



The

# Michigan Mathematical Journal

EDITORIAL BOARD

Lipman Bers  
Lamberto Cesari  
Wilfred Kaplan  
Irving Kaplansky  
Edwin E. Moise  
Raymond L. Wilder

MANAGING EDITORS

George Piranian  
Renate McLaughlin

THE UNIVERSITY OF MICHIGAN PRESS

ANN ARBOR, MICHIGAN, U.S.A.



## INDEX

VOLUME 18, 1971

	Page
Zbigniew Bogucki and Józef Waniurski    The relative growth of subordinate functions . . . . .	357
Arlen Brown, Carl Pearcy, and Norberto Salinas    Ideals of compact operators on Hilbert space . . . . .	373
Leon Brown and P. M. Gauthier    Behavior of normal meromorphic functions on the maximal ideal space of $H^\infty$ . . . . .	365
Bruce L. Chalmers    Some interpolation problems in Hilbert spaces . . . . .	41
Tae Ho Choe    Locally compact lattices with small lattices . . . . .	81
J. E. Coury    Sets of uniqueness on the product of compact groups . . . . .	225
Michael J. Crabb    The powers of an operator of numerical radius one	253
Michael R. Cullen    Derivatives of singular inner functions . . . . .	283
James A. Deddens    Intertwining analytic Toeplitz operators . . . . .	243
P. L. Duren and G. E. Schober    On a class of schlicht functions . . . . .	353
H. O. Fattorini and A. Radnitz    The Cauchy problem with incomplete initial data in Banach spaces . . . . .	291
Dirk Ferus    On the completeness of nullity foliations . . . . .	61
Martin Fuchs    A note on mapping cylinders . . . . .	289
P. M. Gauthier, see Leon Brown, page 365	
F. W. Gehring    Inequalities for condensers, hyperbolic capacity, and extremal lengths . . . . .	1
Frank Gilfeather    Seminormal operators. . . . .	235
Robert Gilmer    On polynomial rings over a Hilbert ring . . . . .	205
Myron Goldstein    The span of a Riemann surface . . . . .	223
Charles L. Hagopian    The cyclic connectivity of plane continua . . . . .	401
R. L. Hall    Ambiguous points of holomorphic functions of slow growth . . . . .	161
Lowell J. Hansen    The Hardy class of a spiral-like function . . . . .	279
Wolfgang H. Heil    On subnormal subgroups of fundamental groups of certain 3-manifolds . . . . .	393
I. N. Herstein and Susan Montgomery    A note on division rings with involutions . . . . .	75
Paul Hill    The covering theorem for upper basic subgroups ..	187

## INDEX

	Page	
<b>John A. R. Holbrook</b>	Inequalities governing the operator radii associated with unitary $\rho$ -dilations . . . . .	149
<b>Włodzimierz Holsztyński</b>	A remark on homotopy and category domination .	409
<b>William Jaco</b>	Nonretractable cubes-with-holes . . . . .	193
<b>C. N. Kellogg</b>	An extension of the Hausdorff-Young theorem . . .	121
<b>T. L. Kriete, III, Berrien Moore, III, and Lavon B. Page</b>	Compact inter- twining operators . . . . .	115
<b>Matthew Lee</b>	On Weyl's theorem . . . . .	37
<b>W. B. R. Lickorish</b>	An unsplittable triangulation . . . . .	203
<b>Stig-Olof Londen</b>	The qualitative behavior of the solutions of a nonlinear Volterra equation . . . . .	321
<b>Mamoru Mimura</b>	Quasi-p-regularity of symmetric spaces . . . . .	65
<b>Susan Montgomery</b> , see <b>I. N. Herstein</b> , page 75		
<b>Berrien Moore, III</b> , see <b>T. L. Kriete, III</b> , page 115		
<b>J. Myhill</b>	A recursive function, defined on a compact interval and having a continuous derivative that is not recursive . . . . .	97
<b>James D. Nelson</b>	A characterization of zero sets for $A^\infty$ . . . . .	141
<b>James Noonan</b>	Meromorphic functions of bounded boundary rotation . . . . .	343
<b>C. W. Onneweer and Daniel Waterman</b>	Uniform convergence of Fourier series on groups, I . . . . .	265
<b>B. G. Pachpatte</b>	Finite-difference inequalities and an extension of Lyapunov's method . . . . .	385
<b>Lavon B. Page</b> , see <b>T. L. Kriete, III</b> , page 115		
<b>Carl Pearcy and David Topping</b>	On commutators in ideals of compact operators . . . . .	247
—————, see also <b>Arlen Brown</b> , page 373		
<b>J. A. Pfaltzgraff</b>	On the Marx conjecture for a class of close-to- convex functions . . . . .	275
<b>T. M. Price</b>	Compact, contractible n-manifolds and their boundaries . . . . .	331
<b>N. Prijatelj and I. Vidav</b>	On special *-regular rings . . . . .	213
<b>C. R. Putnam</b>	Ranges of normal and subnormal operators . . . .	33
<b>A. Radnitz</b> , see <b>H. O. Fattorini</b> , page 291		
<b>William L. Reddy</b>	Branched coverings . . . . .	103
<b>Lloyd G. Roeling</b>	On certain links in 3-manifolds . . . . .	99
<b>Norberto Salinas</b> , see <b>Arlen Brown</b> , page 373		

## INDEX

	Page
John Schiller                    A classification of hyperelliptic Riemann surfaces with automorphisms by means of characteristic Riemann matrices . . . . .	169
G. E. Schober, see P. L. Duren, page 353	
Edward Silverman                A Minkowski area having no convex extension . . . .	231
Arthur Steinberg                On equations in free groups . . . . .	87
B. A. Taylor and D. L. Williams      Zeros of Lipschitz functions analytic in the unit disc . . . . .	129
David Topping, see Carl Pearcy, page 247	
L. Tzafriri                    An isomorphic characterization of $L_p$ and $c_0$ -spaces. II . . . . .	21
I. Vidav, see N. Prijatelj, page 213	
Hans Wallin                    Riesz potentials, $k$ , $p$ -capacity, and $p$ -modules . . .	257
Józef Waniurski, see Zbigniew Bogucki, page 357	
Daniel Waterman, see C. W. Onneweer, page 265	
Wilbur Whitten                Some intricate noninvertible links . . . . .	55
D. L. Williams, see B. A. Taylor, page 129	
F. D. Williams                A theorem on homotopy-commutativity . . . . .	51





## CONTENTS

	Page
<b>Martin Fuchs</b>	
A note on mapping cylinders . . . . .	289
<b>H. O. Fattorini and A. Radnitz</b>	
The Cauchy problem with incomplete initial data in Banach spaces . . . . .	291
<b>Stig-Olof Londen</b>	
The qualitative behavior of the solutions of a nonlinear Volterra equation	321
<b>T. M. Price</b>	
Compact, contractible n-manifolds and their boundaries . . . . .	331
<b>James Noonan</b>	
Meromorphic functions of bounded boundary rotation . . . . .	343
<b>P. L. Duren and G. E. Schober</b>	
On a class of schlicht functions . . . . .	353
<b>Zbigniew Bogucki and Józef Waniurski</b>	
The relative growth of subordinate functions . . . . .	357
<b>Leon Brown and P. M. Gauthier</b>	
Behavior of normal meromorphic functions on the maximal ideal space of $H^\infty$ . . . . .	365
<b>Arlen Brown, Carl Pearcy, and Norberto Salinas</b>	
Ideals of compact operators on Hilbert space . . . . .	373
<b>B. G. Pachpatte</b>	
Finite-difference inequalities and an extension of Lyapunov's method . . .	385
<b>Wolfgang H. Heil</b>	
On subnormal subgroups of fundamental groups of certain 3-manifolds . .	393
<b>Charles L. Hagopian</b>	
The cyclic connectivity of plane continua . . . . .	401
<b>Włodzimierz Holsztyński</b>	
A remark on homotopy and category domination . . . . .	409

LITHOPRINTED IN THE UNITED STATES OF AMERICA BY  
CUSHING - MALLOY, INC., ANN ARBOR, MICHIGAN, 1971

**MICHIGAN MATHEMATICAL JOURNAL**

Department of Mathematics

University of Michigan