The Glasgow Mathematical Journal is the continuation of the Proceedings of the Glasgow Mathematical Association. It was founded in 1952 by the late Professor T. M. MacRobert and published with the support of the University Court of the University of Glasgow. The present name was adopted in 1967 and since 1987 the Journal has been owned by the Glasgow Mathematical Journal Trust, an independent charitable trust (Scottish Charity Number SC006017).

# **Editorial Policy**

The Glasgow Mathematical Journal publishes original research papers in any branch of Pure or Applied Mathematics. Its policy is to feature a wide variety of research areas and it welcomes the submission of papers from all parts of the world. Selection for publication is on the basis of reports from specialist referees commissioned by the Subject Editors or Editor-in-Chief.

#### Submission of Manuscripts

The journal uses an online submission and refereeing system operated by ScholarOne Manuscripts. Details on how to submit a paper may be found at http://mc.manuscriptcentral.com/gmj.

When submitting a paper you will be asked to nominate a subject editor. The current subject editors and their areas of interest are as follows:

## SUBJECT EDITORS:

Algebra Professor R. Marsh Analysis Dr. V. Moroz Algebra Professor V. Mazorchuk Analysis Professor S Pott Algebra Professor S.J. Pride Differential Geometry Professor R. Bielawski Algebraic Geometry Dr. G. Brown Mathematical Physics Dr. O. Chalvkh Dr A.J. Baker Number Theory Dr. T. Dokchitser Algebraic Topology Dr. M. Daws Analysis

You should choose a subject editor closest to your field. Alternatively you may nominate the Editor-in-Chief, Prof. I.A.B.Strachan, who will assign a Subject Editor to deal with your submission.

During the submission process you will be asked to confirm that the paper is not being considered for publication elsewhere.

The Journal encourages the use of .pdf files. LaTeX and Postscript as well as other formats can be uploaded but these will be converted into .pdf format. Note that .dvi files <u>cannot</u> be converted. Care should be taken with this option, especially if non-standard macros are being used, and the .pdf version the system produces should be carefully checked before final submission.

The submission of hard copies of paper is discouraged. However if it is not possible for you to use the online system paper may be sent directly to: The Editorial Office, Glasgow Mathematical Journal, University of Glasgow, School of Mathematics and Statistics, University Gardens, Glasgow G12 80W, UK in hardcopy or on a 3.5 disk or by e-mail to: gmj@maths.gla.ac.uk. Most electronic formats, including .tex source with .dvi or .ps files, are acceptable. In the case of a hardcopy submission two copies should be sent. All submissions should be accompanied by the author's address, telephone and fax number, together with (if possible) an e-mail address. Upon acceptance of a paper, the author will be asked to transfer copyright to the Glasgow Mathematical Journal Trust.

# Layout of manuscripts

Papers should be typed or word-processed in double spacing throughout, with wide margins and on one side of the paper. They should be prepared so as to conform to the practice in current issues of the Journal as regards general layout, references, tables and figures. Please avoid footnotes if possible. Papers must begin with an abstract of not more than 200 words, and they should list at least one AMS 2010 classification number or keyword. This information is also required before your manuscript can be uploaded. Instructions regarding unusual symbols or any typographical point that might cause confusion should be provided on a separate sheet. These may be uploaded as separate files. If special fonts are used, they should conform to the Journal's practice. Authors are reminded that they should retain a copy of anything submitted for publication since neither the Journal nor the publisher can accept liability for any loss.

# Illustrations

Text figures must be suitable for direct photographic reproduction and supplied separate from the text but allocated clearly to sections of the text. Low resolution version may be uploaded at submission as separate files. Originals of figures should not be sent until the paper has been accepted. A list of captions for figures should be attached separately.

# References

References should be placed at the end of the paper, arranged and numbered in alphabetical order of the author's names. Titles of journals should be abbreviated as in Mathematical Reviews. In the text, reference numbers should be enclosed in square brackets to distinguish them from formula numbers which should be quoted in round brackets. A reference to a book should give the author, title (in italics), edition, publisher, year of publication; e.g.

[1] P. T. Johnstone, Stone Spaces, Cambridge Studies in Advanced Math. no. 3 (Cambridge University Press, 1982).

A reference to an article should give the author, title of article, short title of periodical (in italics), series number (if any), volume number, year, and the beginning and end pages of the paper; e.g.

[2] R. Guralnick, T. Pentilla, C. E. Praeger and J. Saxl, Finite linear groups, Proc. London Math. Soc. (3) 78 (1999), 167-214.

# **Proofreading**

Prior to publication sets of proofs of each paper will be sent to authors. For papers with more than one author the proofs are sent to the first named author unless the Editors receive other instructions. Authors are asked to correct and return proofs promptly. Typographical or factual errors only may be changed at proof stage. The publisher reserves the right to charge authors for excessive corrections of nontypographical errors. No page charge is made.

# **Offprints**

No paper offprints are provided, but the corresponding author will be sent the pdf of the published article. Print offprints may be purchased at extra cost at proof stage.

## Grants

The Glasgow Mathematical Journal Trust Fund offers grants in support of mathematical projects and events of demonstrable benefit to mathematics in Scotland. Further details and application forms can be obtained from the Business Manager or from the World Wide Web at www.maths.gla.ac.uk/gmj/gmj-trust/.

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.

Printed in the UK by MPG Books Ltd.

# Glasgow Mathematical Journal

Volume 55 Part 1 January 2013

# **CONTENTS**

vensneng Cao, Algebraic convergence theorems of complex Kiefnian groups	- 1
Coy L. May and Jay Zimmerman, The symmetric genus of 2-groups	9
Alvaro Nolla De Celis, G-graphs and special representations for binary dihedral groups in $gl(2,\mathbb{C})$	23
tergio Estrada and Pedro A. Guil Asensio, Pure-injectives relative to a cotorsion pair: applications	59
avad Mashreghi and Mahmood Shabankhah, Composition operators on finite rank model	
subspaces	69
cean Sather-Wagstaff, Embedding modules of finite homological dimension	85
<b>1. P. Harvey,</b> Minor arc moments of weyl sums	97
<b>Gangdong Yang,</b> Exponential polynomial approximation of weighted banach space on $\mathbb{R}^n$	115
Amalendu Ghosh, Ricci solitons and contact metric manifolds	123
<b>Validimit S. Matveev and Stefan Rosemann,</b> Two remarks on $pq^{\epsilon}$ -projectivity of riemannian	
metrics	131
C. S. Kubrusly and B. P. Duggal, On weyl's theorem for tensor products	139
Thomas Hüttemann and David Quinn, Finite domination and novikov rings. Iterative approach	145
Peter Jørgensen and David Pauksztello, The co-stability manifold of a triangulated category	161
Shmuel Zelikson, On crystal operators in lusztig's parametrizations and string cone defining	
inequalities	177
A. L. Agore, Coquasitriangular structures for extensions of hopf algebras. Applications	201
adahiro Maeda, Toshiaki Adachi and Young Ho Kim, Characterisations of geodesic hyper-	
spheres in a non-flat complex space form	217
Kei Ji Izuchi, Kou Hei Izuchi and Yuko Izuchi, Sums of weighted composition operators on cop	229

Cambridge Journals Online

For further information about this journal please go to the journal website at: journals.cambridge.org/gmj



MIX
Paper from
responsible sources
FSC\* C018575

