

## INDEX

ALEXANDROU, M. and STÖHR, R.; Free centre-by-nilpotent-by-abelian Lie rings of rank 2	63
BEN AMOR, F.; Comment on ‘Positively homogeneous lattice homomorphisms between Riesz spaces need not be linear’	444
CAIN, A. J. and MALTCEV, V.; Growths of endomorphisms of finitely generated semigroups	163
CAO, C.-Y.; see ZHANG, Z.-L.	435
CARLSON, J. F. and WEBB, P.; The graded center of a triangulated category	74
CHEN, X. and QUE, Y.; Quasiconformal extensions of harmonic mappings with a complex parameter	307
DETINKO, A. S. and FLANNERY, D. L.; L. G. Kovács and linear groups	55
DOLFI, S., PACIFICI, E. and SANUS, L.; Nonvanishing elements for Brauer characters	96
EICK, B. and GREEN, D. J.; Cochain sequences and the Quillen category of a coclass family	185
ERDMANN, K.; Ext-finite modules for weakly symmetric algebras with radical cube zero	108
ERDMANN, K.; Correction to ‘Ext-finite modules for weakly symmetric algebras with radical cube zero’	161
FLANNERY, D.; see GLASBY, S. P.	1
FLANNERY, D. L.; see DETINKO, A. S.	55
GLASBY, S. P., FLANNERY, D., PRAEGER, C. E. and STÖHR, R.; Editorial to this special issue in memory of Laci Kovács	1
GLASBY, S. P., LÜBECK, F., NIEMEYER, A. C. and PRAEGER, C. E.; Primitive prime divisors and the $n$ th cyclotomic polynomial	122
GREEN, D. J.; see EICK, B.	185
GROVES, J. R. J.; L. G. Kovács and varieties of groups	43
HADIAN, M. and WEIDNER, M.; On Selmer rank parity of twists	316
HUANG, H.-Y.; see LONG, B.-Y.	331
IZUCHI, K. H.; see IZUCHI, K. J.	205
IZUCHI, K. J., IZUCHI, K. H. and IZUCHI, Y.; Splitting invariant subspaces in the Hardy space over the bidisk	205
IZUCHI, Y.; see IZUCHI, K. J.	205
JOHNSON, M.; L. G. Kovács’ work on Lie powers	9
KALISZEWSKI, S., OMLAND, T. and QUIGG, J.; Dualities for maximal coactions	224
KAR, R.; see RAGHAVENDRA, V.	392
KIM, B. and LOVEJOY, J.; Partial indefinite theta identities	255
KOVÁCS, L. G.; Letter: The permutation lemma of Richard Brauer	159
LEECH, J. and SPINKS, M.; Varieties of skew Boolean algebras with intersections	290

LONG, B.-Y. and HUANG, H.-Y.; Radii of harmonic mappings in the plane	331
LOVEJOY, J.; see KIM, B.	255
LÜBECK, F.; see GLASBY, S. P.	122
MALTCEV, V.; see CAIN, A. J.	163
MORGAN, A.; Cuntz–Pimsner algebras associated to tensor products of $C^*$ -correspondences	348
NEWMAN, M. F. (MIKE); Obituary: László (Laci) György Kovács 1936–2013	3
NEUMANN, PETER M., PRAEGER, CHERYL E. and SMITH, SIMON M.; Some infinite permutation groups and related finite linear groups	136
NIEMEYER, A. C.; see GLASBY, S. P.	122
OMLAND, T.; see KALISZEWSKI, S.	224
PACIFICI, E.; see DOLFI, S.	96
PANDEY, S. K. and PAULSEN, V. I.; A spectral characterization of $\mathcal{AN}$ operators	369
PAULSEN, V. I.; see PANDEY, S. K.	369
PRAEGER, C. E.; see GLASBY, S. P.	1
PRAEGER, C. E.; see GLASBY, S. P.	122
PRAEGER, C. E. and SCHNEIDER, C.; The contribution of L. G. Kovács to the theory of permutation groups	20
PRAEGER, CHERYL E.; see NEUMANN, PETER M.	136
QUE, Y.; see CHEN, X.	307
QUIGG, J.; see KALISZEWSKI, S.	224
RAGHAVENDRA, V. and KAR, R.; Existence of a weak solution for a class of fractional Laplacian equations	392
ROBINSON, G. R.; The work of L. G. Kovács on representation theory	34
SANUS, L.; see DOLFI, S.	96
SCHNEIDER, C.; see PRAEGER, C. E.	20
SMITH, SIMON M.; see NEUMANN, PETER M.	136
SPINKS, M.; see LEECH, J.	290
STÖHR, R.; see ALEXANDROU, M.	63
STÖHR, R.; see GLASBY, S. P.	1
TOUMI, M. A.; Reply to comment ‘Positively homogenous lattice homomorphisms between Riesz spaces need not be linear’	446
WARD, A. D.; On the variational constant associated to the $L_p$ -Hardy inequality	405
WEBB, P.; see CARLSON, J. F.	74
WEIDNER, M.; see HADIAN, M.	316
WILSON, J. S.; The first-order theory of branch groups	150
YAO, G.; Nondecreasable and weakly nondecreasable dilatations	420
ZHANG, Z.-L. and CAO, C.-Y.; On points with positive density of the digit sequence in infinite iterated function systems	435

# 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](http://cambridge.org/core-mathematics)

Cambridge  
Core



CAMBRIDGE  
UNIVERSITY PRESS

*cotg u*

# JOURNAL OF THE AUSTRALIAN MATHEMATICAL SOCIETY

Submission of research papers in all areas of pure mathematics including theoretical contributions in fields such as probability, mathematical physics and mathematical statistics are invited under the condition that the paper has not been published and is not being considered for publication anywhere else. The Journal is seeking articles of more general interest and of moderate length, preferring papers with a good introduction explaining the meaning and value of results. Articles below ten pages or much above thirty pages will usually not be accepted. In view of the pressure on space, only papers highly rated by assessors can be accepted.

For information on submission of papers, and to submit a paper, see the journal's submission system: <http://mc.manuscriptcentral.com/jaz>.

## PREPARATION OF MANUSCRIPTS

1. Papers should be double spaced and have a generous margin. Authors should keep copies of all files.

2. Files must be prepared using  $\text{\LaTeX}$  or another variant of  $\text{\TeX}$ , and must not contain definitions of additional commands. A JAustMS style file can be found at: <https://mc.manuscriptcentral.com/jaz>. In the top right corner click on 'Instructions & Forms'. A ScholarOne Manuscripts box will open. Click on LaTeX Style Files and `jaustms.zip` will be sent to your downloads on your computer.

3. Each manuscript should include an abstract of no more than 150 words, preferably containing no formulae, a list of keywords, a 2010 Mathematics subject classification, and a short title of no more than 40 characters.

4. For the style of references consult recent issues of the journal. The current usage is either the number referencing [1], [2], [3], or the letter referencing, such as [DS1], [DS2], [DS3] if the authors are N. Dunford and J. T. Schwartz, and the reference is to the 3 volumes of their monograph. In either style, references should be ordered alphabetically by the first author's name. Abbreviations of journal names should follow Mathematical Reviews.

5. Avoid abbreviations such as Thm., Prop., Eq., Ex., iff. In the text do not use the symbols  $\forall$ ,  $\exists$ ,  $\implies$  and  $\iff$ . For more information about our stylistic requirements, see the Journal website accessible through [www.austms.org.au](http://www.austms.org.au).

6. Graphics should be prepared to professional standards, preferably using Postscript or  $\text{\LaTeX}$  drawing facilities. Charges may apply if the typesetters have to recreate a graphics file because the original is not suitable for printing.

**Copying:** This journal is registered with the Copyright Clearance Center, 222 Rosewood Drive, Danvers, MA 01923, USA. Organizations in the USA who are registered with the CCC may therefore copy material 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 1446-7887/2017 \$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.

© 2017 Australian Mathematical Publishing Association Inc.



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](http://www.fsc.org) for information.

# Table of Contents

---

<b>Quasiconformal extensions of harmonic mappings with a complex parameter</b> <i>Chen, X. &amp; Que, Y.</i>	307
<b>On Selmer rank parity of twists</b> <i>Hadian, M. &amp; Weidner, M.</i>	316
<b>Radii of harmonic mappings in the plane</b> <i>Long, B.-Y. &amp; Huang, H.-Y.</i>	331
<b>Cuntz–Pimsner algebras associated to tensor products of <math>C^*</math>-correspondences</b> <i>Morgan, A.</i>	348
<b>A spectral characterization of <math>\mathcal{AN}</math> operators</b> <i>Pandey, S. K. &amp; Paulsen, V. I.</i>	369
<b>Existence of a weak solution for a class of fractional Laplacian equations</b> <i>Raghavendra, V. &amp; Kar, R.</i>	392
<b>On the variational constant associated to the <math>L_p</math>-Hardy inequality</b> <i>Ward, A. D.</i>	405
<b>Nondecreasable and weakly nondecreasable dilations</b> <i>Yao, G.</i>	420
<b>On points with positive density of the digit sequence in infinite iterated function systems</b> <i>Zhang, Z.-L. &amp; Cao, C.-Y.</i>	435
<b>Comment on ‘Positively homogeneous lattice homomorphisms between Riesz spaces need not be linear’</b> <i>Ben Amor, F.</i>	444
<b>Reply to comment ‘Positively homogenous lattice homomorphisms between Riesz spaces need not be linear’</b> <i>Toumi, M. A.</i>	446
<b>Author index</b>	448