INDEX

AL-ALI, S., HOCKING, G. C. and FARROW, D. E.; Critical surface coning due to a line sink in a vertical drain containing a porous medium 249
ALLWRIGHT, E. J., FORBES, L. K. and WALTERS, S. J.; Axisymmetric plumes in viscous fluids 119
AMARAL, L. R. and PAPANICOLAOU, A.; Price impact of large orders using Hawkes processes 161
AMINIFARD, Z. and BABAIE-KAFAKI, S.; Matrix analyses on the Dai–Liao conjugate gradient method 195
ANDERSSEN, R. S.; see LOY, R. J. 416
BABAIE-KAFAKI, S.; see AMINIFARD, Z. 195
BROOK, B. S.; see HOLDEN, E. C. 368
BUNDER, J. E.; see EDSON, R. A. 270
CAI, W.; see CUI, J. 204
CHAPMAN, S. J.; see HOLDEN, E. C. 368
CHARKHGARD, H. and ESHRAGH, A.; A new approach to select the best subset of predictors in linear regression modelling: bi-objective mixed integer linear programming 64
CHOWDHURY, D.; see DEBSARMA, S. 233
CONSTANTINOU, N.; see IBRAHIM, S. N. I. 382
CUI, J., CAI, W., JIANG, C. and WANG, Y.; A new linear and conservative finite difference scheme for the Gross–Pitaevskii equation with angular momentum rotation 204
DANET, C.-P.; Existence and uniqueness of weak and classical solutions for a fourth-order semilinear boundary value problem 305
DEBSARMA, S. and CHOWDHURY, D.; Evolution of a pair of random inhomogeneous wave systems over infinite-depth water 233
DÍAZ-HERNÁNDEZ, A.; see IBRAHIM, S. N. I. 382
EDSON, R. A., BUNDER, J. E., MATTNER, T. W. and ROBERTS, A. J.; Lyapunov exponents of the Kuramoto–Sivashinsky PDE 270
ESHRAGH, A.; see CHARKHGARD, H. 64
FACKRELL, M., LI, C., TAYLOR, P. G. and WANG, J.; The value of communication and cooperation when servers are strategic 349
FARROW, D. E.; see AL-ALI, S. 249
FORBES, L. K.; see ALLWRIGHT, E. J. 119
FORBES, L. K.; see WALTERS, S. J. 286
FOSS, A. J. E.; see STEWART, P. S. 320
HARDING, B.; A Rayleigh–Ritz method for Navier–Stokes flow through curved ducts 1
HE, X.-J. and LIN, S.; A semi-analytical pricing formula for European options under the rough Heston-CIR model 431

https://doi.org/10.1017/S1446181118000378 Published online by Cambridge University Press

HOCKING, G. C.; see AL-ALI, S. 249
HOLDEN, E. C., CHAPMAN, S. J., BROOK, B. S. and O'DEA, R. D.; A multiphase multiscale model for nutrient-limited tissue growth, part II: a simplified description 368
IBRAHIM, S. N. I., DÍAZ-HERNÁNDEZ, A., O'HARA, J. G. and CONSTANTINOU, N.; Pricing holder-extendable call options with mean-reverting stochastic volatility 382
JIANG, C.; see CUI, J. 204
LAMICHHANE, B. P., LINDSTROM, S. B. and SIMS, B.; Application of projection algorithms to differential equations: boundary value problems 23
LI, C.; see FACKRELL, M. 349
LI, L. and MI, H.; Optimal investment and consumption with stochastic factor and delay 99
LI, T. and WAN, Z.; New adaptive Barzilai–Borwein step size and its application in solving large-scale optimization problems 76
LIN, S.; see HE, X.-J. 431
LINDSTROM, S. B.; see LAMICHHANE, B. P. 23
LOY, R. J. and ANDERSSEN, R. S.; Approximation of and by completely monotone functions 416
MANAM, S. R.; see SIVANESAN, M. 47
MATTNER, T. W.; see EDSON, R. A. 270
MI, H.; see LI, L. 99
MUNGKASI, S. and ROBERTS, S. G.; Numerical entropy production as smoothness indicator for shallow water equations 398
O'DEA, R. D.; see HOLDEN, E. C. 368
O'HARA, J. G.; see IBRAHIM, S. N. I. 382
PAPANICOLAOU, A.; see AMARAL, L. R. 161
ROBERTS, A. J.; see EDSON, R. A. 270
ROBERTS, S. G.; see MUNGKASI, S. 398
SÁNDOR, B., TORMA, P., SZABÓ, K. G. and ZHANG, H.; On the topography-driven vorticity production in shallow lakes 148
SIMS, B.; see LAMICHHANE, B. P. 23
SIVANESAN, M. and MANAM, S. R.; Water wave scattering by a vertical porous barrier with two gaps 47
STEWART, P. S. and FOSS, A. J. E.; Self-excited oscillations in a collapsible channel with applications to retinal venous pulsation 320
SZABÓ, K. G.; see SÁNDOR, B. 148
TAYLOR, P. G.; see FACKRELL, M. 349
TORMA, P.; see SÁNDOR, B. 148
WALTERS, S. J.; see ALLWRIGHT, E. J. 119
WALTERS, S. J. and FORBES, L. K.; Fully 3D Rayleigh–Taylor instability in a Boussinesq fluid 286

https://doi.org/10.1017/S1446181118000378 Published online by Cambridge University Press

WAN, Z.; see LI, T. 76
WANG, J.; see FACKRELL, M. 349
WANG, Y.; see CUI, J. 204
ZHANG, H.; see SÁNDOR, B. 148

https://doi.org/10.1017/S1446181118000378 Published online by Cambridge University Press

PREPARATION OF MANUSCRIPTS

The ANZIAM Journal is typeset in LaTeX. Style files are available from `http://www.austms.org.au/Publ/ANZIAM/authorinfo.shtml`.

The manuscript should conform to the following rules. In case of any doubt, authors are advised to refer to previous papers in the Journal.

1. Abstract, title and author details. An abstract not exceeding 300 words should be included in the manuscript. If the title is long, supply also a shortened form of the title not exceeding 40 characters, including spaces. Addresses should be shown under the authors name, including e-mail address if available.

2. Main headings. Main headings should be numbered, centred and shown thus:

2. Preliminary results

3. Theorems. The titles LEMMA, THEOREM, COROLLARY, REMARK, DEFINITION *etc*. should be left-justified and numbered consecutively with arabic numerals, *e.g.*
LEMMA 1.1. The content of the lemma, theorem *etc*. should follow, as here.

4. Acknowledgements. If acknowledgements of support and assistance are made, these should be given at the end of the article. Footnotes should be avoided.

5. Equations. Equations should be punctuated to conform to their place in the syntax of the sentence. Equation numbers should be shown on the right in round brackets.

6. References. The reference list should be in ALPHABETICAL ORDER by name of first author, preceded by a reference number in square brackets. These references should be cited in the text by giving the appropriate number in square brackets. The following layout for books, journal articles, theses, articles in books, and conference proceedings respectively, must be followed.

[1] M. Abramowitz and I. A. Stegun (eds), *Handbook of mathematical functions* (Dover, New York, 1970).

[2] S. N. Biswas and T. S. Santhanam, "Coherent states of para-Bose oscillators", *J. Austral. Math. Soc. Ser. B* **22** (1980) 210–217.

[3] F. H. Busse, "On the mean field problem of thermal convection", *Max-Plank Inst. Phys. Astrophys. Rep. MPI-PAE/Astro* **31** (1970) 1–31.

[4] E. M. Casling, "Slender planing surfaces", Ph. D. Thesis, University of Adelaide, 1978.

[5] R. H. Day, "Adaptive process and economic theory", in *Adaptive economic models* (eds R. H. Day and T. Groves), (Academic Press, New York, 1975) 1–38.

[6] J. W. Miles, "Resonant response of harbors (the harbor paradox revisited)", *Proc. 8th Symp. Naval Hydro.* (1970) 95–115.

7. Tables. Each should be preceded by a caption beginning: TABLE 1 (or 2, 3, *etc*.)

8. Figures. Each figure should have a caption beginning: FIGURE 1 (or 2, 3, *etc*.).

Authors should provide diagrams drawn to professional standards in the form of encapsulated Postscript files. Other forms of diagrams drawn to professional standard may be acceptable, however this may also necessitate a payment from the author(s) to cover additional cost involved in processing them.

https://doi.org/10.1017/S1446181118000378 Published online by Cambridge University Press

SUBMISSION OF MANUSCRIPTS

Prior to submission authors are asked to read the section "Preparation of Manuscripts" on the previous page.

Authors of articles submitted for publication in The ANZIAM Journal are asked to ensure that their manuscripts are in a form suitable for sending to the printer. Editors reserve the right to return poorly presented material to authors for revision.

The author should submit a pdf file if possible to the Online Journal System. Follow the instructions at `http://anziamj.austms.org.au/ojs/index.php/ANZIAMJ/user/register`.

It will speed up processing of accepted papers if a LaTeX version of the manuscript is available. It is not necessary to send such a file with the submitted paper. This will be requested if the paper is accepted.

Authors of accepted papers will be provided with a complimentary electronic version of their paper as published.

Excessive costs incurred by the Australian Mathematical Society through corrections to or withdrawal of articles may be charged to the authors concerned.

Submission of a paper to The ANZIAM Journal is a representation by the author that the manuscript has not been copyrighted or published, and that it is not being considered for publication elsewhere.

THE ANZIAM JOURNAL AND THE ELECTRONIC SUPPLEMENT

The Journal of the Australian Mathematical Society began publication in 1959, and from 1975 appeared in two series, Series A (Pure Mathematics and Statistics) and Series B (Applied Mathematics). Series B is now The ANZIAM Journal and is published in volumes comprising four quarterly parts. There is also a fifth (electronic) part designed for rapid publication (`http://anziamj.austms.org.au/ojs/index.php/ANZIAMJ`). The Editor-in-Chief is A. J. Roberts, School of Mathematical Sciences, The University of Adelaide, ADELAIDE, SA 5005; `anthony.roberts@adelaide.edu.au`. All five parts are refereed. All accepted papers have the option of publication in the electronic part.

It is the editorial policy of The ANZIAM Journal to consider papers in any field of applied mathematics and related mathematical sciences. Novel applications of mathematics in real situations are especially welcome. All papers must include some indication of applicability, and an introduction that can be understood by non-specialist readers from the whole applied mathematical community.

https://doi.org/10.1017/S1446181118000378 Published online by Cambridge University Press

The new home of
Cambridge Journals

cambridge.org/core

Cambridge **Core**

CAMBRIDGE
UNIVERSITY PRESS

https://doi.org/10.1017/S1446181118000378 Published online by Cambridge University Press

Mathematics

Books and Journals from Cambridge University Press

Cambridge is a world leading publisher in pure and applied mathematics, with an extensive programme of high quality books and journals that reaches into every corner of the subject.

Our catalogue reflects not only the breadth of mathematics but also its depth, with titles for undergraduate students, for graduate students, for researchers and for users of mathematics.

We are proud to include world class researchers and influential educators amongst our authors, and also to publish in partnership with leading mathematical societies.

For further details visit:
cambridge.org/core-mathematics

Cambridge Core

CAMBRIDGE UNIVERSITY PRESS

https://doi.org/10.1017/S1446181118000378 Published online by Cambridge University Press

THE AUSTRALIAN MATHEMATICAL SOCIETY

President:	J. RAMAGGE	School of Mathematics and Statistics University of Sydney NSW 2006, Australia
Secretary:	D. C. JACKSON	Department of Mathematics and Statistics La Trobe University Bundoora, VIC 3086, Australia
Treasurer:	A. HOWE	Department of Mathematics Mathematical Sciences Institute The Australian National University Canberra, ACT 0200, Australia

Membership and correspondence: Applications for membership, notices of changes of address or title or position, members' subscriptions and correspondence related to accounts should be sent to the Treasurer. All other correspondence should be sent to the Secretary.

Subscriptions: Four parts are planned for 2019. Subscription prices for 2019 are £380 ($697 in USA, Canada and Mexico) which includes print and electronic access. The electronic-only access price for 2019 is £309 ($562 in USA, Canada and Mexico). Single parts cost £109 ($201 in USA, Canada and Mexico). Prices include delivery by air where appropriate. EU subscribers who are not registered for VAT should add VAT at their country's rate. VAT registered subscribers should provide their VAT registration number. Orders, which must be accompanied by payment, should be sent to a subscription agent, book-seller, or direct to the publishers: Cambridge University Press, University Printing House, Shaftesbury Road, Cambridge CB2 8BS or, in the USA, Canada and Mexico, Cambridge University Press, Journals Fulfilment Department, 1 Liberty Plaza, Floor 20, New York, NY 10006, USA. Japanese prices are available from Kinokuniya Company Ltd, PO Box 55, Chitose Tokyo 156, Japan. Periodicals postage is paid at New York, NY and additional mailing offices. POSTMASTER: send address changes in USA, Canada and Mexico to *The ANZIAM JOURNAL*, Cambridge University Press, Journals Fulfilment Department, 1 Liberty Plaza, Floor 20, New York, NY 10006, USA.

This journal is included in the Cambridge Journals Online service. Further information, and online access for subscribers, is available at http://journals.cambridge.org/anz.

Copying: This journal is registered with the Copyright Clearance Centre, 222 Rosewood Drive, Danvers, MA 01923, USA. Organizations in the USA who are registered with the CCC may therefore copy materials beyond the limits permitted by sections 107 and 108 of US copyright law subject to payment to CCC of the per-copy fee of $16.00. This consent does not extend to multiple copying for promotional and commercial purposes. Code 1446-1811/2019 $16.00.

Organizations authorized by the Copyright Licensing Agency may also copy material subject to the usual conditions. For all other use, permission should be sought from Cambridge or the American branch of Cambridge University Press.

Published by Cambridge University Press for the Australian Mathematical Publishing Association Incorporated. Printed in the United Kingdom at Bell & Bain Ltd, Glasgow.

© 2020 Australian Mathematical Publishing Association Inc.

MIX
Paper from responsible sources
FSC® C007785

This journal issue has been printed on FSC-certified paper and cover board. FSC is an independent, non-governmental, not-for-profit organization established to promote the responsible management of the world's forests. Please see www.fsc.org for information.

https://doi.org/10.1017/S1446181118000378 Published online by Cambridge University Press

Table of Contents

The value of communication and cooperation when servers are strategic
Fackrell, M., Li, C., Taylor, P. G. & Wang, J. **349**

A multiphase multiscale model for nutrient-limited tissue growth, part II: a simplified description
Holden, E. C., Chapman, S. J., Brook, B. S. & O'Dea, R. D. **368**

Pricing holder-extendable call options with mean-reverting stochastic volatility
Ibrahim, S. N. I., Díaz-Hernández, A., O'Hara, J. G. & Constantinou, N. **382**

Numerical entropy production as smoothness indicator for shallow water equations
Mungkasi, S. & Roberts, S. G. **398**

Approximation of and by completely monotone functions
Loy, R. J. & Anderssen, R. S. **416**

A semi-analytical pricing formula for European options under the rough Heston-CIR model
He, X.-J. & Lin, S. **431**

Author Index **446**

Cambridge Core
For further information about this journal please go to the journal website at:
cambridge.org/anz

Aust MS Australian Mathematical Society Inc.

CAMBRIDGE UNIVERSITY PRESS

https://doi.org/10.1017/S1446181118000378 Published online by Cambridge University Press