## AUTHOR INDEX FOR VOLUME 97

ALI, MD F., THOMAS, D. K. and VASUDEVARAO, A.; Toeplitz determinants whose elements are the coefficients of analytic and univalent functions ..... 253
ALIABADI, M.; A note on the fundamental theorem of algebra ..... 382
BALLESTER-BOLINCHES, A. and PEDRAZA-AGUILERA, M. C.; On a theorem of Kang and Liu on factorised groups ..... 54
BHIM, L.; Polynomial bounds for solutions to boundary value and obstacle problems with applications to financial derivative pricing ..... 174
BREMNER, A.; On perfect $K$-rational cuboids ..... 26
BRZDEK, J.; see EL-FASSI, IZ. ..... 459
CAIN, B. E.; Improved inequalities for the numerical radius: when inverse commutes with the norm ..... 293
CHEN, S. L. and PONNUSAMY, S.; Landau's theorem for solutions of the $\bar{\partial}$ - equation in Dirichlet-type spaces ..... 80
CHEN, X. and LEWIS, M. L.; Itô's theorem and monomial Brauer characters II ..... 215
CHMAJ, A.; Existence of travelling waves in the fractional Burgers equation ..... 102
CHOI, C.-K.; Stability of an exponential-monomial functional equation ..... 471
CRINGANU, J.; Inequalities associated with ratios of gamma functions ..... 453
CROOKS, P.; An equivariant description of certain holomorphic symplectic varieties ..... 207
DE GIOVANNI, F. and RUSSO, A.; Groups of finite normal length ..... 229
DE MATTOS, D.; see MORITA, A. M. M. ..... 340
DEVHARE, S., JOSHI, V. and LAGRANGE, J.; On the complement of the zero-divisor graph of a partially ordered set ..... 185
DEY, P.; Nonlinear thermomagnetic instabilities in ferromagnetic nanofluids ..... 523
DOUBTSOV, E.; Integral means of holomorphic functions as generic log- convex weights ..... 88
EL-FASSI, IZ. and BRZDĘK, J.; On the hyperstability of a pexiderised $\sigma$-quadratic functional equation on semigroups ..... 459
FERREIRA, L. A.; Finitely stable additive bases ..... 360
GABRIYELYAN, S. S. and MORRIS, S. A.; Subspaces of the free topological vector space on the unit interval ..... 110
GHODSI, M.; Nonstandard estimation for the von Mises Fisher distribution ..... 520
GLOGIĆ, E.; see MILOVANOVIĆ, I. ..... 1
GRANTHAM, A.; Mathematical tools for maximising renewable energy use in electricity supply ..... 163
GUNAWAN, H., HAKIM, D. I., NAKAI, E. and SAWANO, Y.; The Hardy and Heisenberg inequalities in Morrey spaces ..... 480
GUO, W.; see ZHAO, G. ..... 499
HA, L. K.; $L^{p}$-approximation of holomorphic functions on a class of convex domains ..... 446
HAKIM, D. I.; see GUNAWAN, H. ..... 480
HASSANI, S.; Optimality conditions for nonsmooth optimisation problems via generalised derivatives ..... 171
HONG, S. A.; see LIN, Z. B. ..... 15
HORBACZEWSKA, G. and LINDNER, S.; Density, Smital property and quasicontinuity ..... 246
HOYTE, R. A.; Generalisations of the Doyen-Wilson theorem ..... 166
HU, B., HUANG, J. and SKIBA, A. N.; A generalisation of finite $P T$-groups ..... 396
HU, X., ZHANG, Y.-Q. and ZHANG, Y.-B.; Quadrilateral-tree planar Ramsey numbers ..... 194
HUANG, J.; see HU, B. ..... 396
HUJDUROVIĆ, A.; On some properties of quasi-distance-balanced graphs ..... 177
HULL, M. and KAPOVICH, I.; Counting conjugacy classes in $\operatorname{Out}\left(F_{N}\right)$ ..... 412
HUSSAIN, M. and WANG, W.; Two-dimensional shrinking target problem in beta-dynamical systems ..... 33
JIA, W. and TAN, D.; Wigner's theorem in $\mathcal{L}^{\infty}(\Gamma)$-type spaces ..... 279
JOHNSTON, S. T.; Mathematical models for quantifying collective cell behaviour ..... 349
JONES, L. and PHILLIPS, T.; An infinite family of ninth degree dihedral polynomials ..... 47
JOSHI, V.; see DEVHARE, S. ..... 185
JUNG, I. B., KO, E. and PEARCY, C.; Almost invariant half-spaces for operators on Hilbert space ..... 133
KADETS, V. and ZAVARZINA, O.; Nonexpansive bijections to the unit ball of the $\ell_{1}$-sum of strictly convex Banach spaces ..... 285
KAPOVICH, I.; see HULL, M. ..... 412
KAZARIN, L. S., MARTÍNEZ-PASTOR, A. and PÉREZ-RAMOS, M. D.; Finite trifactorised groups and $\pi$-decomposability ..... 218
KO, E.; see JUNG, I. B. ..... 133
KOWALCZYK, B., LECKO, A. and SIM, Y. J.; The sharp bound for the Hankel determinant of the third kind for convex functions ..... 435
LAGRANGE, J.; see DEVHARE, S. ..... 185
LAHIRI, I.; An entire function sharing two values with its linear differential polynomial ..... 265
LAY, J. P. S.; Improving an inequality for the divisor function ..... 374
LAZAAR, S., RICHMOND, T. and SABRI, H.; Homogeneous functionally Alexandroff spaces ..... 331
LE, Q. T.; Alexander polynomials of complex projective plane curves ..... 386
LECKO, A.; see KOWALCZYK, B. ..... 435
LEWIS, M. L.; see CHEN, X. ..... 215
LI, J.-W. and TANG, M.; Partitions of the set of nonnegative integers with the same representation functions ..... 200
LI, Y., LU, Y. and YU, T.; The essential norms of composition operators on weighted Dirichlet spaces ..... 297
LIN, Z. B. and HONG, S. A.; More on a certain arithmetical determinant ..... 15
LINDNER, S.; see HORBACZEWSKA, G. ..... 246
LORANTY, A. and PAWLAK, R. J.; On functions attracting positive entropy ..... 69
LU, Y.; see LI, Y. ..... 297
LUCA, F., POLANCO, G. and ZUDILIN, W.; A variation on the theme of Nicomachus ..... 367
LUZIA, N.; A simple proof of the strong law of large numbers with rates ..... 513
MACOURT, S.; Visible points on exponential curves ..... 353
MAHMOODI, A.; $\varphi$-contractibility and $\varphi$-Connes amenability coincide with some older notions ..... 274
MAHMOUDI, M. G.; Products of rotations by a given angle in the orthogonal group ..... 308
MARTÍNEZ-PASTOR, A.; see KAZARIN, L. S. ..... 218
MATEJIĆ, M.; see MILOVANOVIĆ, I. ..... 1
MENG, Q.; Weak Haagerup property of $W^{*}$-crossed products ..... 119
MILOVANOVIĆ, E.; see MILOVANOVIĆ, I. ..... 1
MILOVANOVIĆ, I., MATEJIĆ, M., GLOGIĆ, E. and MILOVANOVIĆ, E.; Some new lower bounds for the Kirchhoff index of a graph ..... 1
MOHAPATRA, M. R. and SAHOO, S. K.; Mapping properties of a scale invariant Cassinian metric and a Gromov hyperbolic metric ..... 141
MONTAGANTIRUD, P. and THAIKUA, W.; Continuity on generalised topological spaces via hereditary classes ..... 320
MORALES, C. A., THIEULLEN, P. and VILLAVICENCIO, H.; Lyapunov exponents on metric spaces ..... 153
MORITA, A. M. M., DE MATTOS, D. and PERGHER, P. L. Q.; The cohomology ring of orbit spaces of free $\mathbb{Z}_{2}$-actions on some Dold manifolds ..... 340
MORRIS, S. A.; see GABRIYELYAN, S. S. ..... 110
NAKAI, E.; see GUNAWAN, H. ..... 480
O'NEILL, C. and PELAYO, R.; Realisable sets of catenary degrees of numerical monoids ..... 240
PANDEY, P. P.; The $3 k-4$ theorem for ordered groups ..... 43
PASQUIER, B.; The ocean's global iron, phosphorus and silicon cycles: inverse modelling and novel diagnostics ..... 518
PAWLAK, R. J.; see LORANTY, A. ..... 69
PEARCY, C.; see JUNG, I. B. ..... 133
PEDRAZA-AGUILERA, M. C.; see BALLESTER-BOLINCHES, A. ..... 54
PELAYO, R.; see O'NEILL, C. ..... 240
PÉREZ-RAMOS, M. D.; see KAZARIN, L. S. ..... 218
PERGHER, P. L. Q.; see MORITA, A. M. M. ..... 340
PHILLIPS, T.; see JONES, L. ..... 47
POLANCO, G.; see LUCA, F. ..... 367
PONNUSAMY, S.; see CHEN, S. L. ..... 80
QIAN, G.; see YANG, Y. ..... 406
RAEBURN, I.; On graded $C^{*}$-algebras ..... 127
RICHMOND, T.; see LAZAAR, S. ..... 331
RUSSO, A.; see DE GIOVANNI, F. ..... 229
SABRI, H.; see LAZAAR, S. ..... 331
SAHOO, S. K.; see MOHAPATRA, M. R. ..... 141
SAPIR, O.; Lee monoids are nonfinitely based while the sets of their isoterms are finitely based ..... 422
SAWANO, Y.; see GUNAWAN, H. ..... 480
SIM, Y. J.; see KOWALCZYK, B. ..... 435
SKAŁBA, M.; Note on Lehmer-Pierce sequences with the same prime divisors ..... 11
SKIBA, A. N.; see HU, B. ..... 396
TAN, D.; see JIA, W. ..... 279
TANG, M.; see LI, J.-W. ..... 200
TANG, M.; see WANG, W. ..... 363
THAIKUA, W.; see MONTAGANTIRUD, P. ..... 320
THIEULLEN, P.; see MORALES, C. A. ..... 153
THOMAS, D. K.; see ALI, MD F. ..... 253
TOWNSEND, K. D.; Classification of reflection subgroups minimally containing $p$-Sylow subgroups ..... 57
TSARTSAFLIS, I.; Cohomology of filiform Lie algebras over fields of characteristic two ..... 168
VASUDEVARAO, A.; see ALI, MD F. ..... 253
VILLAVICENCIO, H.; see MORALES, C. A. ..... 153
VIROSZTEK, D.; Applications of an intersection formula to dual cones ..... 94
WANG, W.; see HUSSAIN, M. ..... 33
WANG, W. and TANG, M.; A note on the Erdős-Graham theorem ..... 363
YANG, Y. and QIAN, G.; On p-parts of conjugacy class sizes of finite groups ..... 406
YANG, Y. and ZHANG, D.; Deforming a convex domain into a disk by Klain's cyclic rearrangement ..... 313
YU, T.; see LI, Y. ..... 297
YU, X.; see ZHAO, G. ..... 499
ZAVARZINA, O.; see KADETS, V. ..... 285
ZHANG, D.; see YANG, Y. ..... 313
ZHANG, Y.-B.; see HU, X. ..... 194
ZHANG, Y. H.; A remark on the tracial Rokhlin property ..... 492
ZHANG, Y.-Q.; see HU, X. ..... 194
ZHAO, G., GUO, W. and YU, X.; Fractional integral operators on $\alpha$-modulation spaces in the full range ..... 499
ZUDILIN, W.; see LUCA, F. ..... 367

## InFORMATION FOR AUTHORS

The Bulletin of the Australian Mathematical Society aims at quick publication of original research in all branches of mathematics. To ensure speedy publication, only articles which are sufficiently well presented, able to be published without revision, and which are judged by the Editor (often in consultation with an Associate Editor) to be competitive are refereed. This policy is in the interests of authors, as a quick rejection is better than a slow rejection. The Bulletin receives more than five times the material that can be published, therefore there are many commendable papers not accepted. Editorial decisions on acceptance or otherwise are taken quickly, normally within a month of receipt of the paper. Papers are accepted only after peer review.

Manuscripts are accepted for review with the understanding that the same work is not concurrently submitted elsewhere. 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.

Further information regarding these requirements may be found through our website www.austms.org.au/Bulletin. Authors are asked to avoid, as far as possible, the use of mathematical symbols in the title.

Articles should be prepared in ${ }^{\mathrm{E}} \mathrm{T}_{\mathrm{E}} \mathrm{X}$ using $\mathcal{A}_{\mathcal{S}} \mathcal{S}$-ETT E X packages and submitted as a PDF file via our journal management system, at www.austms.org.au/Publications/Submissions/BAustMS. This permits authors to track their papers through the editorial process. Recent versions of $\mathrm{T}_{\mathrm{E}} \mathrm{X}$ are able to produce PDF files directly. A IATEX class file for the Bulletin can be downloaded from the website. Authors who need assistance may email the secretary of the Bulletin at editor@bulletin.austms.org.au.

Authors are advised to keep copies of all files of the submitted article; the Bulletin will not accept responsibility for any loss.

## Editorial Policy

1. References. Arrange references alphabetically (by surname of the first author) and cite them numerically in the text. Ensure the accuracy of the references: authors' names should appear as in the work quoted. Include in the list of references only those works cited, and avoid citing works which are in preparation or submitted. Where the work cited is not readily accessible (for example, a preprint) a copy of the article should be included with your submission.

## 2. Abstracts.

1. Each paper must include an abstract of not more than 150 words, which should contain a brief but informative summary of the contents of the paper, but no inessential details.
2. The abstract should be self-contained, but may refer to the title.
3. Specific references (by number) to a section, proposition, equation or bibliographical item should be avoided.
4. Subject Classification and Key Words. Authors should include a few key words and phrases and one or more classification numbers, following the American Mathematical Society 2010 Mathematics Subject Classification for all codes. Details of this scheme can be found on the web at www.ams.org $/ \mathrm{msc}$.
5. Abstracts of PhD Theses. The Bulletin endeavours to publish abstracts of all accepted Australasian PhD theses in mathematics. One restriction, however, is that the abstract must be received by the Editor within six months of the degree being approved.

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

## Table of Contents

Visible points on exponential curves
Macourt, S. ..... 353
Finitely stable additive bases
Ferreira, L. A. ..... 360
A note on the Erdós-Graham theorem
Wang, W. © Tang, M. ..... 363
A variation on the theme of Nicomachus
Luca, F., Polanco, G. © Zudilin, W. ..... 367
Improving an inequality for the divisor function Lay, 7. P. S. ..... 374
A note on the fundamental theorem of algebra Aliabadi, M. ..... 382
Alexander polynomials of complex projective plane curves
Lê, O. T. ..... 386
A generalisation of finite $\boldsymbol{P T}$-groups
Hu, B., Huang, 7. © Skiba, A. N. ..... 396
On $\boldsymbol{p}$-parts of conjugacy class sizes of finite groups Yang, $r$. © Qian, $G$. ..... 406
Counting conjugacy classes in $\operatorname{Out}\left(F_{N}\right)$Hull, M. © Kapovich, I.412
Lee monoids are nonfinitely based while the sets of their isoterms are finitely based Sapi, 0 . ..... 422
The sharp bound for the Hankel determinant of the third kind for convex functions Kowalczyk, B., Lecko, A. © Sim, Y. F. ..... 435
$L^{p}$-approximation of holomorphic functions on a class of convex domains Ha, L. K. ..... 446
Inequalities associated with ratios of gamma functions Cringanu, 7 . ..... 453
On the hyperstability of a pexiderised $\sigma$-quadratic functional equation on semigroups
EL-Fassi, Iz. © Brzdek, 7 . ..... 459
Stability of an exponential-monomial functional equation Choi, C.-K. ..... 471
The Hardy and Heisenberg inequalities in Morrey spaces
Gunawan, H., Hakim, D. I., Nakai, E. © Sawano, Y. ..... 480
A remark on the tracial Rokhlin property
Zhang, r. H. ..... 492
Fractional integral operators on $\alpha$-modulation spaces in the full range Zhao, G., Guo, W. © Yu, X. ..... 499
A simple proof of the strong law of large numbers with rates
Luzia, N. ..... 513
Abstracts of PhD ThesesThe ocean's global iron, phosphorus and silicon cycles: inverse modelling and noveldiagnosticsPasquier, B.518
Nonstandard estimation for the von Mises Fisher distribution
Ghodsi, M. ..... 520
Nonlinear thermomagnetic instabilities in ferromagnetic nanofluids
Dey, P. ..... 523
Author Index for Volume 97 ..... 525

