JUNE 1991

PROCEEDINGS

OF THE

EDINBURGH MATHEMATICAL SOCIETY

CONTENTS

JUAN C. DÍAZ AND JUAN A. LÓPEZ MOLINA: On the projective tensor product of Fréchet spaces	page 169
MARIO PETRICH: Congruence lattices of regular semigroups related to kernels and traces	page 179
JORGE ALMEIDA: On finite simple semigroups	page 205
K. A BROWN, H. MARUBAYASHI AND P. F. SMITH: Group rings which are v -HC orders and Krull orders	page 217
L VAN WYK: The 2-primitive ideals of structural matrix near-rings	page 229
B J. GARDNER AND P. N. STEWART: Prime essential rings	page 241
1. O'CARROLL: On bounding the Stückrad Vogel multiplicity	page 251
EMILIA GIRALDES AND JOHN M. HOWIE: Embeddings into finite idempotent- generated semigroups: some arithmetical results	page 259
RAINER H. PICARD: Hilbert spaces of tempered distributions. Hermite expansions and sequence spaces	page 271
YONGZHI XU: An injective far-field pattern operator and inverse scattering problem in a finite depth ocean	page 295
DAVID L. WILKENS: Invariants and examples of group actions on trees and length functions	page 313
R G MeLFAN: On a problem of Barnes and Duncan	page 321
P H KROPHOLLER AND B MOSELLE: A family of crystallographic groups with 2-torsion in K_0 of the rational group algebra	page 325
BOOK. REVIEWS	page 333

SCOTTISH ACADEMIC PRESS

PROCEEDINGS

OF THE

EDINBURGH MATHEMATICAL SOCIETY

EDITORS

K. A. BROWN Department of Mathematics University of Glasgow University Gardens Glasgow G12 8QW

T. A. GILLESPIE Department of Mathematics University of Edinburgh James Clerk Maxwell Building The King's Buildings Mayfield Road Edinburgh EH9 3JZ

C. J. SHADDOCK Department of Mathematics University of Edinburgh James Clerk Maxwell Building The King's Buildings Mayfield Road Edinburgh EH9 3JZ C. M. CAMPBELL Mathematical Institute University of St Andrews North Haugh St Andrews KY16 9SS

J. HOWIE Department of Mathematics Heriot-Watt University Riccarton Edinburgh EH14 4AS

B. D. SLEEMAN Department of Mathematics & Computer Science University of Dundee Dundee DD1 4HN

CONSULTING EDITORS

W. B. ARVESON University of California, Berkeley

G. BROWN University of New South Wales

D. L. COLTON University of Delaware

O. H. KEGEL Albert-Ludwigs-Universität, Freiburg

S. J. PATTERSON Georg-August-Universität, Göttingen Sir MICHAEL ATIYAH, P.R.S. University of Cambridge

D. L. BURKHOLDER University of Illinois at Urbana-Champaign

C. M. GORDON University of Texas at Austin

J. B. McLEOD University of Oxford

G. STRANG Massachusetts Institute of Technology

I MPORTANT NOTICE TO ALL SUBSCRIBERS

Please note that THE PROCEEDINGS OF THE EDINBURGH MATHEMATICAL SOCIETY is no longer being published by Scottish Academic Press. The Society has made temporary arrangements to complete Volume 34 (Series II), 1991 and is making arrangements with another publisher to take effect with Volume 35 (Series II), 1992. Further details will be given with the October 1991 issue.

In the meantime all enquiries, correspondence, subscription payments, etc. should be directed to:

The Honorary Secretary, Edinburgh Mathematical Society, James Clerk Maxwell Building, The King's Buildings, Edinburgh EH9 3JZ

Tel 031-650 5060 Fax 031-662 4712