

BULLETIN

ISSN 0004-9727

of the AUSTRALIAN MATHEMATICAL SOCIETY

Volume 40 Number 3

December 1989

Almost complex structures on the orthogonal twistor bundle Kichoon Yang	337
Asymptotic behaviour of solutions to neutral functional differential equations Shaozhu Chen and Qingguang Huang	345
Periodic solutions of a second order nonlinear differential equation Bahman Mehri	357
On a problem of Szász Yasuyuki Hirano	363
Constructing lattice-ordered fields and division rings R.H. Redfield	365
Covers and complements in the subalgebra lattice of a Boolean algebra Ivo Düntsch	371
Stationary subspaces in ordered spaces Nobuyuki Kemoto	381
Different methods of complex interpolation Laura Servidei	389
Weighted convolutions of certain polynomials Massoud Jahangiri	397
The reducibility theorem for linearised polynomials over finite fields Stephen D. Cohen	407
Another generalisation of Smith's determinant Scott Beslin and Steve Ligh	413
Locally dyadic topological groups Joan Cleary and Sidney A. Morris	417
A note on a paper of Bowcock and Yu I.P. Stavroulakis	421
On approximation by trigonometric Lagrange interpolating polynomials T.F. Xie and S.P. Zhou	425
On the inversion of Fourier transforms Nakhilé H. Asmar and Kent G. Merryfield	429
On an extension of a theorem of Sato Lian-Zhong Yang	441
Plücker formulae for the orthogonal group Kichoon Yang	447
Calculus of variations in mean and convex Lagrangians, II Joël Blot	457
Superconvergence analysis of flux computations for nonlinear problems S.-S. Chow and R.D. Lazarov	465
A note on semi-homomorphisms of rings Y. Fong and L. van Wyk	481
A modified projection method for equations of the second kind: Corrigendum and addendum M. Thampan Nair	487
Author Index Volume 31 (1985) to 40 (1989)	497
ABSTRACTS OF AUSTRALASIAN Ph.D. THESES	
The quadratic Hermite-Padé approximation Richard G. Brookes	489
Perturbing away singularities from extrema of geometric variational problems Robert Lachlan McIntosh	491
Investigation of homeostasis and other genetical problems using variance components Glenys Ruth Bishop	493
Modelling the human erythrocyte sedimentation rate W.T. Hung	495

The Australian Mathematical Publishing Assoc. Inc., St Lucia, Queensland, 4067, Australia

Printed in Australia by Watson Ferguson & Co.

Registered by Australia Post—Publication No. QBQ2945

BULLETIN¹ OF THE AUSTRALIAN MATHEMATICAL SOCIETY

Editor: Sheila Oates-Williams

Deputy Editor: A.S. Jones

Honorary Editor: B.H. Neumann

ASSOCIATE EDITORS

Robert S. Anderssen	P. Diamond	B.D. Hughes	Sidney A. Morris
Alan L. Andrew	P.G. Dodds	G. Huisken	G.B. Preston
E.J. Billington	P. Donovan	D.C. Hunt	J.H. Rubinstein
J. Clark	J.R. Giles	B.D. Jones	Ross Street
B.D. Craven	J.R.J. Groves	P.E. Kloeden	G. Szekeres
Brian A. Davey	J.A. Hempel	K.L. McAvaney	D.G. Tacon
E.U. Tarafdar	A.J. van der Poorten	N.C. Weber	

ASSISTANT EDITORS

K.G. Smith

G.A. Chandler

Information for Authors.

The *Bulletin* of the Australian Mathematical Society aims at quick publication of original research in all branches of mathematics. Timely expository articles are also welcomed.

To ensure speedy publication, editorial decisions on acceptance or otherwise are taken quickly, normally within a month of receipt of the paper. Papers are accepted only after a careful evaluation by the Editor and an Associate Editor or other expert in the field. As even minor revisions are generally not permitted, authors should read carefully all the details listed below and on the inside back cover. For a paper to be acceptable for publication, not only should it contain new and interesting results but also

- (i) the exposition should be clear and attractive, and
- (ii) the manuscript should be in publishable form, without revision.

Authors should submit *three* clean, high quality copies to

The Editor, Bulletin of the Australian Mathematical Society,
Department of Mathematics, University of Queensland,
St. Lucia, Queensland, 4067, Australia

Unless requested at the time, material submitted to the *Bulletin* will usually not be returned. Note that each paper submitted must include an abstract and one or more classification numbers following the 1980 Mathematics Subject Classification. (1985 Revision)

Abstracts of Ph.D. Theses..

The *Bulletin* endeavours to publish abstracts of all accepted Australasian Ph.D. theses in mathematics. One restriction, however, is that the abstract must be received by the Editor within 6 months of the degree being approved.

¹ © 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 uses 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., c/- Department of Mathematics, University of Queensland, St. Lucia, Qld., 4067, Australia. Serial-fee code: 0004-9727/88 \$A2.00 + 0.00.

ISSN 0004-9727

BULLETIN

of the

Australian Mathematical Society

Editor: Sheila Oates-Williams

Deputy Editor: A. S. Jones

Honorary Editor: B. H. Neumann

Associate Editors

Robert S. Anderssen

Alan L. Andrew

E. J. Billington

J. Clark

B. D. Craven

Brian A. Davey

P. Diamond

Peter G. Dodds

P. Donovan

J. R. Giles

J.R.J. Groves

J. A. Hempel

B. D. Hughes

G. Huisken

D. C. Hunt

B. D. Jones

P. E. Kloeden

K. L. McAvaney

Sidney A. Morris

G. B. Preston

J. H. Rubenstein

Ross Street

G. Szekeres

D. G. Tacon

E. U. Tarafdar A. J. van der Poorten N. C. Weber

Assistant Editors

K. G. Smith

G. A. Chandler

VOLUME 40 (1989)

The Australian Mathematical Publishing Assoc. Inc.
St Lucia, Queensland, 4067, Australia

Contents

SAHL FADUL ALBAR, Non commutative convolution measure algebras with no proper L -ideals ..	13
NAKHLÉ H. ASMAR and KENT G. MERRYFIELD, On the inversion of Fourier transforms	429
MOHAMMED ALI BASHIR, Chen's problem on mixed foliate CR -submanifolds	157
GILBERT BAUMSLAG and PETER B. SHALEN, Groups whose three-generator subgroups are free ..	163
SCOTT BESLIN and STEVE LIGH, Another generalisation of Smith's determinant	413
GLENYS RUTH BISHOP, Investigation of homeostasis and other genetical problems using variance components with application to human family data [A]	493
D. BLESSENOHL and H. LAUE, On Witt's dimension formula for free Lie algebras and a theorem of Klyachko	49
JOËL BLOT, Calculus of variations in mean and convex Lagrangians, II	457
RICHARD G. BROOKES, The quadratic Hermite-Padé approximation [A]	489
R. G. BURNS and LIAN PI, Generators for the bounded automorphisms of infinite-rank free nilpotent groups	175
SHAOZHU CHEN and QUINGGUANG HUANG, Asymptotic behaviour of solutions to neutral functional differential equations	345
S. S. CHOW and R. D. LAZAROV, Superconvergence analysis of flux computations for nonlinear problems	465
JOHN CLARK, A note on the fixed subring of an FPF ring	109
JOAN CLEARY and SIDNEY A. MORRIS, Locally dyadic topological groups	417
STEPHEN D. COHEN, The reducibility theorem for linearised polynomials over finite fields	407
E. N. DANCER, Degenerate critical points, homotopy indices and morse inequalities III	97
S. DE SARKAR and S. PANDA, Generalised Hölderian functions	147
VLASTIMIL DLAB, The hereditary measure of an algebra	189
DAVID E. DOBBS, Nearly integral homomorphisms of commutative rings	1
IVO DÜNTSCH, Covers and complements in the subalgebra lattice of a Boolean algebra	371
TREVOR EVANS, Embedding and representation theorems for clones and varieties	199
Y. FONG and L. VAN WYK, A note on semi-homomorphisms of rings	481
M. K. GHOŚH <i>see</i> M. MAITI	
C. K. GUPTA and FRANK LEVIN, Automorphisms of nilpotent-by-abelian groups	207
N. D. GUPTA and M. F. NEWMAN, Third Engel groups	215
T. E. HALL, Identities for existence varieties of regular semigroups	59
GRAHAM HIGMAN, Some groups all of whose proper verbal quotients are relatively free	231
YASUYUKI HIRANO, On a problem of Szász	363
QUINGGUANG HUANG <i>see</i> SHAOZHU CHEN	
W. T. HUNG, Modelling the human erythrocyte sedimentation rate [A]	495
ROBERT J. HURSEY, On nilpotent and polycyclic groups	119
MASSOUD JAHANGIRI, Weighted convolutions of certain polynomials	397
J. A. JARAMILLO, An example on composite differentiable functions in infinite dimensions	91
D. L. JOHNSON and A. C. KIM, Free Fibonacci algebras	235
NOBUYUKI KEMOTO, A note on connected submetaLindelöf spaces	83
NOBUYUKI KEMOTO, Stationary subspaces in ordered spaces	381
A. C. KIM <i>see</i> D. L. JOHNSON	

P. S. KIM and A. H. RHEMTULLA, Permutable word products in groups	243
L. G. KOVÁCS, Wreath decompositions of finite permutation groups	255
R. D. LAZAROV <i>see</i> S.-S. CHOW	
H. LAUE <i>see</i> D. BLESSENOHL	
E. LEVIN <i>see</i> C. K. GUPTA	
STEVE LIGH <i>see</i> SCOTT BESLIN	
M. MAITI and M. K. GHOSH, Approximating fixed points by Ishikawa iterates	113
ROBERT LACHLAN McINTOSH, Perturbing away singularities from extrema of geometric variational problems [A]	491
M. MECKY and J. NEUBUSER, Some remarks on the computation of conjugacy classes of soluble groups	281
BAHMAN MEHRI, Periodic solutions of a second order nonlinear differential equation	357
KENT G. MERRYFIELD <i>see</i> NAKHLÉ H. ASMAR	
SIDNEY A. MORRIS <i>see</i> JOAN CLEARY	
M. THAMBAN NAIR, A modified projection method for equations of the second kind: Corrigendum and addendum	487
MITSUHIRO NAKAO, Decay estimates for some nonlinear second order ordinary differential equations ..	25
J. NEUBUSER <i>see</i> M. MECKY	
PETER M. NEUMANN, On the date of Cauchy's contributions to the founding of the theory of groups ..	293
WALTER D. NEUMANN, On bilinear forms represented by trees	303
M. F. NEWMAN <i>see</i> N. D. GUPTA	
S. PANDA <i>see</i> S. DE SARKAR	
LIAN PI <i>see</i> R. G. BURNS	
FRANK P. PROKOP, Convergence in neighbourhood lattices	129
R. H. REDFIELD, Constructing lattice-ordered fields and division rings	365
A. H. RHEMTULLA <i>see</i> P. S. KIM	
SALEM M. A. SAHAB, Bounded measurable simultaneous monotone approximation	37
LAURA SERVIDEI, Different methods of complex interpolation	389
PETER B. SHALEN <i>see</i> GILBERT BAUMSLAG	
I. P. STAVROULAKIS, A note on a paper of Bowcock and Yu	421
A. G. R. STEWART and JAMES WIEGOLD, Growth sequences of finitely generated groups II	323
CHARLES SWARTZ, A generalisation of Mackey's theorem and the uniform boundedness principle ..	123
L. VAN WYK <i>see</i> Y. FONG	
R. F. C. WALTERS, Data types in distributive categories	79
JAMES WIEGOLD <i>see</i> A. G. R. STEWART	
JAMES WIEGOLD, On some groups with trivial multiplier	331
T. F. XIE and S. P. ZHOU, On approximation by trigonometric Lagrange interpolating polynomials ..	425
SADAYUKI YAMAMURO, Homomorphisms on an orthogonally decomposable Hilbert space V	333
KICHOON YANG, Almost complex structures on the orthogonal twister bundle	337
KINCHOON YANG, Plücker formulae for the orthogonal group	447
LIAN-ZHONG YANG, On an extension of a theorem of Sato	441
S. P. ZHOU <i>see</i> T. F. XIE	

[A] Abstracts of Australasian Ph.D. theses