

PROCEEDINGS  
OF THE  
AMERICAN MATHEMATICAL SOCIETY

EDITED BY

W. H. J. FUCHS	E. A. MICHAEL
IRVING GLICKSBERG	IRVING REINER
ARTHUR MATTUCK	EMERY THOMAS
W. R. WASOW	

WITH THE COÖPERATION OF

W. W. BOONE	S. M. SHAH	HANS WEINBERGER
JOSHUA CHOVER	H. S. SHAPIRO	J. A. WOLF

VOLUME 19, NUMBER 2  
APRIL, 1968

PUBLISHED BY THE AMERICAN MATHEMATICAL SOCIETY  
PROVIDENCE, RHODE ISLAND

Journals Published by the  
**American Mathematical Society**

---

---

**Proceedings of the American Mathematical Society**

The PROCEEDINGS of the American Mathematical Society is devoted entirely to research in pure and applied mathematics, and the publication of original papers of moderate length. Articles for insertion should be typewritten and double spaced. Ditto is not generally satisfactory, although other modes of multiple reproduction may be. The maximum length of an acceptable paper is about 8 printed pages. (Since a page of the PROCEEDINGS contains about 400 words, a rule of thumb is that under 10 typed pages is probably within the limit, but that over 12 typed pages is probably too long.) The *Manual for Authors*, available from the Society, should be consulted for symbols and style conventions. Authors should take the greatest possible care in preparing the original manuscript. Hand drawn symbols are satisfactory, if clearly done; directions to the printer should be included where necessary on a separate sheet, not in the accompanying letter. Authors must keep a complete copy of their manuscript, and editors will acknowledge receipt; manuscripts can therefore be sent by ordinary mail and any other kind (registered, certified) is entirely unnecessary.

Very short notes (not to exceed 1 printed page) of an unusual nature are also accepted, and appear under the heading SHORTER NOTES. (Items deemed suitable include an elegant new proof of an important and well known theorem, an illuminating example or counterexample, or a new viewpoint on familiar results. New results, if of a brief and striking character, might also be acceptable, though in general a paper which is merely very short will not be suitable for the SHORTER NOTES department.)

Papers in algebra and number theory should be sent to ARTHUR MATTUCK, Room 2-275, Mathematics Department, Massachusetts Institute of Technology, Cambridge, Massachusetts 02139, or to IRVING REINER, Mathematics Department, University of Illinois, Urbana, Illinois 61801.

Papers in modern or classical analysis should be sent to IRVING GLICKSBERG, Mathematics Department, University of Washington, Seattle, Washington 98105, or to W. H. J. FUCHS, White Hall, Cornell University, Ithaca, New York 14850.

Papers in algebraic geometry should be sent to ARTHUR MATTUCK; papers in set-theoretic and general topology to ERNEST MICHAEL, Mathematics Department, University of Washington, Seattle, Washington 98105; in algebraic topology and all other types of geometry to P. EMERY THOMAS, Mathematics Department, University of California, Berkeley, California 94720.

Papers in applied mathematics, differential equations, and related areas of analysis should be sent to WOLFGANG WASOW, Mathematics Department, University of Wisconsin, Madison, Wisconsin 53706.

Papers in probability, statistics, and related fields should be sent to JOSHUA CHOVER, Mathematics Department, University of Wisconsin, Madison, Wisconsin 53706.

Papers in logic, set theory, and related areas should be sent to W. W. BOONE, Mathematics Department, University of Illinois, Urbana, Illinois 61801.

All other communications should be addressed to the Managing Editor, ARTHUR MATTUCK, at the above address.

Inquiries from authors regarding reprints, or changes of addresses for mailing proofs, should be sent directly to the Editorial Department, American Mathematical Society, P. O. Box 6248, Providence, Rhode Island 02904.

One volume of six issues is planned for 1968. The subscription price is \$12.00. Back issues (Vols. 1-18, 1950-1967) are available at the price of \$14.00 each.

The American Mathematical Society also publishes the following journals which accept research papers: BULLETIN, TRANSACTIONS and MATHEMATICS OF COMPUTATION. For details and the list of editors, please consult a recent issue. Reviews of the current mathematical literature of the world are published in MATHEMATICAL REVIEWS; editorial correspondence for this journal should be sent to: 416 Fourth Street, Ann Arbor, Michigan 48103.

---

---

The PROCEEDINGS OF THE AMERICAN MATHEMATICAL SOCIETY is published bimonthly, in February, April, June, August, October, and December. Price per annual volume is \$12.00. Subscriptions, orders for back numbers, and inquiries in regard to nondelivery of current numbers should be addressed to the American Mathematical Society, P. O. Box 6248, Providence, R. I. 02904.

Second-class postage paid at Providence, Rhode Island and additional mailing offices. Authorization is granted under the authority of the act of August 24, 1912, as amended by the act of August 4, 1947 (sec. 34.21, P. L. & R.). Acceptance for mailing at the special rate of postage provided for in section 34.40, paragraph D., P. L. & R.

Copyright ©, American Mathematical Society, 1968

Printed in the United States of America

Contents—Continued from back cover

Cohomology of $\Omega(G/U)$ . By LARRY SMITH.....	399
On compact divisible abelian semigroups. By J. A. HILDEBRANT....	405
A further extension of Banach's contraction principle. By M. MAR- JANOVIĆ.....	411
Coinciding directions for imbeddings of spaces. By J. W. JAWOROWSKI	415
Notes on covering transformation groups. By S. KINOSHITA.....	421
Note on collapsing $K \times I$ where $K$ is a contractible polyhedron. By PAUL DIERKER.....	425
Distal minimal flow is coalescent. By TA-SUN WU.....	429
Stretching phenomena in mappings of spheres. By H. B. LAWSON, JR.	433
A generalization of a theorem of Hans Lewy. By HUGO ROSSI.....	436
On partition functions related to Schur's second partition theorem. By G. E. ANDREWS.....	441
A sum involving the Möbius function. By HANSRAJ GUPTA.....	445
Group algebras with nilpotent unit groups. By J. M. BATEMAN and D. B. COLEMAN.....	448
Modules over an incomplete discrete valuation ring. By CHARLES MEGIBBEN.....	450
Induced monomial representations, Young elements, and metacyclic groups. By H. J. MUNKHOLM.....	453
Finite groups having only one irreducible representation of degree greater than one. By GARY SEITZ.....	459
On some determinantal inequalities. By DAVID CARLSON.....	462
Groups in which every maximal partial order is isolated. By H. A. HOLLISTER.....	467
On the finite measures on the closed subspaces of a Hilbert space. By C. C. BROWN.....	470
Generalizations of a property of Tchebycheff polynomials. By T. L. SHERMAN.....	473
Spectral multiplicity of selfadjoint dilations. By R. C. GILBERT....	477
Hill's equations with half-periodic coefficients. By HARRY HOCHSTADT	483
On the nonidentity of weak and strong extensions of differential opera- tors. By R. D. MOYER.....	487
On locally compact groups with invariant means. By H. LEPTIN.....	489
On starlike functions. By J. T. POOLE.....	495
A moment theorem. By W. A. VEECH.....	501

SHORTER NOTES

A note on unicellular operators. By PETER ROSENTHAL.....	505
A simple proof of a well-known oscillation theorem. By W. J. COLES..	507
Analytic functions and Jordan arcs. By LAWRENCE ZALCMAN.....	508
Permutations of sequences and the Schröder-Bernstein theorem. By P. R. HALMOS.....	509

# CONTENTS

Vol. 19, No. 2

APRIL, 1968

Whole No. 110

	Page
A property of the hypergeometric mean value. By B. C. CARLSON and M. D. TOBEY.....	255
On the equiconvergence between two Noerlund transformations. By SHIMSHON ZIMERING.....	263
An algebraic characterization of certain orthonormal systems. By J. J. PRICE.....	268
Projections to automorphic functions. By C. J. EARLE and A. MARDEN	274
Analytic invariants of bounded symmetric domains. By ADAM KORÁNYI	279
The extended Weyl integral and related operations. By H. KOBER...	285
A lower bound for the first eigenvalue of second order elliptic operators. By H. OGAWA and M. H. PROTTER.....	292
Hilbert Nullstellensatz in global complex-analytic case. By YUM-TONG SIU.....	296
PR-factorizations of families of light interior functions. By W. V. CALDWELL.....	299
$L^p$ behavior of power series with positive coefficients. By RICHARD ASKEY.....	303
Neumann's Lemma. By GLENN SCHOBER.....	306
Correction to "The existence of proper solutions of a second order ordinary differential equation." By J. D. SCHUUR.....	312
Special divisors on compact Riemann surfaces. By H. M. FARKAS.....	315
Dispersion-free states and the exclusion of hidden variables. By S. P. GUDDER.....	319
Spectrum of a spectral operator. By K. K. OBERAI.....	325
$M$ -similarity and isomorphisms in $B_0$ -spaces. By W. J. DAVIS.....	332
On the recurrence of a certain chain. By D. A. DARLING and P. ERDÖS	336
A generalized Lax-Milgram theorem. By E. M. LANDESMAN.....	339
Convex combinations of Markov transition functions. By S. R. FOGUEL	345
On universal spaces of the type $C(X)$ . By H. E. LACEY and P. D. MORRIS	350
Additive functionals on $C(Y)$ . By J. KUELBS.....	354
On the transform of a singular or an absolutely continuous measure. By RAOUF DOSS.....	361
Localization of a theorem of Glimm. By JACQUES DIXMIER.....	364
On norms of idempotent measures. II. By SADAHIRO SAEKI.....	367
Operator representation theorems. By R. H. HERMAN.....	372
Almost every Orlicz space is isomorphic to a strictly convex Orlicz space. By M. M. RAO.....	377
A note on interpolation. By S. J. SIDNEY and E. L. STOUT.....	380
On continuity of a partial order. By J. V. DESHPANDÉ.....	383
A factorization of stable homeomorphisms of $E^n$ . By ELLARD NUNNALLY	387
Horsospheres and convex bodies in hyperbolic space. By L. A. SANTALÓ	390
A space for which $H^1(X; Z) \neq [X, S^1]$ . By G. E. BREDON.....	396

*Continued on inside back cover*