VOL. 10 • NO. 4 *DECEMBER 1966*

ILLINOIS JOURNAL OF MATHEMATICS

. . . . . .

a quarterly journal published by the
UNIVERSITY OF ILLINOIS, URBANA

. . . . . .

edited by

ROBERT G. BARTLE
D. G. BOURGIN
A. P. CALDERÓN
PETER HILTON
HANS SAMELSON
MICHIO SUZUKI

ILLINOIS JOURNAL OF MATHEMATICS

Manuscripts

Original research papers in pure and applied mathematics intended for publication in this journal may be written in English, French, German, or Italian. They should be addressed to the Illinois Journal of Mathematics, University of Illinois, Urbana, Illinois 61801, or to one of the editors:

ROBERT G. BARTLE, Department of Mathematics, University of Illinois, Urbana, Illinois 61801.

D. G. BOURGIN, Department of Mathematics, University of Houston, Houston, Texas 77004.

A. P. CALDERÓN, Department of Mathematics, The University of Chicago, Chicago, Illinois 60637.

PETER HILTON, Department of Mathematics, Cornell University, Ithaca, New York 14850.

HANS SAMELSON, Department of Mathematics, Stanford University, Stanford, California 94305.

MICHIO SUZUKI, Department of Mathematics, University of Illinois, Urbana, Illinois 61801.

All papers should be typewritten, double spaced, and the author should keep a complete copy. Bibliography and footnotes should be typed, double spaced, on separate sheets of paper.

Proof

Authors will receive only galley proof. Proof sent to North American addresses will be accompanied by manuscript and sent by first class mail. To other addresses, proof will be sent by airmail, and manuscript will be sent only if requested. Authors are asked to return proof (and manuscript if sent) by the same class of mail that was used in sending it to them.

Reprints

One hundred free reprints are supplied to the sole author of a paper; fifty free reprints are supplied to each author of a joint paper. Additional reprints may be purchased from Waverly Press.

The ILLINOIS JOURNAL OF MATHEMATICS is published quarterly by the University of Illinois. Entered as second-class matter June 4, 1957 at the post office at Urbana, Illinois, under the act of August 24, 1912. Office of publication, University of Illinois Press, Urbana, Ill.

Copyright © 1966, Board of Trustees, University of Illinois
Made in U. S. A.

VOLUME 10 *1966*

ILLINOIS JOURNAL OF MATHEMATICS

. . . . . .

a quarterly journal published by the
UNIVERSITY OF ILLINOIS, URBANA

. . . . . .

edited by

ROBERT G. BARTLE
D. G. BOURGIN
A. P. CALDERÓN
PETER HILTON
HANS SAMELSON
MICHIO SUZUKI

Pages

ASKEY, RICHARD and WAINGER, STEPHEN, A transplantation theorem between ultraspherical series. 322–344

BEAR, H. S., The integral representation of functions on parts. . . 49– 55

BERKSON, EARL, Some characterizations of C^*-algebra. 1– 8

———, Semi-groups of scalar type operators and a theorem of Stone. 345–352

BOND, JAMES W., Weak minimal generating set reduction theorems for associative and Lie algebras. 579–591

BOURGIN, D. C., Multiplicity of solutions in frame mappings, II. . 557–562

BRIGGS, W. E., with WUNDERLICH, M. C., Second and third term approximations of sieve-generated sequences. 694–700

BROWDER, FELIX E., Further remarks on nonlinear functional equations 275–286

BUTSON, A. T., with ELLIOTT, J. E. H., Relative difference sets. . . 517–531

CHOLEWINSKI, FRANK M., with HAIMO, DEBORAH TEPPER, Integral representations of solutions of the generalized heat equation. . 623–638

COHN, P. M., On a class of binomial extensions. 418–424

DAVENPORT, H. and SCHINZEL, A., A note on certain arithmetical constants 181–185

DEMEYER, F. R., Galois theory in separable algebras over commutative rings 287–295

DORROH, J. R., Some properties of a singular differential operator. . 136–146

DOUGLAS, R. G., Generalized group algebras. 309–321

DUDLEY, R. M., Weak convergence of probabilities on nonseparable metric spaces and empirical measures on Euclidean spaces. . . 109–126

DWASS, MEYER, Extremal processes, II. 381–391

DYER, MICHEAL N., The influence of $\pi_1(Y)$ on the homology of $M(X, Y)$ 648–651

ELLIOTT, JOANNE, Dirichlet spaces associated with integro-differential operators, Part II. 66– 89

ELLIOTT, J. E. H. and BUTSON, A. T., Relative difference sets. . . 517–531

Pages

ERNEST, JOHN, The representation lattice of a locally compact group 127–135

FORELLI, FRANK, Bounded holomorphic functions and projections. 367–380

FRENCH, STEVEN H., Trigonometric polynomials in prime number theory 240–248

GLASER, L. C. and PRICE, T. M., Unknotting locally flat cell pairs. . 425–430

GLICKFELD, BARNETT W., A metric characterization of $C(X)$ and its generalization to C^*-algebras. 547–556

GRAY, ALFRED, Some examples of almost Hermitian manifolds. . . 353–366

GROSSWALD, E., Generalization of a formula of Hayman and its application to the study of Riemann's Zeta function. 9– 23

HAIMO, DEBORAH TEPPER and CHOLEWINSKI, FRANK M., Integral representations of solutions of the generalized heat equation. . 623–638

HAKEN, WOLFGANG, On homotopy 3-spheres. 159–180

HAMSTROM, MARY-ELIZABETH, Homotopy groups of the space of homeomorphisms on a 2-manifold. 563–573

HATTEMER, J. R., Boundary behavior of temperatures, Part 2. . . 465–469

HEDRLÍN, Z., and PULTR, A., On full embeddings of categories of algebras 392–406

HELLERSTEIN, SIMON, On the zeros of an entire function and its second derivative 488–496

HICKS, N. J., Connexion preserving spray maps. 661–679

HUNGERFORD, THOMAS W., Hyperhomology spectra and a multiplicative Kunneth theorem. 249–254

IQBALUNNISA, Normal, simple and neutral congruences on lattices. . 227–234

———, Permutable congruences in a lattice. 235–239

JENKINS, JAMES A., On certain problems of minimal capacity. . . 460–465

JOHNSON, H. H., Absolute equivalence of exterior differential systems 407–411

KELLOGG, C. N., with WELLS, J. H., Invariant subspaces. 508–516

KENT, D. C., On the order topology in a lattice. 90– 96

KOCAN, DANIEL, Spectral manifolds for a class of operators. . . . 605–622

Pages

KOCH, C. F., On the non-regularity of certain generalized Lototsky transforms 644–647

LANGE, J. L., On a family of twin convergence regions for continued fractions 97–108

LETAC, GÉRARD, Représentation des mesures de probabilité sur le produit de deux espaces dénombrables de marges données. . 497–507

LICHTENBAUM, STEPHEN, On the vanishing of Tor in regular local rings 220–226

MAEDA, FUMI-YUKI, Generalized scalar operators whose spectra are contained in a Jordan curve. 431–459

MANN, L. N., Gaps in the dimensions of transformation groups. . . 532–546

MCQUILLAN, DONALD L., Some results on the linear fractional group 24– 38

———, On the genus of fields of elliptic modular functions. . . . 479–487

NEUWIRTH, L., Imbedding in low dimensions. 470–478

NEWBERGER, S. M., The primitive operators of an algebra of singular integral operators. 639–643

PELEG, BEZALEL, On the kernel of constant-sum simple games with homogeneous weights. 39– 48

PETRYSHYN, W. V., On the extension and the solution of nonlinear operator equations. 255–274

PRICE, T. M., with GLASER, L. C., Unknotting locally flat cell pairs. 425–430

PULTR, A., with HEDRLÍN, Z., On full embeddings of categories of algebras 392–406

RATLIFF, LOUIS J. JR., On finite modules over a Noetherian domain. 56– 60

REID, WILLIAM T., Generalized linear differential systems and related Riccati matrix integral equations. 701–722

RHIE, YOUNG H., A density theorem on spectra of discrete subgroups of semi-simple Lie groups. 147–158

SCHINZEL, A., with DAVENPORT, H., A note on certain arithmetical constants 181–185

SHALE, DAVID and STINESPRING, W. FORREST, Continuously splittable distributions in Hilbert space. 574–578

Pages

STINESPRING, W. FORREST, with SHALE, DAVID, Continuously splittable distributions in Hilbert space. 574–578

TAYLOR, J. C., The Feller and Šilov boundaries of a vector lattice. . 680–693

THOMPSON, R. C., Principal submatrices of normal and Hermitian matrices 296–308

THORPE, JOHN A., On the curvatures of Riemannian manifolds. . . 412–417

TROUÉ, JACQUES, The orders of the Postnikov invariants of the Thom spectrum *MSO*. 592–604

WAINGER, STEPHEN, with ASKEY, RICHARD, A transplantation theorem between ultraspherical series. 322–344

WALKER, CAROL PEERCY, Relative homological algebra and abelian groups 186–209

WARNE, R. J., Extensions of Brandt semigroups and applications. . 652–660

WELLS, J. H. and KELLOGG, C. N., Invariant subspaces. 508–516

WILLIAMSON, JOHN A., A relation between a class of limit laws and a renewal theorem. 210–219

WU, L. E. T., A characterization of self-injective rings. 61– 65

WUNDERLICH, M. C. and BRIGGS, W. E., Second and third term approximations of sieve-generated sequences. 694–700