

# BULLETIN

OF THE

AUSTRALIAN MATHEMATICAL SOCIETY

**Volume 63, Number 3**  
**June, 2001**

*The Australian Mathematical Publishing Assoc. Inc.*  
*Australian National University, ACT 0200, Australia*  
*Printed in Australia by Instant Colour Press*  
**Print Post approved - PP229219/00095**

ISSN 0004-9727

# THE AUSTRALIAN MATHEMATICAL SOCIETY

President: A.L. Carey

Department of Pure Mathematics,  
The University of Adelaide,  
Adelaide SA 5005, Australia.

Secretary: D. Elliott

Department of Mathematics,  
University of Tasmania,  
Hobart Tas. 7000, Australia.

Treasurer: A. Howe

School of Mathematical Sciences,  
The Australian National University,  
Canberra ACT 0200, Australia

## Membership and correspondence.

Applications for membership, notices of change of address or title or position, members' subscriptions and correspondence related to accounts should be sent to the Treasurer. Correspondence about the distribution of the Society's BULLETIN, GAZETTE, and JOURNALS, and orders for back numbers should be sent to the Treasurer. All other correspondence should be sent to the Secretary.

## The Bulletin.

The Bulletin of the Australian Mathematical Society began publication in 1969. Normally two volumes of three numbers are published annually. The BULLETIN is published for the Australian Mathematical Society by the Australian Mathematical Publishing Association Inc.

Editor: Michael G. Cowling

Department of Pure Mathematics,  
The University of New South Wales,  
Sydney NSW 2052, Australia

Editorial Office:

Deputy Editor: Graeme A. Chandler

Department of Mathematics,  
The University of Queensland,  
Queensland 4072, Australia.

Honorary Editor: B.H. Neumann

## ASSOCIATE EDITORS

Robert S. Anderssen	B.D. Craven	B.D. Jones	Brailey Sims
Alan L. Andrew	Brian A. Davey	N. Joshi	Ross Street
R. Bartnik	P. Donovan	G.I. Lehrer	R.P. Sullivan
Elizabeth J. Billington	J.R. Giles	K.L. McAvaney	G. Szekeres
G. Cairns	J.A. Hempel	A.G.R. McIntosh	E.U. Tarafdar
J. Clark	B.D. Hughes	Sidney A. Morris	H.B. Thompson
G.L. Cohen	G. Ivanov	M. Murray	N.S. Trudinger
John Cossey	B.R.F. Jefferies	J.H. Rubinstein	A.J. van der Poorten
	N.C. Weber		

**©Copyright Statement** Where necessary, permission to photocopy for internal or personal use or the internal or personal use of specific clients is granted by the Treasurer, Australian Mathematical Publishing Association, Inc., for libraries and other users registered with the Copyright Clearance Center (CCC), provided that the base fee of \$A2.00 per copy of article is paid directly to CCC, 21 Congress Street, Salem, MA 01970, U.S.A. Special requests should be addressed to the Treasurer, Australian Mathematical Publishing Association, Inc., School of Mathematical Sciences, ANU, Canberra ACT 0200 Australia. Serial-fee code: 0004-9727/01 \$A2.00 + 0.00.

ISSN 0004-9727

# BULLETIN

of the

AUSTRALIAN MATHEMATICAL SOCIETY

**Editor:** Michael G. Cowling

**Deputy Editor:** Graeme A. Chandler

**Honorary Editor:** B.H. Neumann

## Associate Editors

Robert S. Anderssen	B.D. Craven	B.D. Jones	Brailey Sims
Alan L. Andrew	Brian A. Davey	N. Joshi	Ross Street
R. Bartnik	P. Donovan	G.I. Lehrer	R.P. Sullivan
Elizabeth J. Billington	J.R. Giles	K.L. McAvaney	G. Szekeres
G. Cairns	J.A. Hempel	A.G.R. McIntosh	E.U. Tarafdar
J. Clark	B.D. Hughes	Sidney A. Morris	H.B. Thompson
G.L. Cohen	G. Ivanov	M. Murray	N.S. Trudinger
John Cossey	B.R.F. Jefferies	J.H. Rubinstein	A.J. van der Poorten
	N.C. Weber		

## VOLUME 63 (2001)

The Australian Mathematical Publishing Assoc. Inc.  
Department of Mathematics, ANU, ACT 0200 Australia

# Contents

HELENA ALBUQUERQUE, ALBERTO ELDUQUE AND JOSÉ MARÍA PÉREZ- IZQUIERDO, Alternative quasialgebras . . . . .	257
OSAMA ALKAM AND MEHPARE BILHAN, Class number of $(v, n, M)$ -extensions . . . . .	21
JORGE ALMEIDA AND PETER G. TROTTER, The pseudoidentity problem and reducibility for completely regular semigroups . . . . .	407
JESÚS ARAUJO AND KRZYSZTOF JAROSZ, Isometries of spaces of unbounded continuous functions . . . . .	475
ZOLTÁN BÁCSKAI, Finite irreducible monomial groups of small prime degree [A] . . . . .	347
I.N. BAKER, Dynamics of slowly growing entire functions . . . . .	367
A. BALLESTER-BOLINCHES AND S. CAMP-MORA, A Bryce and Cossey type theorem in a class of locally finite groups . . . . .	459
GIUSEPPINA BARLETTA, Parabolic equations with discontinuous nonlinearities . . . . .	219
JULIO BENÍTEZ AND VICENTE MONTESINOS, Restricted weak upper semicontinuous differentials of convex functions . . . . .	93
SHURONG BIAN, HENRYK HUDZIK AND TINGFU WANG, Smooth, very smooth and strongly smooth points in Musielak-Orlicz sequence spaces . . . . .	441
T. BIER AND A.Y.M. CHIN, On $(k, l)$ -sets in cyclic groups of odd prime order . . . . .	115
MEHPARE BILHAN <i>see</i> OSAMA ALKAM	
Y.V. BOROVSKIKH AND N.C. WEBER, Large deviation results for a $U$ -statistical sum with product kernel . . . . .	151
S. CAMP-MORA <i>see</i> A. BALLESTER-BOLINCHES	
BANG-YEN CHEN, Helgason spheres of compact symmetric spaces and immersions of finite type . . . . .	243
WING-SUM CHEUNG, Some New Poincaré-type inequalities . . . . .	321
A.Y.M. CHIN <i>see</i> T. BIER	
ALEKSANDRA ČIŽMEŠIJA AND JOSIP PEČARIĆ, Some new generalisations of inequalities of Hardy and Levin-Cochran- Lee . . . . .	105
SHAUN COOPER AND MICHAEL HIRSCHHORN, On some sum-to-product identities . . . . .	353
FILIPPO DE MARI AND KRZYSZTOF NOWAK, Analysis of the affine transformations of the time-frequency plane . . . . .	195
CHRISTIAN DOGBÉ, Diffusion approximation for a Knudsen gas in a thin domain with reflexive chaotic law . . . . .	497
ALBERTO ELDUQUE <i>see</i> HELENA ALBUQUERQUE	
EDWIN EL MAHASSNI AND IGOR SHPARLINSKI, Polynomial representations of the Diffie-Hellman mapping . . . . .	467
A.J. FRASER, An $(n + 1)$ -fold Marcinkiewicz multiplier theorem on the Heisenberg group . . . . .	35
JESÚS GARCÍA-FALSET, ENRIQUE LLORENS-FUSTER AND EVA M. MAZCUÑÁN-NAVARRO, The fixed point property and normal structure for some B-convex Banach spaces . . . . .	75
F.G. GARVAN, More cranks and $t$ -cores . . . . .	379
LESZEK GASIŃSKI AND NIKOLAOS S. PAPAGEORGIOU, An existence theorem for nonlinear hemivariational inequalities at resonance . . . . .	1
XIANG-YU GE, Integrability of strongly correlated electron systems on open chains [A] . . . . .	527
CHRIS GOOD AND A.M. MOHAMAD, A metrisation theorem for pseudocompact spaces . . . . .	101
MAHMOUD HESAARAKI AND ABDOLRAHMAN RAZANI, On the existence of Chapman-Jouguet detonation waves . . . . .	485
MICHAEL HIRSCHHORN <i>see</i> SHAUN COOPER	
HENRYK HUDZIK <i>see</i> SHURONG BIAN	
GARRY HUGHES, Codes and arrays from cocycles [A] . . . . .	349
SEUNGSU HWANG, A note on the circle actions on Einstein manifolds . . . . .	83

V. IVANCEVIC AND C.E.M. PEARCE, Poisson manifolds in generalised Hamiltonian biomechanics . . . . .	515
KRZYSZTOF JAROSZ <i>see</i> JESÚS ARAUJO	
LUISE-CHARLOTTE KAPPE, JOHN C. LENNOX AND JAMES WIEGOLD, An analogue for semigroups of a group problem of P. Erdős and B.H. Neumann . . . . .	59
A.V. KELAREV, S.J. QUINN AND R. SMOLÍKOVÁ, Power graphs and semigroups of matrices . . . . .	341
PEER CHRISTIAN KUNSTMANN, Nonuniqueness and wellposedness of abstract Cauchy problems in a Fréchet space . . . . .	123
THOMAS LAM, Graphs without cycles of even length . . . . .	435
MAREK LASSAK, Relationships between widths of a convex body and of an inscribed parallelootope . . . . .	133
JUNE BOK LEE <i>see</i> YOUNG HO PARK	
JEH GWON LEE, WEI-PING LIU, RICHARD NOWAKOWSKI AND IVAN RIVAL, Dimension invariance of subdivisions . . . . .	141
KWANKYU LEE, A counting formula about the symplectic similtude group . . . . .	15
JOHN C. LENNOX <i>see</i> LUISE-CHARLOTTE KAPPE	
WEI-PING LIU <i>see</i> JEH GWON LEE	
ENRIQUE LLORENS-FUSTER <i>see</i> JESÚS GARCÍA-FALSET	
E. MATHERON, A useful lemma concerning subseries convergence . . . . .	273
EVA M. MAZCUÑÁN-NAVARRO <i>see</i> JESÚS GARCÍA-FALSET	
WILLAM G. MCCALLUM, Brauer points on Fermat curves . . . . .	393
T.M. MILLS AND P. VÉRTESI, An extension of the Grünwald–Marcinkiewicz interpolation theorem . . . . .	299
A.M. MOHAMAD <i>see</i> CHRIS GOOD	
VICENTE MONTESINOS <i>see</i> JULIO BENÍTEZ	
KRZYSZTOF NOWAK <i>see</i> FILIPPO DE MARI	
RICHARD NOWAKOWSKI <i>see</i> JEH GWON LEE	
SHŪICHI OHNO AND RUHAN ZHAO, Weighted composition operators on the Bloch space . . . . .	177
NIKOLAOS S. PAPAGEORGIU <i>see</i> LESZEK GASIŃSKI	
YOUNG HO PARK AND JUNE BOK LEE, Permutation polynomials and group permutation polynomials . . . . .	67
C.E.M. PEARCE <i>see</i> V. IVANCEVIC	
JOSIP PEČARIĆ <i>see</i> ALEKSANDRA ČIŽMEŠIJA	
JOSÉ MARÍA PÉREZ-IZQUIERDO <i>see</i> HELENA ALBUQUERQUE	
CRIS POOR AND DAVID S. YUEN, The dyadic trace and odd weight computations for Siegel modular cusp forms . . . . .	269
S.J. QUINN <i>see</i> A.V. KELAREV	
ABDOLRAHMAN RAZANI <i>see</i> MAHMOUD HESAARAKI	
B.E. RHOADES, Finding common fixed points of nonexpansive mappings by iteration: Corrigendum . . . . .	345
IVAN RIVAL <i>see</i> JEH GWON LEE	
E.F. ROBERTSON, N. RUŠKUC AND M.R. THOMSON, On diagonal acts of monoids . . . . .	167
N. RUŠKUC <i>see</i> E.F. ROBERTSON	
CSABA SCHNEIDER, Some results on the derived series of finite $p$ -groups [A] . . . . .	351
IGOR SHPARLINSKI <i>see</i> EDWIN EL MAHASSNI	
R. SMOLÍKOVÁ <i>see</i> A.V. KELAREV	
A. SOFO, An extension of Jensen's form . . . . .	279
MILOŠ STOJAKOVIĆ, The perimeter of optimal convex lattice polygons in the sense of different metrics . . . . .	229
M.R. THOMSON <i>see</i> E.F. ROBERTSON	
PETER G. TROTTER <i>see</i> JORGE ALMEIDA	
P. VÉRTESI <i>see</i> T.M. MILLS	

A. VERONA AND M.E. VERONA, A simple proof of the sum formula . . . . .	337
M.E. VERONA <i>see</i> A. VERONA	
TINGFU WANG <i>see</i> SHURONG BIAN	
N.C. WEBER <i>see</i> Y.V. BOROVSKIKH	
JAMES WIEGOLD <i>see</i> LUISE-CHARLOTTE KAPPE	
DAVID S. YUEN <i>see</i> CRIS POOR	
RUHAN ZHAO <i>see</i> SHŪICHI OHNO	
SANMING ZHOU, Classifying a family of symmetric graphs . . . . .	329
LIU ZUHAN, Dynamics for vortex curves of the Ginzburg–Landau equations . . . . .	187

[A] Abstracts of Australasian Ph.D. theses