JOURNAL of the

AUSTRALIAN MATHEMATICAL SOCIETY

Series B — Applied Mathematics

Volume 22 Part 4 APRIL 1981

| The boundary integral equation method with application to certain stress concentration problems in elasticity | |
|---|-----|
| F. J. Rizzo and D. J. Shippy | 381 |
| The boundary integral equation method for the solution of a class of problems in anisotropic elasticity | |
| David L. Clements and Oscar A. C. Jones | 394 |
| Singularity subtraction in the numerical solution of integral equations | |
| P. M. Anselone | 408 |
| The properties of solutions of weakly singular integral equations | |
| G. Vainikko and A. Pedas | 419 |
| A piecewise polynomial approximation to the solution of an integral equation | |
| with weakly singular kernel | |
| G. Vainikko and P. Uba | 431 |
| The iterated projection solution for the Fredholm integral equation of second | |
| kind | |
| Françoise Chatelin and Rachid Lebbar | 439 |
| Deferred corrections for equations of the second kind | |
| Lin Qun | 452 |
| Collocation methods for two dimensional weakly singular integral equations | |
| Ivan G. Graham | 456 |
| Deferred correction for the integral equation eigenvalue problem | |
| K. W. Chu and A. Spence | 474 |
| A formal comparison of methods proposed for the numerical solution of first kind integral equations | |
| R. S. Anderssen and P. M. Prenter | 488 |
| The extension of generalized cross-validation to a multi-parameter class of esti- | |
| D. M. O'Brien and J. N. Holt | 501 |
| Stability analysis of Runge-Kutta methods annlied to a basic Volterra integral | -01 |
| equation | |
| Christopher T. H. Baker and Joan C. Wilkinson | 515 |
| A convergence theorem for singular integral equations | |
| David Elliott | 539 |
| Index for Volume 22 | 553 |
| nice in the second se | 353 |

Set by the American Mathematical Society

https://doi.org/10.1017/5033.Printed 26% @bishen goMatk Gamuringe Universita Plessr, Michigan, U.S.A.

THE JOURNAL

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

SERIES B APPLIED MATHEMATICS

NSW 2033

This series is published in volumes, comprising four parts, starting with Volume 19 Part I in 1975. From 1980, four parts are published annually. Subscriptions may be arranged through the Business Manager (see inside back cover). The annual cost for 1981 is A\$60.

It is the editorial policy of Series B to accept papers in any field of applied mathematics and related mathematical sciences. Novel applications of mathematics in real situations are welcomed. Authors are encouraged to write an introduction accessible to the whole applied mathematical community. Every effort will be made to publish suitable material with a minimum of delay.

Editor of the Journal, Series B

I. H. SLOAN, School of Mathematics, University of New South Wales, Kensington, NSW 2033 Australia.

| | Associate Editors | |
|--|---|-------------------------------------|
| B. D. O. ANDERSON, | V. T. BUCHWALD, | B. DAVIES, |
| Department of Electrical Engineering. | School of Mathematics, University of N.S.W., | Department of Theoretic Physics, |
| University of Newcastle, | Kensington, | Australian National |
| Newcastle, NSW 2308 | NSW 2033 | University, |
| | | Canberra, ACT 2600 |
| BS. Goh, | V. G. HART, | |
| Department of Mathematics, | Department of Mathematics, | C. A. HURST, |
| University of W.A., | University of Queensland, | Department of Mathematical |
| Nedlands, WA 6009 | St. Lucia, Qld 4067 | Physics, |
| | | University of Adelaide, |
| J. IMBERGER, | M. R. OSBORNE, | Adelaide, SA 5000 |
| Department of Civil | Department of Statistics, IAS, | |
| Engineering | Australian National | R. B. POTTS, |
| University of W.A., | University, | Department of Applied |
| Nedlands, WA 6009 | Canberra, ACT 2600 | Mathematics, |
| | | University of Adelaide, |
| W. E. Smith, | C. J. THOMPSON, | Adelaide, SA 5001 |
| School of Mathematics, | Department of Mathematics, | |
| University of N.S.W., | University of Melbourne, | |
| Kensington, | Parkville, Vic. 3052 | |

Assistant Editors

N. G. BARTON, D. E. MACKENZIE, School of Mathematics, University of New South Wales, Kensington, NSW 2033 Australia.

Manuscripts (two copies) for publication should be sent to the editor or to an appropriate associate editor at the address given above. Such action is a representation by the author that the manuscript has not been copyrighted or published, and that it is not being considered for publication elsewhere. Authors are asked to read the section "Preparation of Manuscripts" on the outside cover.

Irrespective of the number of authors, 100 free offprints of each paper are provided; additional offprints may be ordered at the expense of the authors.

Excessive costs incurred by the Society through corrections to or withdrawal of articles may be charged to the authors concerned.

Journal of the Australian Mathematical Society, Series B-Applied Mathematics is published quarterly by the Australian Mathematical Society, Department of Mathematics, University of Queensland, St. Lucia, Qld 4067, Australia. Application to mail at second class postage rates is pending at Ann Arbor, Michigan 48106. Postmaster: Send address change notices to Professor V. G. Hart, Journal of the Australian Mathematical Society, Department of Mathematics, University of Queensland, St. Lucia, Qld 4067, hed ushfaliar Cambridge University Press

SPECIAL ISSUE ON THE NUMERICAL SOLUTION OF INTEGRAL EQUATIONS

This issue, devoted to the numerical solution of integral equations, is the first issue of the Journal of the Australian Mathematical Society, Series B, to be devoted to a single topic. Occasional special issues on other topics are planned for the future. This issue was compiled and edited by Ian H. Sloan, Editor of the Journal.