OT 2

Topics in Modern Operator Theory

5th International Conference on
Operator Theory,
Timişoara and
Herculane (Romania),
June 2–12, 1980

Birkhäuser

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Modern Operator Theory

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on Operator Theory,
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June 2–12, 1980

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Vol. 2

Edited by

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PREFACE

    The first of the annual Operator Theory conferences in Ti-
mişoara held four years ago was a meeting of operator theory spe-
cialists from the National Institute for Scientific and Techni-
cal Creation in Bucharest and from the University of Timişoara.
Since then, the participation to these conferences has greatly
increased, by being attended first by operator theorists from
all over the country and (since 1978) by an increasing number of
foreign mathematicians. Thus the 1980 Conference can be regarded
as a truly international Operator Theory meeting, fifteen coun-
tries being represented at it.

    These conferences are conceived as a means to promote the
cooperation between specialists in all areas of Operator Theory.
Among the main topics in 1980 were: dilation theory, invariant
subspaces, connections with the theory of C^*-algebras, subnormal
operators, multidimensional functional calculus etc. Though not
included in this volume, we would like to mention that in 1980
some special sessions concerning other fields of Functional Ana-
lysis were organized at the Operator Theory conference.

    The research contracts of the Department of Mathematics of
INCREST with the National Council for Sciences and Technology of
Romania provided the means for developping the research activi-
ty in Functional Analysis; these contracts constitute the gene-
rous framework for these meetings.

    We want also to acknowledge the support of INCREST and the
excelent organizing job done by our host - University of Timi-
şoara -. Professor Dumitru Gaşpar and Professor Mircea Reghiş
are among those people in Timişoara who contributed in an essen-
tial way to the success of the meeting.

    We are indebted to Professor Israel Gohberg for including
these Proceedings in the OT Series and for valuable help in the
editing process. Birkhäuser Verlag was very cooperative in pu-

blishing this volume.

Rodica Gervescu and Camelia Minculescu dealt with the dif-
ficult task of typing the whole manuscript; they did an exce-
lent job in a very short time.

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September 1980

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MONDAY, June 2

SECTION A

Chairman: S.Teleman

16:30 - 17:00 R.N.GOLOGAN: Akcoglu's ergodic theorem for some
nonpositive L^2-contractions.

17:10 - 17:40 C.APOSTOL; M.MARTIN: A C^*-algebra approach to a
theorem of Cowen-Douglas.

17:50 - 18:20 R.MENNICKEN: Analytic perturbations of semi-Fred-
holm operators in locally convex
spaces.

18:30 - 19:00 F.L.GILFEATHER:Nest subalgebras of von Neumann
algebras.

SECTION B

Chairman: Gh. Bucur

16:30 - 17:00 M.PELIGRAD: A tightness criterion for a class of
random elements of D[0,1].

17:10 - 17:40 C.TUDOR: Solutions of stochastic integral equations.

TUESDAY, June 3

JOINT SESSION

Chairman: D.Voiculescu

 9:30 - 10:15 L.FIALKOW: Generalized derivations.

10:30 - 11:15 D.A.HERRERO: Quasidiagonality, similarity and ap-
proximation by nilpotent operators.

11:30 - 12:15 R.G.DOUGLAS: On the smoothness of elements of Ext.

SECTION A

Chairman: P.Fillmore

16:30 - 17:00 M.PIMSNER: Imbedding the irrational rotation C^*-
-algebra into an AF-algebra.

17:10 - 17:40 D.VOICULESCU: Remarks on Hilbert-Schmidt perturba-
tions of almost normal operators.

17:50 - 18:20 S.POPA: Remarks on the Calkin algebra for certain
singular extensions.

18:30 - 19:00 D.PETZ: On some subsets of von Neumann algebras.

SECTION B

Chairman: I.Singer

16:30 - 17:00 Ş.BALINT; A.STEPAN: Sur un système d'equations di-
                              ferentielles intervenant dans
                              un processus de separation.
17:10 - 17:40 E.DEUTSCH: Nested bounds for the Perron root of a
                         nonnegative irreducible matrix.
17:50 - 18:20 F.POTRA: Error analysis for a class of Newton-like
                       methods.

WEDNESDAY, June 4

JOINT SESSION

Chairman: R.G.Douglas

 9:30 - 10:15 I.SUCIU: Modelling by L^2-bounded analytic functions.
10:30 - 11:15 B.SZÖKEFALVI-NAGY: The functional model of a con-
                                 traction and the space L^1.
11:30 - 12:15 N.K.NIKOLSKIĬ: Deux applications des opérateurs de
                             Hankel.

SECTION A

Chairman: N.K.Nikolskii

16:30 - 17:00 B.NAGY: The spectral residuum of closed operators.
17:10 - 17:40 N.SUCIU; I.VALUŞESCU: The maximal function of
                                    doubly commuting contractions.
17:50 - 18:20 L.KÉRCHY: p-weak contractions.
18:30 - 19:00 E.DURSZT: Some connections between contractions
                        and power-bounded operators.

SECTION B

Chairman: B.Fuglede

16:30 - 17:00 E.POPA: Morphisms of H-cones.
17:10 - 17:40 N.BOBOC; G.BUCUR: Strong Ray semigroups and stan-
                                dard H-cones.
17:50 - 18:20 L.STOICA: Feller resolvents.

THURSDAY, June 5

JOINT SESSION

Chairman: B.Szökefalvi-Nagy

 9:30 - 10:15 V.GEORGESCU: Algebraic scattering theory.
10:30 - 11:15 B.CHEVREAU: On M-spectral sets and rattionally-in-
                          variant subspaces.
11:30 - 12:15 C.APOSTOL: The spectral flavour of Scott Brown's
                         technique.

SECTION A

Chairman: D.A.Herrero

16:30 - 17:00 R.F.OLIN: Algebras of subnormal operators.
17:10 - 17:40 I.CIORĂNESCU: On distribution-semigroups of subnor-
                            mal operators.
17:50 - 18:20 D.TIMOTIN: On Scott Brown's theorem.
18:30 - 19:00 N.PAVEL: Invariant subcones of a linear operator.

SECTION B

Chairman: M.Reghiş

16:30 - 17:00 T.GRZYBOWSKI: General procedure for distorted
                            pattern reconstitution.
17:10 - 17:40 E.CÂMPU: Multi-application associées aux multiequa-
                       tions differentielles à retardement.
17:50 - 18:20 V.TROIE: Characteristic numbers for solutions of
                       linear differential equations at a singu-
                       lar point.
18:30 - 19:00 G.MIEL: Analysis of equations with smooth coeffi-
                      cients.

SATURDAY, June 7

JOINT SESSION

Chairman: J.P.Williams

 9:30 - 10:15 S.TELEMAN: Applications of Choquet theory to reduc-
                         tion theory.
10:30 - 11:15 J.ANDERSON: Irreducible representations of $B(H)$.
11:30 - 12:15 P.FILLMORE: Kasparov's stability theorem.

MONDAY, June 9

JOINT SESSION

Chairman: N.Boboc

 9:30 - 10:15 V.JONES: Invariants for group actions on algebras.
10:30 - 11:15 A.OCNEANU: Actions of amenable groups on von Neu-
                         mann algebras.
11:30 - 12:15 B.FUGLEDE: The fine topology in potential theory.

SECTION A

Chairman: D.Gaspar

16:30 - 17:00 P.GĂVRUȚĂ: On the continuity of averaging type
                         operators on some function spaces.
17:10 - 17:40 G.GODINI: On certain classes of normed vector
                        spaces.
17:50 - 18:20 N.POPA: Complemented sublattices in Lorenz sequen-
                      ce spaces without local-convexity.
18:30 - 19:00 D.VUZA: A theorem of Hahn-Banach type for modules
                      over ordered rings.

TUESDAY, June 10

JOINT SESSION

Chairman: C.Apostol

9:30 - 10:15 N.BOBOC; G.BUCUR: Potentials on standard H-cones.
10:30 - 11:15 T.ANDO: Generators of positivity preserving semi-
                     groups.
11:30 - 12:15 F.H.VASILESCU: Anticommuting selfadjoint operators.

SECTION A

Chairman: T.Ando

16:30 - 17:00 G.ECKSTEIN: Exact controllability and spectrum
                     assignement.
17:10 - 17:40 GR.ARSENE; Z.CEAUȘESCU: A functional model for in-
                     tertwining dilations.
17:50 - 18:20 C.PELIGRAD: Derivations of C^*-crossed products.
18:30 - 19:00 N.K.NIKOLSIĬ: Les sous-espaces invariantes et une
                     notion de capacité.

SECTION B

Chairman: D.D.Stancu

16:30 - 17:00 O.STĂNĂSILĂ; D.STANOMIR: On certain non-linear sys-
               ,   tems.
17:10 - 17:40 G.MINEA: First integrals for the Euler equation of
                     incompressible fluids.
17:50 - 18:20 O.BERECHET: Parabolic equations with unbounded coef-
                     ficients.

WEDNESDAY, June 11

JOINT SESSION

Chairman: F.H.Vasilescu

9:30 - 10:15 K.SCHMÜDGEN: On perturbation of spectra of diagonal
                     operators.
10:30 - 11:15 J.P.WILLIAMS: The range of a derivations: Open pro-
                     blems.
11:30 - 12:15 E.ALBRECHT: On closed operator algebras generated
                     by analytic functional calculi.

SECTION A

Chairman: J.Anderson

16:30 - 17:00 M.PUTINAR: Functional calculus with sections of an
                     analytic space.
17:10 - 17:40 G.DINESCU: Some results concerning semi-scalar
                     operators.
17:50 - 18:20 T.CONSTANTINESCU; A.GHEONDEA: Algebraic aspects of
                     the meromorphic functional calculus.
18:30 - 19:00 C.GROSU: Spectra of selfadjoint tensor product
                     operators and related applications.

THURSDAY, June 12

SECTION B

Chairman: I.Suciu

9:30 - 10:00 I.A.RUS: Fixed point theorems for the sum of two maps.

10:10 - 10:40 D.O.RUS: Approximation properties of some classes of linear positive operators of spline type.

10:50 - 11:20 V.HIRIŞ; M.MEGAN: Asymptotic behaviour for linear systems with control.

11:30 - 12:00 P.TOPUZU: On the characteristic function and positive systems in Hilbert spaces.