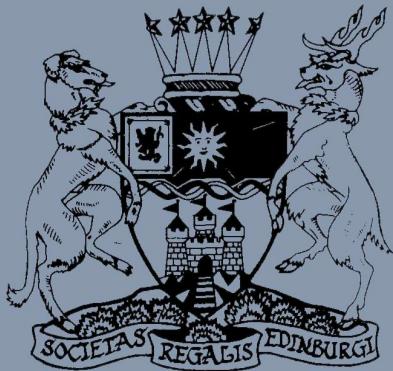


PEAMDU 115 (1–192) 1990

Volume 115: Parts 1/2

THE ROYAL SOCIETY OF EDINBURGH



PROCEEDINGS

Section A (Mathematics)

ISSN 0308-2105

PUBLISHED BY THE ROYAL SOCIETY OF EDINBURGH
22 GEORGE STREET, EDINBURGH, EH2 2PQ

1990

EDITORIAL BOARD

Executive Editors

J. M. BALL

Heriot-Watt University

A. M. DAVIE

University of Edinburgh

J. R. HUBBUCK

University of Aberdeen

M. F. ATIYAH

University of Oxford

J. CARR

Heriot-Watt University

R. FLETCHER

University of Dundee

T. A. GILLESPIE

University of Edinburgh

J. M. HOWIE

University of St Andrews

C. D. WATERSTON

General Secretary

Royal Society of Edinburgh

T. J. LYONS

University of Edinburgh

R. W. OGDEN

University of Glasgow

O. PENROSE

Heriot-Watt University

J. R. RINGROSE

University of Newcastle
upon Tyne

B. D. SLEEMAN

University of Dundee

W. DUNCAN

Executive Secretary

Royal Society of Edinburgh

Consulting Editors

H. BREZIS

Université de Paris VI

C. M. DAFLEROS

Brown University,
Providence, RI, USA

R. G. DOUGLAS

State University of New York at
Stony Brook, USA

L. E. FRAENKEL

University of Bath

M. GIAQUINTA

Università degli
Studi di Firenze

J. K. HALE

Georgia Institute of Technology,
USA

K. KIRCHGASSNER

Universität Stuttgart

ROBERT V. KOHN

New York University

P. L. LIONS

Université de Paris IX

O. A. OLEINIK

Moscow State University,
USSR

A. YU. OLSHANSKII

Moscow State University,
USSR

D. S. PASSMAN

University of Wisconsin-
Madison

W. G. STRANG

Massachusetts Institute of
Technology, Cambridge, USA

C. A. STUART

École Polytechnique Fédérale
de Lausanne

L. TARTAR

Carnegie-Mellon University,
Pittsburgh, USA

J. TOLAND

University of Bath

N. S. TRUDINGER

Australian National University,
Canberra, Australia

G. Q. ZHANG

Peking University, Beijing

W. A. ZHENG

Northwestern University, USA

Publications Manager, Royal Society of Edinburgh: T. G. Dart

The Royal Society of Edinburgh Proceedings Section A Mathematics is published every two months by the Royal Society of Edinburgh. Subscription price is \$285.00 for six issues (3 volumes). Second Class postage pending at Rahway N.J., Postmaster send address corrections to *The Royal Society of Edinburgh Proceedings Section A Mathematics*, c/o Mercury Airfreight International Ltd Inc., 2323 Randolph Avenue, Avenel, New Jersey 07001, U.S.A.