## Pacific

Journal of
Mathematics

## VOLUME CXXXIII 1988

# PACIFIC JOURNAL OF MATHEMATICS EDITORS 

V. S. Varadarajan
(Managing Editor)
University of California
Los Angeles, CA 90024
Herbert Clemens
University of Utah
Salt Lake City, UT 84112
R. Finn

Stanford University
Stanford, CA 94305

Hermann Flaschka
University of Arizona Tucson, AZ 85721
Ramesh A. Gangolli
University of Washington Seattle, WA 98195
VaUGHAN F. R. Jones
University of California
Berkeley, CA 94720

Robion Kirby
University of California
Berkeley, CA 94720
C. C. Moore

University of California Berkeley, CA 94720
Harold Stark
University of California, San Diego La Jolla, CA 92093

ASSOCIATE EDITORS

| R. Arens | E. F. BECKENBACH (1906-1982) | B. H. Neumann | F. Wolf | K. Yoshida |
| :---: | :---: | :---: | :---: | :---: |

## SUPPORTING INSTITUTIONS

UNIVERSITY OF ARIZONA UNIVERSITY OF BRITISH COLUMBIA CALIFORNIA INSTITUTE OF TECHNOLOGY UNIVERSITY OF CALIFORNIA MONTANA STATE UNIVERSITY UNIVERSITY OF NEVADA, RENO NEW MEXICO STATE UNIVERSITY OREGON STATE UNIVERSITY

UNIVERSITY OF OREGON UNIVERSITY OF SOUTHERN CALIFORNIA STANFORD UNIVERSITY UNIVERSITY OF HAWAII UNIVERSITY OF TOKYO UNIVERSITY OF UTAH WASHINGTON STATE UNIVERSITY UNIVERSITY OF WASHINGTON

## CONTENTS

A - ALGEBRA AND NUMBER THEORY
L. Brenton and R. Hill, On the Diophantine equation $1=\sum 1 / n_{i}+$ $1 / \Pi n_{i}$ and a class of homologically trivial complex surface singularities ..... 41
E. G. Evans and P. Griffith, Binomial behavior of Betti numbers for modules of finite length ..... 267
P. Griffith, See E. G. Evans and P. Griffith
R. Hill, See L. Brenton and R. Hill
A. Krieg, Eisenstein-series on real, complex, and quaternionic half- spaces ..... 315
C. Pomerance, A. Sárközy and C. L. Stewart, On divisors of sums of integers, III ..... 363
P. F. Ringseth, The Selberg trace formula for groups without Eisen- stein series ..... 157
A. Sárközy, See C. Pomerance, A. Sárközy and C. L. Stewart
C. L. Stewart, See C. Pomerance, A. Sárközy and C. L. Stewart
B - ANALYSIS
J. T. Anderson, Finitely generated algebras and algebras of solu- tions to partial differential equations ..... 1
J. Aramaki, On an extension of the Ikehara Tauberian theorem ..... 13
W. C. Bauldry, A. Máté and P. Nevai, Asymptotics for solutions of systems of smooth recurrence equations ..... 209
E. Behrends, Isomorphic Banach-Stone theorems and isomorphisms which are close to isometries ..... 229
F. Botelho, Rotation sets of maps of the annulus ..... 251
A. Iordan, Pseudoconvex domains with peak functions at each point of the boundary ..... 277
P. W. Jones and T. Murai, Positive analytic capacity but zero Buffon needle probability ..... 99
G. M. Lieberman, Hölder continuity of the gradient at a corner for the capillary problem and related results ..... 115
A. Máté, See W. C. Bauldry, A. Máté and P. Nevai
T. Murai, See P. W. Jones and T. Murai
C. Nebbia, Groups of isometries of a tree and the Kunze-Stein phenomenon ..... 141
P. Nevai, See W. C. Bauldry, A. Máté and P. Nevai
S. Richter, Unitary equivalence of invariant subspaces of Bergman and Dirichlet spaces ..... 151
M. Schechter, Potential estimates in Orlicz spaces ..... 381
A. Sersouri, The Mazur property for compact sets ..... 185
A. Sitaram, On an analogue of the Wiener Tauberian theorem for symmetric spaces of the non-compact type ..... 197
D - GEOMETRY
G. M. Bragadin, Abstract riemannian stratifications ..... 31
G - TOPOLOGY
C. B. Hughes, Controlled homotopy topological structures ..... 69
Z. Iwase, Dehn-surgery along a torus $T^{2}$-knot ..... 289
M. Kranjc, Embedding 2-complexes in $\mathbf{R}^{4}$ ..... 301
M. Kuwata, Intersection homology of weighted projective spaces and pseudo-lens spaces ..... 355
F. Luo, Representing homology classes of $C \mathbf{P}^{2} \# \overline{C \mathbf{P}^{2}}$ ..... 137

## Pacific Journal of

## Mathematics

J. T. Anderson, Finitely generated algebras and algebras of solutions to partial differ- ential equations ..... 1
J. Aramaki, On an extension of the Ikehara Tauberian theorem ..... 13
G. M. Bragadin, Abstract riemannian stratifications ..... 31
L. Brenton and R. Hill, On the Diophantine equation $1=\sum 1 / n_{i}+1 / \Pi n_{i}$ and a class of homologically trivial complex surface singularities ..... 41
C. B. Hughes, Controlled homotopy topological structures ..... 69
P. W. Jones and T. Murai, Positive analytic capacity but zero Buffon needle proba- bility ..... 99
G. M. Lieberman, Hölder continuity of the gradient at a corner for the capillary problem and related results ..... 115
F. Luo, Representing homology classes of $C \mathbf{P}^{2} \# \overline{C \mathbf{P}^{2}}$ ..... 137
C. Nebbia, Groups of isometries of a tree and the Kunze-Stein phenomenon ..... 141
S. Richter, Unitary equivalence of invariant subspaces of Bergman and Dirichlet spaces ..... 151
P. F. Ringseth, The Selberg trace formula for groups without Eisenstein series ..... 157
A. Sersouri, The Mazur property for compact sets ..... 185
A. Sitaram, On an analogue of the Wiener Tauberian theorem for symmetric spaces of the non-compact type ..... 197

## PACIFIC JOURNAL OF MATHEMATICS

EDITORS

V. S. Varadarajan<br>(Managing Editor)<br>University of California<br>Los Angeles, CA 90024<br>Herbert Clemens<br>University of Utah<br>Salt Lake City, UT 84112

R. Finn

Stanford University
Stanford, CA 94305

Hermann Flaschka<br>University of Arizona<br>Tucson, AZ 85721

Ramesh A. Gangolli
University of Washington
Seattle, WA 98195
Vaughan F. R. Jones
University of California
Berkeley, CA 94720

Robion Kirby

University of California
Berkeley, CA 94720
C. C. MOORE

University of California
Berkeley, CA 94720
Harold Stark
University of California, San Diego
La Jolla, CA 92093

ASSOCIATE EDITORS
R. Arens E. F. Beckenbach $\quad$ B. H. Neumann F. Wolf K. Yoshida
(1906-1982)

## SUPPORTING INSTITUTIONS

UNIVERSITY OF ARIZONA<br>UNIVERSITY OF BRITISH COLUMBIA<br>CALIFORNIA INSTITUTE OF TECHNOLOGY<br>UNIVERSITY OF CALIFORNIA<br>MONTANA STATE UNIVERSITY<br>UNIVERSITY OF NEVADA, RENO<br>NEW MEXICO STATE UNIVERSITY<br>OREGON STATE UNIVERSITY

UNIVERSITY OF OREGON<br>UNIVERSITY OF SOUTHERN CALIFORNIA<br>STANFORD UNIVERSITY<br>UNIVERSITY OF HAWAII<br>UNIVERSITY OF TOKYO<br>UNIVERSITY OF UTAH<br>WASHINGTON STATE UNIVERSITY<br>UNIVERSITY OF WASHINGTON

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.

Mathematical papers intended for publication in the Pacific Journal of Mathematics should be in typed form or offset-reproduced (not dittoed), double spaced with large margins. Please do not use built up fractions in the text of the manuscript. However, you may use them in the displayed equations. Underline Greek letters in red, German in green, and script in blue. The first paragraph must be capable of being used separately as a synopsis of the entire paper. In particular it should contain no bibliographic references. Please propose a heading for the odd numbered pages of less than 35 characters. Manuscripts, in triplicate, may be sent to any one of the editors. Please classify according to the scheme of Math. Reviews, Index to Vol. 39. Supply name and address of author to whom proofs should be sent. All other communications should be addressed to the managing editor, or Elaine Barth, University of California, Los Angeles, California 90024.

There are page-charges associated with articles appearing in the Pacific Journal of Mathematics. These charges are expected to be paid by the author's University, Government Agency or Company. If the author or authors do not have access to such Institutional support these charges are waived. Single authors will receive 50 free reprints; joint authors will receive a total of 100 free reprints. Additional copies may be obtained at cost in multiples of 50 .

The Pacific Journal of Mathematics is issued monthly as of January 1966. Regular subscription rate: $\$ 190.00$ a year ( 5 Vols., 10 issues). Special rate: $\$ 95.00$ a year to individual members of supporting institutions.

Subscriptions, orders for numbers issued in the last three calendar years, and changes of address should be sent to Pacific Journal of Mathematics, P.O. Box 969, Carmel Valley, CA 93924, U.S.A. Old back numbers obtainable from Kraus Periodicals Co., Route 100, Millwood, NY 10546.

The Pacific Journal of Mathematics at P.O. Box 969, Carmel Valley, CA 93924 (ISSN 0030-8730) publishes 5 volumes per year. Application to mail at Second-class postage rates is pending at Carmel Valley, California, and additional mailing offices. Postmaster: send address changes to Pacific Journal of Mathematics, P.O. Box 969, Carmel Valley, CA 93924.

