## Pacific Journal of

## Mathematics

R. A. Bekes, The range of convolution operators ..... 257
D. K. Burke and S. W. Davis, Subsets of ${ }^{\omega} \omega$ and generalized metric spaces ..... 273
G. Emmanuele, A remark on a paper of Kuhfittig ..... 283
I. Erdelyi and W. Shengwang, On strongly decomposable operators ..... 287
G. Gierz, Injective Banach lattices with strong order units ..... 297
M. Letizia, Quotients by complex conjugation of nonsingular quadrics and cubics in $\mathbf{P}_{\mathbf{C}}^{3}$ defined over $\mathbf{R}$ ..... 307
P. H. Maserick and F. H. Szafraniec, Equivalent definitions of positive definiteness ..... 315
C. Peligrad and S. Rubinstein, Maximal subalgebras of $C^{*}$-crossed products ..... 325
D. W. Robinson and S. Yamamuro, Hereditary cones, order ideals and half-norms ..... 335
D. W. Robinson and S. Yamamuro, The Jordan decomposition and half-norms ..... 345
R. Rochberg, Interpolation of Banach spaces and negatively curved vector bundles ..... 355
D. Rolfsen, Rational surgery calculus: Extension of Kirby's theorem ..... 377
W. Seaman, Helicoids of constant mean curvature and their Gauss maps ..... 387
D. Shelstad, Endoscopic groups and base change C/R ..... 397
J. Siegel and F. Williams, Numerical invariants of homotopies into spheres ..... 417
A. Sitaram, Some remarks on measures on non-compact semi-simple Lie groups ..... 429
T. Soma, Atoroidal, irreducible 3-manifolds and 3-fold branched coverings of $S^{3}$ ..... 435
$J$. de Vries, On the $G$-compactification of products ..... 447
H. Weber, Topological Boolean rings. Decomposition of finitely additive set functions ..... 471

# PACIFIC JOURNAL OF MATHEMATICS EDITORS 

Donald Babbitt (Managing Editor)<br>University of California<br>Los Angeles, CA 90024<br>Hugo Rossi<br>University of Utah<br>Salt Lake City, UT 84112<br>C. C. Moore and Arthur Ogus<br>University of California<br>Berkeley, CA 94720

J. Dugundil

Department of Mathematics
University of Southern California
Los Angeles, CA 90089-1113
R. Finn and H. Samelson

Stanford University
Stanford, CA 94305

## ASSOCIATE EDITORS

| R. Arens | E. F. Beckenbach | B. H. Neumann | F. Wolf | K. Yoshida |
| :--- | :--- | :--- | :--- | :--- |

(1906-1982)
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<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: $\$ 132.00$ a year ( $6 \mathrm{Vol} ., 12$ issues). Special rate: $\$ 66.00$ 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 ISSN 0030-8730 is published monthly by the Pacific Journal of Mathematics at P.O. Box 969, Carmel Valley, CA 93924. 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 © 1984 by Pacific Journal of Mathematics

