Pacific Journal of Mathematics

VOLUME CXXVI 1987

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 H. SAMELSON Stanford University Stanford, CA 94305 HAROLD STARK University of California, San Diego La Jolla, CA 92093

ASSOCIATE EDITORS

R. ARENS

E. F. BECKENBACH (1906 - 1982)

B. H. NEUMANN

K. YOSHIDA

SUPPORTING INSTITUTIONS

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

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

F. WOLF

CONTENTS

A – ALGEBRA AND NUMBER THEORY

J. Dauns, Uniform dimensions and subdirect products	1
P. Erdös, A. Hildebrand, A. Odlyzko, P. Pudaite and B. Reznick,	
The asymptotic behavior of a family of sequences	227
A. Hildebrand, See P. Erdös, A. Hildebrand, A. Odlyzko, P. Pudaite	
and B. Reznick	
B. Jacob, Quadratic forms over dyadic valued fields I, The graded	
Witt ring	21
C. Long, See C. Swenson and C. Long	
P. Menal and J. Moncasi, Lifting units in self-injective rings and an	
index theory for Rickart C*-algebras	295
J. Moncasi, See P. Menal and J. Moncasi	
A. Odlyzko, See P. Erdös, A. Hildebrand, A. Odlyzko, P. Pudaite and	
B. Reznick	
P. Pudaite, See P. Erdös, A. Hildebrand, A. Odlyzko, P. Pudaite and	
B. Reznick	
B. Reznick, See P. Erdös, A. Hildebrand, A. Odlyzko, P. Pudaite and	
B. Reznick	
C. Swenson and C. Long, Necessary and sufficient conditions for	
simple A-bases	379
K. G. Valente, The p-primes of a commutative ring	385

B – ANALYSIS

C. J. K. Batty, Derivations on the line and flows along orbits	209
N. Higson, A characterization of KK-theory	253
E. V. Kissin, On some reflexive operator algebras constructed from	
two sets of closed operators and from a set of reflexive operator	
algebras	125
R. Langlands, The Dirac monopole and induced representations.	145
A. TM. Lau and W. Takahashi, Weak convergence and non-linear	
ergodic theorems for reversible semigroups of nonexpansive	
mappings	277
Y. Saitō, Schrödinger operators with a nonspherical radiation con-	
dition	331
D. A. Stegenga and K. Stephenson, Generic covering properties for	
spaces of analytic functions. II	153
K. Stephenson, See D. A. Stegenga and K. Stephenson	
W. Takahashi, See A. TM. Lau and W. Takahashi	

P.	Waksman,	Deter	mining	an a	an	alytic	funct	ion fr	om it	<i>s</i> (distribu-	
	tion of v	values	••••	•••	•••	• • • •	• • • •	• • • •	• • • •	•	••••	197
				D	0							

D – GEOMETRY

G. J. Galloway,	Α	note	on	the	fundamental	aroun	of	a	compact	
• •					•	•	•		-	
minimal ny	ıpe	rsurja	ice				• • •	•		243

G – TOPOLOGY

M. R. Kelly, Minimizing the number of fixed points for self-maps	
of compact surfaces	81
L. Smith, Realizing certain polynomial algebras as cohomology rings	
of spaces of finite type fibered over $\times BU(d)$	361
G. A. Venema, Approximating codimension two embeddings of cells	165

Pacific Journal of Mathematics

J. Dauns, Uniform dimensions and subdirect products	1
B. Jacob, Quadratic forms over dyadic valued fields I, The graded Witt ring	21
M. R. Kelly, Minimizing the number of fixed points for self-maps of compact surfaces	81
E. V. Kissin, On some reflexive operator algebras constructed from two sets of closed	
operators and from a set of reflexive operator algebras	125
R. Langlands, The Dirac monopole and induced representations	L45
D. A. Stegenga and K. Stephenson, Generic covering properties for spaces of analytic	
functions. II	153
G. A. Venema, Approximating codimension two embeddings of cells	165
P. Waksman, Determining an analytic function from its distribution of values	197

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 H. SAMELSON Stanford University Stanford, CA 94305 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

RNIA

SUPPORTING INSTITUTIONS

UNIVERSITY OF ARIZONA	UNIVERSITY OF OREGON
UNIVERSITY OF BRITISH COLUMBIA	UNIVERSITY OF SOUTHERN CALIFOR
CALIFORNIA INSTITUTE OF TECHNOLOGY	STANFORD UNIVERSITY
UNIVERSITY OF CALIFORNIA	UNIVERSITY OF HAWAII
MONTANA STATE UNIVERSITY	UNIVERSITY OF TOKYO
UNIVERSITY OF NEVADA, RENO	UNIVERSITY OF UTAH
NEW MEXICO STATE UNIVERSITY	WASHINGTON STATE UNIVERSITY
OREGON 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 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.

PUBLISHED BY PACIFIC JOURNAL OF MATHEMATICS, A NON-PROFIT CORPORATION Copyright © 1987 by Pacific Journal of Mathematics