

## International Union of Crystallography

### *Structure Reports*

Volumes 42A and 41B of *Structure Reports* have recently been published. Volume 42A, covering the literature for metals and inorganic compounds for 1976 (viii + 492 pages), costs 127.50 Netherlands guilders for subscribers with standing orders. The full price for individual copies is 150 guilders but personal subscribers may buy a copy for their own use at 75 guilders.

Volume 41B, covering the literature for organic compounds for 1975, is bound in two parts (viii + 702 pages and iv + 622 pages) and costs 289.50 Netherlands guilders for

subscribers with standing orders. The full price for individual copies is 340 guilders but personal subscribers may buy a copy for their own use at 170 guilders. A 200-page supplement for 1974 and 1975 to Section B (*Organic Compounds*) of the 60-Year *Structure Index* is being sold with Volume 41B, and is included in the price for that volume. Additional copies of the supplement are available at a price of 33 Netherlands guilders.

Orders for these publications may be placed direct with the publisher, Bohn, Scheltema & Holkema, Emmalaan 27, Utrecht, The Netherlands, with Polycrystal Book Service, PO Box 11567, Pittsburgh, Pa. 15238, USA, or with any bookseller.

## Notes and News

### Radiation Safety

NBS Handbook 111, entitled *Radiation Safety for X-ray Diffraction and Fluorescence Analysis Equipment*, has been revised and approved by the American National Standards Institute. It can be obtained from the US Government Printing Office, Washington DC 20402, USA, at a price of \$1.00. The publication number is 003-003-01917-8.

### Co-operation Scheme for Crystallographers in Developing Countries

The European Crystallographic Committee have received a request from Dr B. N. Mehrotra, of the University of Science of Malaysia, asking if anyone could help their laboratory by donating a heating attachment for use with powder and/or single crystal cameras. If anyone has such equipment to spare or could offer to take the necessary measurements could they please get in touch with Professor D. Feil, Chemical Physics Laboratory, Twente University of Technology, PO Box 217, Enschede, The Netherlands, who acts as co-ordinator of the Scheme.

## Book Review

*Works intended for notice in this column should be sent direct to the Book-Review Editor (J. H. Robertson, School of Chemistry, University of Leeds, Leeds LS2 9JT, England). As far as practicable books will be reviewed in a country different from that of publication.*

**Surface and defect properties of solids. Vol. 6.** Senior reporters M. W. ROBERTS and J. M. THOMAS. Pp. x + 368, Figs. 195, Tables 46. London: The Chemical Society, 1977. Price £27.00, \$54.00.

This volume of the series '*Surface and Defect Properties of Solids*' contains eight interesting topics concerning the study of solid-state materials.

A detailed microscopic approach to physisorption (U. Landman and G. G. Kleiman) describes the theoretical and experimental problems of this subject and puts into perspective its importance in surface chemistry.

An article on the 57-iron conversion electron Mössbauer spectroscopy (M. J. Tricker) treats the principles of the method and summarizes some recent useful applications such as corrosion and oxidation studies, surface phase analyses of steels, surface stress measurements, etc.

The chapter on the interplay of theory and experiment in the field of surface phenomena on metals (Z. Knor) clearly shows the necessity of using simplified theoretical models for a description of surface processes and, at the same time, the need to employ as many features as possible to characterize the models.

A report on angle-resolved ultraviolet photoelectron spectroscopy (ARPS) (D. R. Lloyd, C. M. Quinn and N. V. Richardson) summarizes the developed theories for UV photoemission from clean surfaces of adsorbed layers and shows the correspondence with the experimental data obtained by the ARPS technique.

A report on point defects in ionic crystals (J. Corish, P. W. M. Jacobs and S. Radhakrishna) surveys the recent literature and extends the arguments treated in a previous report in this series to underline some significant topics that have recently emerged, e.g. paraelectric centres, molecular

impurities and optical properties of ions with the  $s^2$  configuration. Furthermore, the results of the theoretical computation of defect parameters are reviewed and the subject of fast ion conduction, in particular for compounds with order-disorder transitions, is extensively treated. The abundance of experimental and calculated thermodynamic data reported in the numerous tables is particularly valuable.

The assessment of crystal perfection by X-ray topography (B. K. Tanner) gives a swift description of some important X-ray topographic techniques and image interpretation, clearly defining the limits of applicability of these techniques and discussing both similarities and differences in comparison with transmission electron microscopy, thus giving a picture of their complementarity.

A short article on the plasticity of highly plastic molecular crystals (R. M. Hooper and J. N. Sherwood) is devoted to showing that the deformations of these crystals are typically solid-state processes. Also, the interesting advances recently made in this field are reported.

Finally, the chapter on the ultrastructure of minerals (J. L. Hutchison, D. A. Jefferson and J. M. Thomas) selectively surveys the solid-state structural chemistry of some classes of minerals by high-resolution electron microscopy (HREM). Moreover, the article is enriched with many micrographs which elucidate the utility of HREM in mineralogy.

The aim of reporting the most recent progress in some specialized areas of surface and defect properties of solids (supported by several hundred references in each case) is fully attained by all the monographs.

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### Books Received

*The following books have been received by the Editor. Brief and generally uncritical notices are given of works of marginal crystallographic interest; occasionally a book of fundamental interest is included under this heading because of difficulty in finding a suitable reviewer without great delay.*

**Solid ionic and ionic-electronic conductors.** Edited by R. D. ARMSTRONG. Pp. xii + 131. Oxford: Pergamon Press, 1977. Price \$20.00.

This is a selection (without change of pagination) of 23 recently published papers from the conference of this title held in Rome, in September 1976. The collection, under one cover, will afford a useful reference for those working in this field.

**Chemistry and physics of one-dimensional metals.** Edited by HEIMO J. KELLER. Pp. viii + 426. New York and London: Plenum, 1977. Price \$45.00.

A review of this book, by H. Boller, has been published in the June 1978 issue of *Acta Crystallographica*, Section B, page 1750.

**Crystallography and its applications.** By L. S. DENT GLASSER. Pp. viii + 224. Wokingham: Van Nostrand-Reinhold, 1977. Price £12.00 (cloth) or £5.95 (paper).

A review of this book, by W. C. Bigelow, has been published in the May 1978 issue of *Acta Crystallographica*, Section B, page 1750.