Pacific Journal of Mathematics

VOLUME CLXII
1994

PACIFIC JOURNAL OF MATHEMATICS

Founded by

E. F. BECKENBACH (1906–1982) F. WOLF (1904–1989)

EDITORS

SUN-YUNG A. CHANG
(Managing Editor)
University of California
Los Angeles, CA 90024-1555
chang@math.ucla.edu

F. MICHAEL CHRIST
University of California
Los Angeles, CA 90024-1555
christ@math.ucla.edu

HERBERT CLEMENS
University of Utah
Salt Lake City, UT 84112
clemens@math.utah.edu

THOMAS ENRIGHT
University of California, San Diego
La Jolla, CA 92093
tenright@ucsd.edu

NICHOLAS ERCOLANI
University of Arizona
Tucson, AZ 85721
ercolani@math.arizona.edu

R. FINN
Stanford University
Stanford, CA 94305
finn@gauss.stanford.edu

VAUGHAN F. R. JONES
University of California
Berkeley, CA 94720
vfr@math.berkeley.edu

STEVEN KERCKHOFF
Stanford University
Stanford, CA 94305
spk@gauss.stanford.edu

MARTIN SCHARLEMANN
University of California
Santa Barbara, CA 93106
mgscharl@math.ucsb.edu

HAROLD STARK
University of California, San Diego
La Jolla, CA 92093

V. S. VARADARAJAN
University of California
Los Angeles, CA 90024-1555
vsv@math.ucla.edu

SUPPORTING INSTITUTIONS

UNIVERSITY OF ARIZONA
UNIVERSITY OF BRITISH COLUMBIA
CALIFORNIA INSTITUTE OF TECHNOLOGY
UNIVERSITY OF CALIFORNIA
UNIVERSITY OF MONTANA
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 UTAH
WASHINGTON STATE UNIVERSITY
UNIVERSITY OF WASHINGTON

CONTENTS

A. Acker, *On the existence of convex classical solutions to multilayer fluid problems in arbitrary space dimensions* 201
V. V. Andreev and A. Matheson, *Extremal functions and the Chang-Marshall inequality* 233
R. F. Arens, *Productive polynomials* 247
J. Bergen, *Semisimplicity of restricted enveloping algebras of Lie superalgebras* 1
L. Corwin and C. P. Johnston, *On factor representations of discrete rational nilpotent groups and the Plancherel formula* 261
Ž. Čučković, *Commutants of Toeplitz operators on the Bergman space* 277
G. P. Curbera, *When L^1 of a vector measure is an AL-space* 287
O. J. Garay, *A classification of certain 3-dimensional conformally flat Euclidean hypersurfaces* 13
D. Gurevich and S. Majid, *Braided groups of Hopf algebras obtained by twisting* 27
K. Guruprasad, *Flat connections, geometric invariants and the symplectic nature of the fundamental group of surfaces* 45
P. de la Harpe, *Spin models for link polynomials, strongly regular graphs and Jaeger's Higman-Sims model* 57
C. P. Johnston, See L. Corwin and C. P. Johnston
E. Kissin, *On the uniqueness of representational indices of derivations of C^*-algebras* 97
S. Majid, See D. Gurevich and S. Majid
A. Matheson, See V. V. Andreev and A. Matheson
K.-H. Neeb, *A convexity theorem for semisimple symmetric spaces* 305
M.-Y. Pang, *On infinitesimal behavior of the Kobayashi distance* 121
M. Primc, *Vertex operator construction of standard modules for $A_n^{(1)}$* 143
A. Rosenmann and S. Rosset, *Ideals of finite codimension in free algebras and the fc-localization* 351
S. Rosset, See A. Rosenmann and S. Rosset
B. A. Sethuraman, *Dec groups for arbitrarily high exponents* 373
K. Zhu, *Bergman and Hardy spaces with small exponents* 189

Pacific Journal of Mathematics

Vol. 162, No. 1 January 1994

PACIFIC JOURNAL OF MATHEMATICS

Founded by

E. F. BECKENBACH (1906–1982) F. WOLF (1904–1989)

EDITORS

SUN-YUNG A. CHANG
(Managing Editor)
University of California
Los Angeles, CA 90024-1555
chang@math.ucla.edu

F. MICHAEL CHRIST
University of California
Los Angeles, CA 90024-1555
christ@math.ucla.edu

HERBERT CLEMENS
University of Utah
Salt Lake City, UT 84112
clemens@math.utah.edu

THOMAS ENRIGHT
University of California, San Diego
La Jolla, CA 92093
tenright@ucsd.edu

NICHOLAS ERCOLANI
University of Arizona
Tucson, AZ 85721
ercolani@math.arizona.edu

R. FINN
Stanford University
Stanford, CA 94305
finn@gauss.stanford.edu

VAUGHAN F. R. JONES
University of California
Berkeley, CA 94720
vfr@math.berkeley.edu

STEVEN KERCKHOFF
Stanford University
Stanford, CA 94305
spk@gauss.stanford.edu

MARTIN SCHARLEMANN
University of California
Santa Barbara, CA 93106
mgscharl@math.ucsb.edu

HAROLD STARK
University of California, San Diego
La Jolla, CA 92093

V. S. VARADARAJAN
University of California
Los Angeles, CA 90024-1555
vsv@math.ucla.edu

SUPPORTING INSTITUTIONS

UNIVERSITY OF ARIZONA
UNIVERSITY OF BRITISH COLUMBIA
CALIFORNIA INSTITUTE OF TECHNOLOGY
UNIVERSITY OF CALIFORNIA
UNIVERSITY OF MONTANA
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 UTAH
WASHINGTON STATE UNIVERSITY
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 1991 *Mathematics Subject Classification* scheme which can be found in the December index volumes of *Mathematical Reviews*. Supply name and address of author to whom proofs should be sent. All other communications should be addressed to the managing editor, or Julie Honig, University of California, Los Angeles, California 90024-1555.

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 75 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* (ISSN 0030-8730) is published monthly except for July and August. Regular subscription rate: $200.00 a year (10 issues). Special rate: $100.00 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) is published monthly except for July and August. Second-class postage paid at Carmel Valley, California 93924, and additional mailing offices. Postmaster: send address changes to Pacific Journal of Mathematics, P.O. Box 969, Carmel Valley, CA 93924.

PUBLISHED BY PACIFIC JOURNAL OF MATHEMATICS, A NON-PROFIT CORPORATION

This publication was typeset using $\mathcal{A}\mathcal{M}\mathcal{S}$-TEX,
the American Mathematical Society's TEX macro system.

Copyright © 1993 by Pacific Journal of Mathematics