



# *The Royal Society*

---

## **Proceedings: Mathematical and Physical Sciences**

---

---

Volume **443** Pages 265–455 Number **1918** 8 November 1993

Proceedings of the Royal Society of London SERIES A

**Editor:** Professor J. E. Enderby

**Editorial Board**

Professor J. M. Ball	Professor K. L. Johnson	Dr A. A. Wells
Professor D. Bradley	Professor J. B. Pendry	Professor D. Williams
Dr P. Goddard	Professor N. Sheppard	Professor J. R. Willis
Professor J. C. R. Hunt	Professor M. C. R. Symons	

**Regional Editors**

Professor J. Friedel, Académie des Sciences, Institut de France, 23 Quai de Conte, 75006 Paris, France  
Professor K. Fukui, Institute for Fundamental Chemistry, 34-4 Takano-Nishihiraki-cho, Sakyo-ku Kyoto 606, Japan  
Professor O. M. Phillips, Department of Earth and Planetary Sciences, The Johns Hopkins University, Baltimore, Maryland 21218, U.S.A.  
Professor C. N. R. Rao, Solid State and Structural Chemistry Unit, Indian Institute of Science, Bangalore, India 560012

---

NOTICE TO AUTHORS

**Scope.** *Proceedings* series A publishes papers on any aspect of mathematical and physical sciences, including chemistry and engineering. Short papers are especially welcome (up to 10 printed pages; for example, equivalent to about 5000 words and 3 figures), and if accepted are normally published within three months of receipt at the Society. These should contain reports of completed work; preliminary reports ('letters') are not encouraged.

**Submission.** Authors may send their papers (i) direct to the Editorial Office, whose address is given below, or (ii) to one of the Regional Editors listed above. The Editor will, in reaching a decision, take into account the comments of referees. Authors are invited to suggest the names of referees, with the understanding that such suggestions are not necessarily adopted. Three copies of the typescript and figures are required, and originals of any figures should also be submitted. Papers should be prepared in accordance with the 'Instructions to authors' printed at the end of every volume of *Proceedings* A and available from the Editorial Office.

**Editorial address:** Editorial Office, *Proceedings* A, The Royal Society, 6 Carlton House Terrace, London SW1Y 5AG.

---

COPYRIGHT

© 1993 The Royal Society

Except as otherwise permitted under the Copyright, Designs and Patents Act, 1988, this publication may only be reproduced, stored or transmitted, in any form or by any means, with the prior permission in writing of the publisher, or, in the case of reprographic reproduction, in accordance with the terms of a licence issued by the Copyright Licensing Agency. In particular, the Society permits the making of a single photocopy of an article from this issue (under Sections 29 and 38 of the Act) for an individual for the purposes of research or private study.

---

SUBSCRIPTIONS

*Proceedings of the Royal Society* series A (ISSN 0962-8444) is published in monthly parts. The subscription price for 1994, including postage, is £365 in the U.K. and £390 (U.S. \$644) overseas. Air-speeded post is available for overseas subscribers at a small extra charge. Full details of subscription rates may be obtained on request from the Publications Sales and Marketing Manager, The Royal Society, 6 Carlton House Terrace, London SW1Y 5AG. The Royal Society is Registered Charity no. 207043.