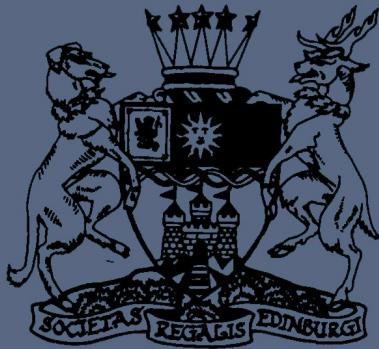


Volume 127 Part 6 (1997) pages 1113–1330

ISSN 0308-2105

# THE ROYAL SOCIETY OF EDINBURGH



## PROCEEDINGS SECTION A MATHEMATICS

PUBLISHED BY THE RSE SCOTLAND FOUNDATION  
22 GEORGE STREET, EDINBURGH EH2 2PQ

## EDITORIAL BOARD

### Executive Editors

**E. G. REES** (Chairman)  
University of Edinburgh

**J. M. BALL**  
University of Oxford

**K. J. BROWN**  
Heriot-Watt University

**A. M. SINCLAIR**  
University of Edinburgh

**K. A. BROWN**  
University of Glasgow

**J. M. HOWIE**  
University of St. Andrews

**H. K. MOFFATT**  
Isaac Newton Institute for  
Mathematical Sciences, Cambridge

**A. J. MACINTYRE**  
University of Oxford

**O. PENROSE**  
Heriot-Watt University

**D. M. SLOAN**  
University of Strathclyde

**M. ANDERSON**  
*Curator*  
University of Edinburgh

### Consulting Editors

**H. BREZIS**  
Université de Paris VI, France

**C. M. DAFLEROS**  
Brown University,  
Providence, RI, USA

**S. K. DONALDSON**  
University of Oxford, UK

**R. G. DOUGLAS**  
State University of New York at  
Stony Brook, USA

**L. E. FRAENKEL**  
University of Bath, UK

**M. GIAQUINTA**  
Università di Pisa  
Italy

**J. K. HALE**  
Georgia Institute of Technology,  
USA

**K. KIRCHGASSNER**  
Universität Stuttgart, Germany

**ROBERT V. KOHN**  
New York University, USA

**P. L. LIONS**  
Université de Paris IX, France

**H. MATANO**  
University of Tokyo,  
Japan

**M. MIMURA**  
Okayama University,  
Japan

**O. A. OLEINIK**  
Moscow State University,  
Russia

**A. YU. OLSHANSKII**  
Moscow State University,  
Russia

**D. S. PASSMAN**  
University of Wisconsin–  
Madison, USA

**J. M. SANZ-Serna**  
Universidad de Valladolid, Spain

**W. G. STRANG**  
Massachusetts Institute of  
Technology, Cambridge, USA

**C. A. STUART**  
École Polytechnique Fédérale  
de Lausanne, Switzerland

**L. TARTAR**  
Carnegie-Mellon University,  
Pittsburgh, USA

**J. TOLAND**  
University of Bath, UK

**N. S. TRUDINGER**  
Australian National University,  
Canberra, Australia

**G. Q. ZHANG**  
Peking University, Beijing, China

**W. A. ZHENG**  
University of California, Irvine, USA

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

*The Royal Society of Edinburgh Proceedings Section A Mathematics* is published every two months by the RSE Scotland Foundation. Subscription price is £230.00 for six issues (vol. 128). Orders, claims etc. should be addressed to CAB International, Wallingford, Oxon OX10 8DE, U.K. (Tel: (01491) 832111; Fax (01491) 826090)

(Issued 5 December 1997)