the Mathematical Reviews
Family of Publications
Keys to the Mathematical Literature of the World

Current Mathematical Publications

- Complete biweekly listings by subject area of all items selected for review by Mathematical Reviews
- Page proofs of the tables of contents of major journals
- In your hands within twelve weeks of receipt at Mathematical Reviews, frequently before the journal issues covered are on your library shelves
- Includes biweekly and semi-annual author indexes
- At a price affordable by individuals as well as department offices, common rooms, etc.

Mathematical Reviews

- Evaluative reviews of all published research in core mathematics, about 23,000 reviews annually
- Reviews of authors' summaries of over 17,000 items per year in applied mathematics
- Monthly, Midyear, and Annual Author Indexes
- Annual Subject Index

Mathematical Reviews Sections

- Sets of related sections from each issue of Mathematical Reviews, priced for individual subscribers

Subject Reviews Volumes

Reviews in Topology, 1940—67, ed. N. E. Steenrod
Reviews in Number Theory, 1940—72, ed. W. J. LeVeque
Reviews in Number Theory, 1973—83 (in process), ed. R. K. Guy
Reviews on Infinite Groups, 1940—70, ed. G. Baumslag
Reviews on Finite Groups, 1940—70, ed. D. Gorenstein
Reviews in Graph Theory, 1940—78, ed. W. G. Brown
Reviews in Ring Theory, 1960—79, ed. L. W. Small

Cumulative Indexes of Mathematical Reviews

1940—59, 1960—64, and 1965—72 Cumulative Author Indexes
1973—79 Cumulative Author and Subject Indexes
1940—58 Cumulative Subject Index (in process)
1959—72 Cumulative Subject Index (in process)

MATHFILE

- Online computer file of bibliographic information in Mathematical Reviews from 1973 to the present
- Soon to be extended back to 1959
- Contains reviews beginning with mid-1979

RECENT AMERICAN MATHEMATICAL SOCIETY PUBLICATION

CONFERENCE PROCEEDINGS OF THE CANADIAN MATHEMATICAL SOCIETY

Second Edmonton Conference on Approximation Theory

Zeev Ditzian, Amram Meir,
Sherman D. Riemenschneider,
and Ambikeshwar Sharma, Editors

The Second Edmonton Conference on Approximation Theory was held in Edmonton, Alberta, June 7–11, 1982. The Conference was devoted to Approximation Theory and related topics, including spline approximation, computational problems, complex and rational approximation, and techniques from harmonic analysis and the theory of interpolation of operators. In conformity with the requirements of this series, this volume consists of refereed papers by some of the invited speakers.

Sponsored by the Canadian Mathematical Society, the Conference was supported by grants from the Natural Sciences and Engineering Research Council of Canada and the University of Alberta.
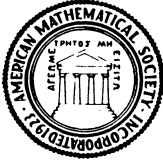
Contents

Prepayment is required for all AMS publications. Order from AMS, P. O. Box 1571, Annex Station, Providence, RI 02901, or call toll free 800-556-7774 to charge with Visa or MasterCard.

AMERICAN MATHEMATICAL SOCIETY
PROCEEDINGS OF SYMPOSIA IN PURE MATHEMATICS

The Mathematical Heritage of Henri Poincaré

Felix E. Browder, Editor

On April 7–10, 1980, the American Mathematical Society sponsored a Symposium on the Mathematical Heritage of Henri Poincaré, held at Indiana University, Bloomington, Indiana. This volume presents the written versions of all but three of the invited talks presented at this Symposium (those by W. Browder, A. Jaffe, and J. Mather were not written up for publication). In addition, it contains two papers by invited speakers who were not able to attend, S. S. Chern and L. Nirenberg.

If one traces the influence of Poincaré through the major mathematical figures of the early and mid-twentieth century, it is through American mathematicians as well as French that this influence flows, through G. D. Birkhoff, Solomon Lefschetz, and Marston Morse. This continuing tradition represents one of the major strands of American as well as world mathematics, and it is as a testimony to this tradition as an opening to the future creativity of mathematics that this volume is dedicated.

Contents: PART 1

Section 1. Geometry

Shiing-Shen Chern, *Web geometry*

Jun-Ichi Igusa, *Problems on abelian functions at the time of Poincaré and some at present*

John Milnor, *Hyperbolic geometry: the first 150 years*

Ngaiming Mok and Shing-Tung Yau, *Completeness of the Kähler-Einstein metric on bounded domains and the characterization of domains of holomorphy by curvature conditions*

Alan Weinstein, *Symplectic geometry*

Section 2. Topology

J. Frank Adams, *Graeme Segal's Burnside ring conjecture*

William P. Thurston, *Three dimensional manifolds, Kleinian groups and hyperbolic geometry*

Section 3. Riemann surfaces, discontinuous groups and Lie groups

Lipman Bers, *Finite dimensional Teichmüller spaces and generalizations*

Wilfried Schmid, *Poincaré and Lie groups*

Dennis Sullivan, *Discrete conformal groups and measurable dynamics*

Section 4. Several complex variables

Michael Beals, Charles Fefferman and Robert Grossman, *Strictly pseudoconvex domains in C^n*

Phillip A. Griffiths, *Poincaré and algebraic geometry*

Roger Penrose, *Physical space-time and nonrealizable CR-structures*

R. O. Wells, Jr., *The Cauchy-Riemann equations and differential geometry*

PART 2

Section 5. Topological methods in nonlinear problems

Raoul Bott, *Lectures on Morse theory, old and new*

Haïm Brezis, *Periodic solutions of nonlinear vibrating strings and duality principles*

Felix E. Browder, *Fixed point theory and nonlinear problems*

L. Nirenberg, *Variational and topological methods in nonlinear problems*

Section 6. Mechanics and dynamical systems

Jean Leray, *The meaning of Maslov's asymptotic method: the need of Planck's constant in mathematics*

David Ruelle, *Differentiable dynamical systems and the problem of turbulence*

Steve Smale, *The fundamental theorem of algebra and complexity theory*

Section 7. Ergodic theory and recurrence

Harry Furstenberg, *Poincaré recurrence and number theory*

H. Furstenberg, Y. Katznelson and D. Ornstein, *The ergodic theoretical proof of Szemerédi's theorem*

Section 8. Historical material

P. S. Aleksandrov, *Poincaré and topology*

Henri Poincaré, *Résumé analytique*

Jacques Hadamard, *L'oeuvre mathématique de Poincaré*

Mathematical Reviews Sections

**ENJOY THE CONVENIENCE OF HAVING MATHEMATICAL REVIEWS AT YOUR DESK.
HAVE YOU THOUGHT HOW REALLY HANDY IT WOULD BE TO HAVE THE SECTIONS
RELEVANT TO YOUR RESEARCH RIGHT BEFORE YOU?**

MR has been divided into 37 affordable Sets for individual subscribers. Each month you can
receive the Section Sets you have chosen with an author index. With your December Sets
you will receive an annual author and subject index (as with MR). Also available for Section
subscribers are three-ring binders of sturdy quality in the familiar tangerine color of MR 'to
hold your subscription. The binders have a two-inch spine and are adequate to hold 400 pages.

Section Sets are divided into Class 1 and Class 2 according to the estimated number of pages per year.

Set	Sections	Subjects
☐ 1A	00, 01	General, history, biography (Class 1)
☐ 1B	03, 04	Logic, foundations, set theory (Class 1)
☐ 1C	05	Combinatorics (Class 1)
☐ 2A	06, 08	Order, lattices, general systems (Class 2)
☐ 1D	10	Number theory (Class 1)
☐ 2B	12	Algebraic number theory, field theory, polynomials (Class 2)
☐ 2C	13, 14	Commutative rings and algebras, algebraic geometry (Class 2)
☐ 2D	15	Linear and multilinear algebra, matrix theory (Class 2)
☐ 2E	16, 17	Associative/nonassociative rings, algebras (Class 2)
☐ 1E	18, 55, 57	Category theory, algebraic topology, manifolds (Class 1)
☐ 1F	20	Group theory, generalizations (Class 1)
☐ 2F	22	Topological groups, Lie groups (Class 2)
☐ 2G	26, 28	Real functions, measure, integration (Class 2)
☐ 1G	30, 31, 32, 33	Complex analysis, potential theory, special functions (Class 1)
☐ 1H	34	Ordinary differential equations (Class 1)
☐ 1I	35	Partial differential equations (Class 1)
☐ 2H	39, 40, 41	Finite differences, sequences, approximations (Class 2)

Set	Sections	Subjects
☐ 2I	42, 43, 44, 45	Harmonic analysis, integral transforms/equations (Class 2)
☐ 1J	46	Functional analysis (Class 1)
☐ 1K	47	Operator theory (Class 1)
☐ 2J	49	Calculus of variations, optimization (Class 2)
☐ 2K	51, 52	Geometry, convex sets (Class 2)
☐ 1L	53	Differential geometry (Class 1)
☐ 2L	54	General topology (Class 2)
	55, 57	See 1E (18, 55, 57)
☐ 1M	58	Global analysis, analysis on manifolds (Class 1)
☐ 1N	60	Probability theory and stochastic processes (Class 1)
☐ 1P	62	Statistics (Class 1)
☐ 1Q	65	Numerical analysis (Class 1)
☐ 1R	68	Computer science (including automata) (Class 1)
☐ 2M	70, 73	Mechanics of particles, systems, (Class 2)
☐ 2N	76, 78, 80	Fluid mechanics, optics, electromagnetics, thermodynamics (Class 2)
☐ 1S	81	Quantum mechanics (Class 1)
☐ 2P	82, 83, 85, 86	Other physics, astronomy, astrophysics, geophysics (Class 2)
☐ 1T	90	Economics, operations research, programming, games (Class 1)
☐ 2Q	92	Biology and behavioral sciences (Class 2)
☐ 1U	93	Systems theory; control (Class 1)
☐ 1V	94	Information and communication, circuits (Class 1)

	First Set		Each Add'l Set		Optional Binder
	Class 1	Class 2	Class 1	Class 2	$5.00 each
Individual	$42	$30	$36	$24	
Reviewer	28	20	24	16	

USE THIS PAGE OR A PHOTOCOPY TO ORDER.   Date _ _ _

$ _____ enclosed for subscriptions selected and marked above.

☐ $5.00 enclosed for 2" tangerine binder stamped MATHEMATICAL REVIEWS SECTIONS on spine and front cover.
(It is not required that one buy a binder.)

$ _____ Total prepaid order.

Name ————— ———————————— ——— ——— —   — — — — —   Your AMS code

Address ————— —————————— —————————— —— ———— ——— — ————— — ——   — —   —

—————————————— ———————— ————————— —— —— — ——   —   —

BCDEFGHIJ-8987