

**Pacific
Journal of
Mathematics**

VOLUME CLI

1991

PACIFIC JOURNAL OF MATHEMATICS

EDITORS

V. S. VARADARAJAN
(Managing Editor)

University of California
Los Angeles, CA 90024-1555-05

HERBERT CLEMENS

University of Utah
Salt Lake City, UT 84112

THOMAS ENRIGHT

University of California, San Diego
La Jolla, CA 92093

NICHOLAS ERCOLANI
University of Arizona
Tucson, AZ 85721

R. FINN

Stanford University
Stanford, CA 94305

VAUGHAN F. R. JONES

University of California
Berkeley, CA 94720

STEVEN KERCKHOFF

Stanford University
Stanford, CA 94305

C. C. MOORE

University of California
Berkeley, CA 94720

MARTIN SCHARLEMANN

University of California
Santa Barbara, CA 93106

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

(1904–1989)

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

D. Cowan, <i>Some infinite chains in the lattice of varieties of inverse semigroups</i>	21
D. Hensley, <i>The largest digit in the continued fraction expansion of a rational number</i>	237
S. Shahriari, <i>On central type factor groups</i>	151
A. van den Essen, <i>A note on Meisters and Olech's proof of the global asymptotic stability Jacobian conjecture</i>	351
L. H. Walling, <i>Hecke eigenforms and representation numbers of quadratic forms</i>	181

B – ANALYSIS

F. Botelho, <i>Rotational entropy for annulus endomorphisms</i>	1
B. Forrest, <i>Arens regularity and discrete groups</i>	217
Y.-L. Fu, <i>On Lipschitz stability for F. D. E.</i>	229
R. L. Lipsman, <i>The Penney-Fujiwara Plancherel formula for abelian symmetric spaces and completely solvable homogeneous spaces</i>	265
F. Rădulescu, <i>Singularity of the radial subalgebra of $\mathcal{L}(F_N)$ and the Pukánszky invariant</i>	297
A. J.-L. Sheu, <i>The structure of twisted SU(3) groups</i>	307
T. V. Tonev, <i>Multi-tuple hulls</i>	335

D – GEOMETRY

M. G. Eastwood and A. M. Pilato, <i>On the density of twistor elementary states</i>	201
S. Greco and G. Raciti, <i>The Lüroth semigroup of plane algebraic curves</i>	43
K.-T. Kim, <i>Automorphism groups of certain domains in \mathbb{C}^n with a singular boundary</i>	57
A. M. Pilato, See M. G. Eastwood and A. M. Pilato	
G. Raciti, See S. Greco and G. Raciti	
H. Van Maldeghem, <i>A characterization of the finite Moufang hexagons by generalized homologies</i>	357
B. Wong, <i>A note on homotopy complex surfaces with negative tangent bundles</i>	369

C. T. Yang, <i>Any Blaschke manifold of the homotopy type of CP^n has the right volume</i>	379
---	-----

G – TOPOLOGY

U. Kaiser, <i>Link homotopy in \mathbb{R}^3 and S^3</i>	257
R. J. Milgram, <i>Surgery with finite fundamental group I: The obstructions</i>	65
R. J. Milgram, <i>Surgery with finite fundamental group II: The oozing conjecture</i>	117
M. B. Thistlethwaite, <i>On the algebraic part of an alternating link</i>	317

Pacific Journal of Mathematics

F. Botelho , Rotational entropy for annulus endomorphisms	1
D. Cowan , Some infinite chains in the lattice of varieties of inverse semigroups .	21
S. Greco and G. Raciti , The Lüroth semigroup of plane algebraic curves	43
K.-T. Kim , Automorphism groups of certain domains in C^n with a singular boundary	57
R. J. Milgram , Surgery with finite fundamental group I: The obstructions	65
R. J. Milgram , Surgery with finite fundamental group II: The oozing conjecture .	117
S. Shahriari , On central type factor groups	151
L. H. Walling , Hecke eigenforms and representation numbers of quadratic forms	181

Subject listing on back cover

PACIFIC JOURNAL OF MATHEMATICS

EDITORS

V. S. VARADARAJAN
(Managing Editor)
University of California
Los Angeles, CA 90024-1555-05

HERBERT CLEMENS
University of Utah
Salt Lake City, UT 84112

THOMAS ENRIGHT
University of California, San Diego
La Jolla, CA 92093

R. FINN
Stanford University
Stanford, CA 94305

HERMANN FLASCHKA
University of Arizona
Tucson, AZ 85721

VAUGHAN F. R. JONES
University of California
Berkeley, CA 94720

STEVEN KERCKHOFF
Stanford University
Stanford, CA 94305

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

MARTIN SCHARLEMANN
University of California
Santa Barbara, CA 93106

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
(1904–1989)

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

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 Elaine Barth, University of California, Los Angeles, California 90024-1555-05.

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* (ISSN 0030-8730) is published monthly except for July and August. Regular subscription rate: \$190.00 a year (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) 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

Copyright © 1991 by Pacific Journal of Mathematics