzy Kąkol

Topological Algebras 23-46

3. Topological Algebras of Infinite Matrices 23
Wu Congxin and Lee Peng-Yee
4. Relative Numerical Ranges in Topological Algebras 32
A.K. Gaur
5. Topologization of Algebras—The Results and Open Problems 42
W. Zelazko

Banach Spaces 47-96

6. The Eberlein-Šmulian Theorem 47
Robert C. James
7. Some Recent Breakthroughs in the Theory of Bases in Banach Spaces 50
P.K. Jain and D.P. Sinha
8. Projectional Resolutions of the Identity on Banach Spaces 60
P.K. Jain, D.P. Sinha and K.K. Arora
9. Three-Space Property of Kadec-Klee Renorming in Banach Spaces 68
Hor-Luh Lin and Wenyao Zhang
10. Nuclear Operators and the Geometry of Banach Spaces 75
M.A. Sofi
11. Certain Reflexive Banach Spaces with No Copy of l_p 89
Manuel Valdivia

Operator Theory	97-139
12. Composition Operators and Hilbert Space Valued Functions	97
<i>S.C. Arora and M. Mukherjee</i>	
13. Derivation Pairs of Operators on Algebras of Analytic Functions	104
<i>A.K. Gaur and N.R. Nandakumar</i>	
14. Weighted Composition Operators on the Space of Entire Functions	111
<i>B.S. Komal and Sunil Gupta</i>	
15. Invertibility of Operators on Locally Convex Spaces	120
<i>R.K. Singh and J.S. Manhas</i>	
Variational Inequalities	140-172
16. Solution of Variational Inequalities by Operator Method of Regularization	140
<i>Khalil Ahmad and Akhtar A. Khan</i>	
17. On a Variational Principle of Ekeland	152
<i>Peter Z. Daffer and Hideaki Kaneko</i>	
18. Minimax Methods of Szuilkin's Type in Unilateral Problems	158
<i>D. Goeleven and D. Motreanu</i>	
General	173-232
19. Lévy Measures for Symmetric Stable Semigroups on Tors T^∞	173
<i>A. Bendikov</i>	
20. Strictly Convex Functions on Compact Convex Sets and Applications	182
<i>Gilles Godefroy and Daniel Li</i>	
21. Order Decompositions	193
<i>Manjul Gupta and Kalika Kaushal</i>	
22. Wavelets on the Product of Euclidean Hypergroup and Chébli-Trimèche Hypergroup	203
<i>L. Jaafar and K. Trimèche</i>	
23. Recent Trends in p-Adic Functional Analysis	221
<i>G. Rangan</i>	