

# JOURNAL of the AUSTRALIAN MATHEMATICAL SOCIETY

Series A — Pure Mathematics and Statistics

Volume 31 Part 4  
DECEMBER 1981

GRAHAM J. LOGAN	<i>Cocompactness in algebra and topology . . . . .</i>	385
R. B. J. T. ALLENBY	<i>The solutions to two problems on permutational products . . . . .</i>	390
C. C. EDWARDS and MARLOW ANDERSON	<i>Lattice properties of the symmetric weakly inverse semi-group on a totally ordered set . . . . .</i>	395
J. CHABROWSKI and B. THOMPSON	<i>On the behaviour near the boundary of solutions of a semi-linear partial differential equation of elliptic type . . . . .</i>	405
F. PASTIJN	<i>Division theorems for inverse and pseudo-inverse semi-groups . . . . .</i>	415
VINCENT J. MANCUSO	<i>Almost locally connected spaces . . . . .</i>	421
A. MEIR and J. W. MOON	<i>Terminal path numbers for certain families of trees . . . . .</i>	429
A. C. WOODS	<i>The asymmetric product of three inhomogeneous linear forms . . . . .</i>	439
TUDOR ZAMFIRESCU	<i>Intersections of tangent convex curves . . . . .</i>	456
JOHN C. LENNOX and JAMES WIEGOLD	<i>Extensions of a problem of Paul Erdős on groups . . . . .</i>	459
ROLF BRANDL	<i>Finite varieties and groups with Sylow <math>p</math>-subgroups of low class . . . . .</i>	464
MIKIO NIIMURA	<i>Boundary behavior of meromorphic functions along Green's lines . . . . .</i>	470
D. R. STINSON	<i>The spectrum of skew Room squares . . . . .</i>	475
D. E. DAYKIN, P. FRANKL, C. GREENE and A. J. W. HILTON	<i>A generalization of Sperner's theorem . . . . .</i>	481
A. K. HOLZHERR	<i>Discrete groups whose multiplier representations are type I . . . . .</i>	486
A. BULSMA and P. L. CUSOUW	<i>Degree-free bounds for dependence relations . . . . .</i>	496
B. G. BASMAJI	<i>On characters of height zero . . . . .</i>	508
	<i>Index . . . . .</i>	511

## THE JOURNAL

The Journal of the Australian Mathematical Society began publication in 1959, and from 1975 has appeared in two series, Series A (Pure Mathematics and Statistics) and Series B (Applied Mathematics). Information about Series B may be found on the inside back cover.

### Series A, Pure Mathematics and Statistics

Submission of research papers in pure mathematics and mathematical statistics is invited. Authors intending to submit papers for publication should prepare the typescript 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 1982. These are Volume 32 and Volume 33. The annual subscription price to non-members will be A\$54 per volume.

### SUBMISSION OF TYPESCRIPTS

Two copies of mathematical papers intended for publication in the JOURNAL (Series A) should be addressed to one of the editors. Editors and the subjects associated with them follow:

### PREPARATION OF TYPESCRIPTS

1. The author should keep a complete copy of the submitted article; the Society will not accept responsibility for any loss. Two copies of the typescript should be submitted.

2. Each typescript 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 1980 Mathematics subject classification (Amer. Math. Soc.); the classification scheme is described in Mathematical Reviews, Index to Volume 56 (1978), (iii) if the title is long, a shortened form of it, no more than forty characters in length, including spaces.

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

4. The conventions of *A manual for authors of mathematical papers* published by the American Mathematical Society should be observed. Two alternative styles for references and quotations are described below. Authors are requested to use one and only one style consistently throughout their typescript.

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

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

A corresponding reference in the text would be: Cherry (1965), p. 155.

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

[3] L. Grüşchen, 'Pseudo-quasi-ergodic theorems', *J. Austral. Math. Soc.* 4 (1960), 2–3.

A corresponding reference in the text would be: Grüşchen [3], or ([3], [4], [9]), or Grüşchen ([2, 3]).

In either style, the list of references should be in alphabetical order of surnames of first authors.

5. Explain clearly what symbols are to be set in special typefaces (such as cursive, fraktur, script, bold) and what is required with any unusual symbols (which should wherever possible be chosen from symbols available to the printer). This is best done by supplying a separate page entitled "Notes to the Composer" in which conventions and requirements are fully set out, and by drawing attention to particular symbols at their first appearance in the typescript. The Notes to the Composer should include a list of all symbols and foreign letters used in the article. Be careful to distinguish between similar symbols, such as  $v$ ,  $\nu$ ,  $\surd$ ,  $k$ ,  $\kappa$ ,  $K$ ,  $l$ ,  $l$ ,  $1$ ,  $e$ ,  $\phi$  ( $\phi$ ),  $\emptyset$  (empty set),  $\epsilon$  ( $\epsilon$ ),  $\in$  (membership), and so on. Normally 0 will be set as zero; if  $o$  or  $O$  is required, then show this. Distinguish between inequalities  $<$ ,  $>$  and angular brackets  $\langle$ ,  $\rangle$ .

*Journal of the Australian Mathematical Society, Series A—Pure Mathematics and Statistics*, is published bimonthly by the Australian Mathematical Society, Department of Mathematics, University of Queensland, St. Lucia, Qld. 4067, Australia. Second class postage is paid at Ann Arbor, Michigan 48106. Postmaster: Send address change notices to Dr V. G. Hart, Journal of the Australian Mathematical Society, Department of Mathematics, University of Queensland, St. Lucia, Qld. 4067, Australia.