

**JOURNAL
of the
AUSTRALIAN MATHEMATICAL SOCIETY**

**Volume 73 Part 1
AUGUST 2002**

ADAM LECKO

On the class of functions convex in the negative direction of the imaginary axis

1

DAYA K. NAGAR and
ARJUN K. GUPTA

Matrix-variate Kummer-Beta distribution

11

THOMAS HOOVER,
IL BONG JUNG and
ALAN LAMBERT

Moment sequences and backward extensions of subnormal weighted shifts

27

GUOWEI CHEN,
YONGBIN WU and
XINAN YANG

The number of limit cycles for a class of quintic Hamiltonian systems under quintic perturbations

37

R. M. BRYANT and
A. N. KRASIL'NIKOV

Metanilpotent varieties of groups

55

CHRISTOPHER PARKER
and PETER ROWLEY

Irreducible subgroups of symplectic groups in characteristic 2

85

M. KHOSHKAM and
J. TAVAKOLI

Categorical constructions in C^ -algebra theory*

97

DRAGAN S. DJORDJEVIĆ
and YIMIN WEI

Additive results for the generalized Drazin inverse

115

GEORGE GEORGESCU and
LAURENȚIU LEUȘTEAN

Some classes of pseudo-BL algebras

127

Formerly

Journal of the Australian Mathematical Society
(Series A — Pure Mathematics and Statistics)

JOURNAL OF THE AUSTRALIAN MATHEMATICAL SOCIETY

Journal of the Australian Mathematical Society	1959–1974
Journal of the Australian Mathematical Society (Series A — Pure Mathematics and Statistics)	1975–2000

Information about other publications of the Australian Mathematical Society may be found on the inside back cover.

Submission of research papers in pure mathematics and statistics is invited. Authors intending to submit papers for publication should prepare the manuscript following the instructions below, and should send two complete copies to the Editor, or to an appropriate Associate Editor (see back cover of this issue).

Two volumes of three parts each are planned for 2002. These are Volume 72 and Volume 73. The annual subscription price to non-members is A\$425.70 (US\$310) for 2002.

PREPARATION OF MANUSCRIPTS

Manuscripts submitted to this journal will be considered for publication with the understanding that the same work has not been published and is not under consideration for publication elsewhere.

1. The article should be typed, printed or photocopied on high quality bond paper of either A4, quarto or US letter size, on one side only, with double spacing, and with a generous margin (at least 3cm) all around.

2. The author should keep a complete copy of the submitted article as well as any electronic source; the Society will not accept responsibility for any loss.

3. Authors are encouraged to prepare their papers in LATEX; further information on preparation of manuscripts is available on the Journal's web page at <http://www.ms.unimelb.edu.au/~jams>. Other forms of electronic source will usually also be useful.

4. Each manuscript should include (i) an abstract of not more than 150 words, preferably containing no formulae, and certainly containing no complicated formulae and no references, (ii) a 2000 Mathematics subject classification, (iii) if the title is long, a shortened form of it, no more than forty characters in length, including spaces.

5. Two alternative styles for references and quotations are described below. Authors are requested to use one and only one style consistently throughout their manuscript.

STYLE 1. A typical reference in the list of references would be

[3] T. M. Cherry, 'Infinite linear systems with homogeneous kernel of degree -1', *J. Austral. Math. Soc.* **5** (1965), 129–168.

A corresponding reference in the text would be: Cherry [3]; or ([3,4,9]); or Cherry [3, Theorem 1].

STYLE 2. A typical reference in the list of references would be

[GBP] G. B. Preston, 'Monogenic inverse semigroups', *J. Austral. Math. Soc.* **40** (1986), 321–342.

A corresponding reference in the text would be: Preston [GBP]; or ([GBP, KG, GHL]); or Preston [GBP, Proposition 1].

In either style, the list of references should be in alphabetical order of surnames of first authors. Abbreviations for journal names should follow the practice of Mathematical Reviews.

6. Explain clearly what symbols are to be set in special typefaces (such as cursive, fraktur, script, bold) where this is not clear from the manuscript or electronic source.

7. Avoid abbreviations, such as Thm., Prop., Ex., iff, i.e., e.g., \forall , \exists , \Rightarrow , and \Leftrightarrow .

8. Authors should provide diagrams drawn to professional standards. Diagrams in the form of encapsulated Postscript files, or similar, may be acceptable; the quality, however, should be similar to that obtained by a professional artist.

Journal of the Australian Mathematical Society, is published bimonthly by the Australian Mathematical Society, c/- Mathematics Department, Australian National University, Canberra, ACT 0200, Australia. Send address change notices to Dr A. Howe, Australian Mathematical Society, c/- Mathematics Department, Australian National University, Canberra, ACT 0200, Australia.

JOURNAL
of the
AUSTRALIAN MATHEMATICAL SOCIETY

Volume 73 2002