

JOURNALS PUBLISHED BY THE AMERICAN MATHEMATICAL SOCIETY

Bulletin of the American Mathematical Society is the official organ of the Society. It reports official acts of the Society and the details of its meetings. It contains some of the officially invited addresses presented before the Society, reviews of advanced mathematical books, and has a department of research announcements. The subscription price is \$12 per annual volume of six numbers. Invited addresses offered for publication should be sent to MURRAY GERSTENHABER, Department of Mathematics, University of Pennsylvania, Philadelphia, Pennsylvania 19104. Book reviews should be sent to GIAN-CARLO ROTA, Department of Mathematics, Massachusetts Institute of Technology, Cambridge, Massachusetts 02139. Research announcements should be sent directly to a member of the Council of the American Mathematical Society. All other correspondence about research announcements should be sent to MURRAY H. PROTTER, Department of Mathematics, University of California, Berkeley, California 94720. A list of members of the Council for 1971 is listed on the inside back cover. All other communications to the editors should be sent to the Managing Editor, MURRAY GERSTENHABER.

The first page of each article, including research announcements, that is submitted for publication should bear a *descriptive title* which should be short, but informative. Useless or vague phrases such as "some remarks about" or "concerning" should be avoided. Before the first footnote, there should be the *AMS(MOS) subject classification numbers* representing the primary and secondary subjects of the article. If a list of *key words and phrases* describing the subject matter of the article is included, it will also be printed as a footnote on the first page. The AMS(MOS) Subject Classification Scheme (1970) with instructions for its use can be found as an appendix to MATHEMATICAL REVIEWS, index to volume 39 (1970). See the June 1970 NOTICES for more details, as well as illustrative examples.

Proceedings of the American Mathematical Society is a monthly journal devoted entirely to research in pure and applied mathematics, principally to the publication of original papers of moderate length. A department called Shorter Notes was established for the purpose of publishing very short papers of an unusually elegant and polished character for which there is normally no other outlet. Papers in algebra, number theory, and algebraic geometry should be sent to GEORGE B. SELIGMAN, Department of Mathematics, Yale University, New Haven, Connecticut 06520 or to JOSEPH J. ROTMAN, Department of Mathematics, University of Illinois, Urbana, Illinois 61801; in modern or classical analysis to IRVING GLICKSBERG, Department of Mathematics, University of Washington, Seattle, Washington 98105, to W. H. J. FUCHS, White Hall, Cornell University, Ithaca, New York 14850, or to ALLEN L. SHIELDS, Department of Mathematics, University of Michigan, Ann Arbor, Michigan 48104; in set-theoretic and general topology to ERNEST A. MICHAEL, Department of Mathematics, University of Washington, Seattle, Washington 98105; in algebraic topology and all other geometry to P. EMERY THOMAS, Department of Mathematics, University of California, Berkeley, California 94720; in applied mathematics, differential equations, and related areas of analysis to FRED G. BRAUER, Department of Mathematics, University of Wisconsin, Madison, Wisconsin 53706; in probability, statistics, and related fields to JOSHUA CHOVER, Department of Mathematics, University of Wisconsin, Madison, Wisconsin 53706; in logic, set theory, and related areas to ROBERT I. SOARE, Department of Mathematics, University of Illinois at Chicago Circle, Chicago, Illinois 60680. All other communications should be addressed to the Managing Editor, W. H. J. FUCHS.

Mathematics of Computation is a quarterly journal devoted to original papers in numerical analysis, the application of numerical methods and high-speed calculator devices, the computation of mathematical tables, the theory of high-speed calculating devices, and other aids to computation. In addition, reviews and notes in these and related fields are published. Prospective publications should be sent to the Editor, EUGENE ISAACSON, Courant Institute of Mathematical Sciences, New York University, 251 Mercer Street, New York, New York 10012. The author may suggest the name of an editor for review of his paper.

Mathematical Reviews is a monthly journal devoted to abstracts and reviews of the current mathematical literature of the world. Each volume consists of six regular issues plus an index issue. Abstracts and reviews are grouped under subject headings.

Transactions of the American Mathematical Society is a monthly journal devoted entirely to research in pure and applied mathematics and, in general, includes longer papers than those in the **PROCEEDINGS**. Papers in analysis and applied mathematics should be sent to J. J. KOHN, Department of Mathematics, Princeton University, Princeton, New Jersey 08540; in topology to STEVE ARMENTROUT, Department of Mathematics, Pennsylvania State University, University Park, Pennsylvania 16802; in algebra, number theory, and logic to DOCK S. RIM, Department of Mathematics, University of Pennsylvania, Philadelphia, Pennsylvania 19104; in geometry and abstract analysis to SHLOMO STERNBERG, Department of Mathematics, Harvard University, Cambridge, Massachusetts 02138; in statistics and probability to HARRY KESTEN, Department of Mathematics, Cornell University, Ithaca, New York 14850; in mathematical logic and foundations to DANA S. SCOTT, Department of Philosophy, Princeton University, Princeton, New Jersey 08540. All other communications to the editors should be addressed to the Managing Editor, DANA S. SCOTT.

Memoirs of the American Mathematical Society constitute a series of paperbound research tracts which are of the same general character as the papers published in the **TRANSACTIONS**. An issue of the **MEMOIRS** contains either a single monograph or a group of cognate papers. Information on preparation of camera copy and charges for publication may be obtained by writing to the Editorial Department of the American Mathematical Society.

Notices of the American Mathematical Society, published eight times a year, announces the programs of the meetings of the Society. The **NOTICES** carries the abstracts of all contributed papers presented at the meetings of the Society and publishes news items of interest to mathematical scientists. All communications should be addressed to the Editor, American Mathematical Society, P. O. Box 6248, Providence, Rhode Island 02904. News items and insertions for each issue must be in the hands of the editor on or before the deadline for the abstracts for the papers to be presented in the meetings announced in that issue. These deadlines are published regularly on the back of the title page.

Soviet Mathematics—Doklady is a bimonthly translations journal containing the entire pure mathematics section of the **DOKLADY AKADEMII NAUK SSSR**, the Reports of the Academy of Sciences of the USSR. **DOKLADY** publishes about 500 articles a year, each about four pages long.

Mathematics of the USSR—Izvestija, a bimonthly journal, is a cover-to-cover translation of **IZVESTIJA AKADEMII NAUK SSSR SERIJA MATEMATIČESKAJA**, published by the Academy of Sciences of the USSR. This is a journal of current research in all fields of pure mathematics.

Mathematics of the USSR—Sbornik is a monthly journal and is a cover-to-cover translation of **MATEMATIČESKIĪ SBORNIK (NOVAJA SERIJA)**, published by the Moscow Mathematical Society and the Academy of Sciences of the USSR. This is a journal of current research in all fields of pure mathematics.

CURRENT AWARENESS SERVICES

New Publications, published quarterly, announces new books and journals in all fields of higher mathematics, and includes a section on both forthcoming and recently published books. The information is acquired from several sources, such as pamphlets and catalogs received from publishers and book dealers from many parts of the world.

Contents of Contemporary Mathematical Journals, published bi-weekly, reproduces the tables of contents of approximately 250 mathematical journals.

Contents—continued from back cover

Richard Tolimieri. On the Selberg condition for subgroups of solvable Lie groups.	584
Charles Fefferman. Characterizations of bounded mean oscillation	587
John Scheuneman. Examples of compact locally affine spaces.	589
Charles L. Hagopian. Semiaposyndetic nonseparating plane continua are arcwise connected.	593
Frank Quinn. $B_{(\text{TOP}_n)^-}$ and the surgery obstruction.	596
J. Lepowsky. Multiplicity formulas for certain semisimple Lie groups	601
J. J. Schäffer. More distant than the antipodes.	606
John C. Martin. Substitution minimal flows.	610
Richard K. Lashof. A nonsmoothable knot.	613
R. D. Moyer. Computation of symbols on C^* -algebras of singular integral operators.	615
Sue-Chin Lin. Perturbations of the unilateral shift.	621
J. Warga. Normal control problems have no minimizing strictly original solutions.	625
Ross Geoghegan. Manifolds of piecewise linear maps and a related normed linear space.	629
Gregers Krabbe. Correction to: An algebra of generalized functions on an open interval; two-sided operational calculus.	633
Errata, Volume 76.	634

Members of the Council for 1971

Steve Armentrout, Michael Artin, Michael F. Atiyah, Hyman Bass, Paul T. Bateman, Raoul H. Bott, Felix E. Browder, Fred G. Brower, Edgar H. Brown, Jr., Alberto P. Calderón, George F. Carrier, Paul J. Cohen, Morton L. Curtis, W. H. J. Fuchs, Frederick W. Gehring, Murray Gerstenhaber, J. Wallace Givens, Jr., Irving L. Glicksberg, Oscar Goldman, Walter H. Gottschalk, Orville G. Harrold, Jr., Philip Hartman, Eugene Isaacson, Nathan Jacobson, Harry Kesten, Victor L. Klee, Jr., Joseph J. Kohn, Ray A. Kunze, Peter D. Lax, C. C. Lin, George W. Mackey, Saunders Mac Lane, W. T. Martin, Ernest A. Michael, Calvin C. Moore, Richard S. Pierce, Everett Pitcher, Murray H. Protter, Dock S. Rim, Alex Rosenberg, Kenneth A. Ross, Gian-Carlo Rota, Joseph J. Rotman, Mary Ellen Rudin, Dana S. Scott, George B. Seligman, James B. Serrin, Isadore M. Singer, Edwin H. Spanier, Elias M. Stein, Shlomo Sternberg, Michio Suzuki, P. Emery Thomas, Bertram Yood, Oscar Zariski.

CONTENTS

July, 1971

Oscar Zariski. Some open questions in the theory of singularities. . .	481
Harry Kesten. Some nonlinear stochastic growth models.	492
Michael A. Arbib. Review of "Recursiveness" by Samuel Eilenberg and Calvin C. Elgot.	512
David A. Stone. Review of "Piecewise Linear Topology," by J. F. P. Hudson.	521
Mitsuru Nakai. A remark on classification of Riemann surfaces with respect to $\Delta u = Pu$	527
Akihiro Tsuchiya. Characteristic classes for PL micro bundles.	531
Spyros S. Magliveras. The subgroup structure of the Higman-Sims simple group.	535
Peter A. Loeb. A nonstandard representation of measurable spaces and L_∞	540
Detlef Gromoll and Joseph A. Wolf. Some relations between the metric structure and the algebraic structure of the fundamental group in manifolds of nonpositive curvature.	545
Masamichi Takesaki. Duality and von Neumann algebras.	553
Ottmar Loos. Jordan triple systems, R -spaces, and bounded sym- metric domains.	558
Dragiša Mitrović. The Plemelj distributional formulas.	562
Harley Flanders. Infinite resistive networks.	564
G. A. Kent. A maximum principle for optimal control problems with neutral functional differential systems.	565
David L. Rector. K -theory of a space with coefficients in a (discrete) ring.	571
Neil S. Trudinger. Generalized solutions of quasilinear, differential inequalities. I. Elliptic operators.	576
Edmund Kelly. Tight equivariant immersions of symmetric spaces. .	580

Continued on inside back cover