Pacific Journal of Mathematics

VOLUME XVII 1966

PACIFIC JOURNAL OF MATHEMATICS

EDITORS

H. SAMELSON

Stanford University Stanford, California

R. M. Blumenthal

University of Washington Seattle, Washington 98105 *J. Dugundji

University of Southern California Los Angeles, California 90007

RICHARD ARENS

University of California Los Angeles, California 90024

ASSOCIATE EDITORS

E. F. BECKENBACH

B. H. NEUMANN

F. Wolf

K. Yosida

SUPPORTING INSTITUTIONS

UNIVERSITY OF BRITISH COLUMBIA
CALIFORNIA INSTITUTE OF TECHNOLOGY
UNIVERSITY OF CALIFORNIA
MONTANA STATE UNIVERSITY
UNIVERSITY OF NEVADA
NEW MEXICO STATE UNIVERSITY
OREGON STATE UNIVERSITY
UNIVERSITY OF OREGON
OSAKA UNIVERSITY
UNIVERSITY OF SOUTHERN CALIFORNIA

STANFORD UNIVERSITY UNIVERSITY OF TOKYO UNIVERSITY OF UTAH WASHINGTON STATE UNIVERSITY UNIVERSITY OF WASHINGTON

AMERICAN MATHEMATICAL SOCIETY CHEVRON RESEARCH CORPORATION TRW SYSTEMS NAVAL ORDNANCE TEST STATION

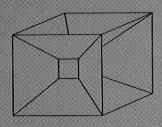
Printed in Japan by International Academic Printing Co., Ltd., Tokyo Japan

CONTENTS

T. Ando, Contractive projections in L_p spaces
H. A. Antosiewicz, Boundary value problems for nonlinear ordi-
nary differential equations
Carlos J. R. Borges, On stratifiable spaces
Felix E. Browder, Topological methods for nonlinear elliptic
equations of arbitrary order
R. F. Brown, On a homotopy converse to the Lefschetz fixed point
theorem
Paul Camion and A. J. Hoffman, On the nonsingularity of complex
matrices
J. Chidambaraswamy, Divisibility properties of certain factorials. 215
J. Chidambaraswamy, A problem complementary to a problem of
$Erd\ddot{o}s$
Gustave Choquet, Harry Corson & Victor Klee, Exposed points of
convex sets
Richard and Sandra Cleveland, On the multiplicative extension
· · · · · · · · · · · · · · · · · · ·
property
Harry Corson, See Gustave Choquet, Harry Corson & Victor Klee
John Dauns, Chains of modules with completely reducible quo-
tients.
Phillip Emig, Remarks on the defect sum for function meromorphic
on an open Riemann surface $\dots \dots \dots$
Ruth Goodman, A certain class of polynomials 57
S. L. Gulick, The bidual of a locally multiplicatively-convex
algebra
A. J. Hoffman, See Paul Camion and A. J. Hoffman
E. C. Johnsen, Integral solutions to the incidence equation for
finite projective plane cases of orders $n \equiv 2 \pmod{4}$ 97
H. H. Johnson, An algebraic approach to exterior differential
systems
W. E. Johnson, Existence of half-trajectories in prescribed regions
and asymptotic orbital stability
C. N. Kellogg, Centralizers and H^* -algebras
Victor Klee, Paths on polyhedra II
Victor Klee, See Gustave Choquet, Harry Corson & Victor Klee
A. C. Lazer, The behavior of solutions of the differential equation
$y^{\prime\prime\prime}+p(x)y^{\prime}+q(x)y=0$
B. W. Levinger and R. S. Varga, Minimal Gerschgorin sets II . 203
Michael W. Lodato, On topologically induced generalized proximity
relations $II \dots \dots$
P. H. Maserick, Half rings in linear spaces

Edwin H. Mookini, Sufficient conditions for an optimal control
problem in the calculus of variations
Zane C. Motteler, Existence theorems for certain quasi-linear
elliptic equations
Kathleen B. O'Keefe, On a problem of J. F. Ritt
D. L. Outcalt, Simple n-associative rings
J. T. Parr, Cohomology of cyclic groups of prime square order . 467
D. S. Passman, Groups whose irreducible representations have
degrees dividing p^2
R. T. Rockafeller, Characterization of the subdifferentials of
convex functions
D. J. Rodabaugh, Some new results on simple algebras 311
O. S. Rothaus, Asymptotic properties of group generation 319
Donald Sarason, Invariant subspaces and unstarred operator
algebras.
Donald Sarason, Weak-star generators of H^{∞}
B. M. Schein [Šaĭn], Homomorphisms and subdirect decompositions
of $semigroups$
G. L. Seever, Nonnegative projections on $C_0(X)$
D. F. Shea, Functions analytic in a finite disk and having
asymptotically prescribed characteristic 549
L. A. Shepp, Gaussian measures in function space 167
Ernest E. Shult, Nilpotence of the commutator subgroup in groups
admitting fixed point free operator groups
W. H. Sills, On absolutely continuous functions and the well-
$bounded\ operator\ \dots\dots\dots\dots\dots\dots349$
J. G. Stampfli, Which weighted shifts are subnormal367
R. C. Thompson, Classes of defining group matrices 175
D. Reginald Traylor, Metrizability and completeness in normal
Moore spaces
R. S. Varga, See B. W. Levinger and R. S. Varga
Zvi Ziegler, Generalized convexity cones

Pacific Journal of Mathematics



Felix E. Browder, Topological methods for nonlinear elliptic equations of arbitrary order
Gustave Choquet, Harry Corson & Victor Klee, Exposed points of convex sets
Phillip Emig, Remarks of the defect sum for a function meromorphic on an open Riemann surface
Ruth Goodman, A certain class of polynomials 57
S. L. Gulick, The bidual of locally multiplicatively-convex algebras
E. C. Johnsen, Integral solutions to the incidence equation for finite projective plane cases of orders $n \equiv 2 \pmod{4}$
C. N. Kellogg, Centralizers and H-algebras
Michael W. Lodato, On topologically induced generalized proximity relations II
P. H. Maserick, Half rings in linear spaces137
Kathleen B. O'Keefe, On a problem of J. F. Ritt149
G. L. Seever, Nonnegative projections on $C_0(X)$
L. A. Shepp, Gaussian measures in function space167
R. C. Thompson, Classes of definite group matrices175

Carlos J. R. Borges. On stratifiable spaces......

PACIFIC JOURNAL OF MATHEMATICS

EDITORS

H. SAMELSON

Stanford University Stanford, California

R. M. BLUMENTHAL University of Washington Seattle, Washington 98105 *J. Dugundji

University of Southern California Los Angeles, California 90007

RICHARD ARENS

University of California Los Angeles, California 90024

ASSOCIATE EDITORS

E. F. BECKENBACH

B. H. NEUMANN

F. Wolf

K. Yosida

SUPPORTING INSTITUTIONS

UNIVERSITY OF BRITISH COLUMBIA
CALIFORNIA INSTITUTE OF TECHNOLOGY
UNIVERSITY OF CALIFORNIA
MONTANA STATE UNIVERSITY
UNIVERSITY OF NEVADA
NEW MEXICO STATE UNIVERSITY
OREGON STATE UNIVERSITY
UNIVERSITY OF OREGON
OSAKA UNIVERSITY
UNIVERSITY OF SOUTHERN CALIFORNIA

STANFORD UNIVERSITY
UNIVERSITY OF TOKYO
UNIVERSITY OF UTAH
WASHINGTON STATE UNIVERSITY
UNIVERSITY OF WASHINGTON

AMERICAN MATHEMATICAL SOCIETY CHEVRON RESEARCH CORPORATION TRW SYSTEMS NAVAL ORDNANCE TEST STATION

Mathematical papers intended for publication in the *Pacific Journal of Mathematics* should be typewritten (double spaced). The first paragraph or two must be capable of being used separately as a synopsis of the entire paper. It should not contain references to the bibliography. Manuscripts may be sent to any one of the four editors. All other communications to the editors should be addressed to the managing editor, Richard Arens at the University of California, Los Angeles, California 90024.

50 reprints per author of each article are furnished free of charge; additional copies may be obtained at cost in multiples of 50.

The *Pacific Journal of Mathematics* is published monthly. Effective with Volume 16 the price per volume (3 numbers) is \$8.00; single issues, \$3.00. Special price for current issues to individual faculty members of supporting institutions and to individual members of the American Mathematical Society: \$4.00 per volume; single issues \$1.50. Back numbers are available.

Subscriptions, orders for back numbers, and changes of address should be sent to Pacific Journal of Mathematics, 103 Highland Boulevard, Berkeley 8, California.

Printed at Kokusai Bunken Insatsusha (International Academic Printing Co., Ltd.), No. 6, 2-chome, Fujimi-cho, Chiyoda-ku, Tokyo, Japan.

PUBLISHED BY PACIFIC JOURNAL OF MATHEMATICS, A NON-PROFIT CORPORATION The Supporting Institutions listed above contribute to the cost of publication of this Journal, but they are not owners or publishers and have no responsibility for its content or policies.

* Paul A. White, A ting Editor until J. Dugundji returns.