Papers to be considered for publication should be sent to the Publications Secretary, The Royal Society of Edinburgh, 22 George Street, Edinburgh EH2 2PQ, Scotland.

A paper by more than one author must be submitted with a statement, signed by each author, to the effect that the paper in its entirety is approved by the joint authors and naming the author who will be responsible for correspondence with the Society.

Authors will receive fifty (50) offprints free of charge, this number to be shared between joint authors. Additional offprints may be obtained, in units of fifty, at a fixed scale of prices given on a form which will be attached to the proof.

In view of the high cost of publication, authors must prepare their papers as concisely as possible. Manuscripts should be submitted in triplicate and preferably should be typewritten on one side of A4 paper, double spaced with adequate margins. Authors are advised to retain a copy of their papers as the Society cannot accept responsibility for any loss.

Every paper must be accompanied by a Synopsis, in general not exceeding two hundred words, which will be printed in small type at the beginning of the paper.

References within the text should be indicated by bold numbers in square brackets, e.g. [2] or [3, p. 167]. For style of references at end of text, see recent issues of *Proceedings A*.

Authors should ensure that punctuation carries through the mathematics in the proper manner. The use of hyphens should be consistent. In the text avoid such abbreviations as: iff, w.r.t., a.e., \forall , \exists , and thm.

Footnotes should be avoided. Headings should not be underlined. Every effort should be made to avoid complicated subscripts, superscripts, ranges of summation and integration. Horizontal fraction signs should normally be avoided: use either solidus signs / or negative exponents. Replace $e^{(...)}$ by $\exp[\ldots]$ if the expression in parenthesis is complicated. Simple formulae should *not* be displayed unless they require a formula number. Use the prime ' or d/dx, but preferably not a dot, to denote ordinary differentiation. If possible use subscripts to denote partial differentiation of $\partial/\partial x$ etc. Bars reaching over several letters should be avoided: use $\sqrt{()}$ or the exponent 1/2 for the square root. Sub-subscripts and super-superscripts should be avoided if possible: bars and other devices over indices cannot be supplied.

Note that confusion very often arises between 1 (one) and l (ell): 0 (zero) and O (Capital oh): \circ (composition) and o (lower case oh): x and $\times : U$ and $\cup : c$ and $\subseteq : \in$ (belongs to) and ϵ (epsilon): \emptyset (empty set) and ϕ (phi): 1 and comma .: prime ' and ¹: K and $\kappa : p$ and $\rho : w$ and $\omega : \Sigma$ (summation) and Σ (capital sigma): \prod (product) and \prod (capital pi): v (lower case vee) and v (Greek *nu*): a (lower case a) and α (Greek alpha): y (lower case y) and γ (Greek gamma). Please provide pencilled indicators in the margin where necessary. Where capitals and lower case of the same shape have to be printed, please indicate accordingly. Show italics by single underlining (except in the formulae which are set up normally in italics), bold face/Clarendon by wavy underlining and Greek by red underlining.

The statement of theorems, lemmas, et cetera, will be printed in italics and should be underlined. In definitions key words only should be in italics.

Equations should be indicated by numbers in parentheses in the right-hand margin.

Proofs of papers will be sent to the author. The cost of *authors' corrections in excess* of five per cent of the printers' charge for the setting of a particular paper will be charged to the author.

Copyright

© 1988 The Royal Society of Edinburgh and the authors of individual papers.

It is the policy of the Royal Society of Edinburgh not to charge any royalty for the production of a single copy of any one article made for private study or research. Requests for the copying or reprinting of any article for any other purpose should be sent to the Royal Society of Edinburgh, 22/24 George Street, Edinburgh EH2 2PQ

PROCEEDINGS OF THE ROYAL SOCIETY OF EDINBURGH (Section A)

(Section A)	
Volume 109 1988 P	arts 1/2
CONTENTS	
BRYCE MCLEOD and KEVIN MCLEOD	
The critical Sobolev exponent in two dimensions	1
MASAFUMI OKUMURA and HIROSHI TAKAHASHI Non-immersibility of a space form as a totally umbilical hypersurface	17
J. F. TOLAND	17
Existence and uniqueness of heteroclinic orbits for the equation $\lambda u''' + u' = f(u)$	n 23
Alberto Elduque	
Lattice isomorphisms of Malcev algebras	37
R. TAHRAOUI Théorèmes d'existence en calcul des variations et applications l'élasticité non linéaire	à 51
Tang Qi	
Almost-everywhere injectivity in nonlinear elasticity	79
L. E. LABUSCHAGNE On the instability of non-semi-Fredholm closed operators under compact perturbations with applications to ordinary differentiat operators	
PETER A. CLARKSON	
Painlevé analysis of the damped, driven nonlinear Schrödinge equation	er 109
 F. FIEDLER Oscillation criteria of Nehari-type for Sturm-Liouville operators an elliptic differential operators of second order and the lower spectrum PH. CLÉMENT, O. DIEKMANN, M. GYLLENBERG, H. J. A. M. HEIJMANS an 	127
H. R. THIEME	
Perturbation theory for dual semigroups II. Time-depender perturbations in the sun-reflexive case	nt 145
D. B. HINTON, M. KLAUS and J. K. SHAW Levinson's theorem and Titchmarsh-Weyl $m(\lambda)$ theory for Dira	c 173
systems MARC CARBONELL and JAUME LLIBRE	175
Limit cycles of a class of polynomial systems	187

ISSN 0308-2105

Proc. Roy. Soc. Edinb., A. 109

Published by The Royal Society of Edinburgh 22 George Street, Edinburgh EH2 2PQ

https://doi.org/10.1017/503082 Printed in Wightherin The famblidge The Universities Press (Belfast) Ltd.