

Notes and News

Announcements and other items of crystallographic interest will be published under this heading at the discretion of the Editorial Board. The notes (in duplicate) should be sent to the Executive Secretary of the International Union of Crystallography (J. N. King, International Union of Crystallography, 13 White Friars, Chester CH1 1NZ, England).

New Volume of *International Tables for X-ray Crystallography*

Volume IV, entitled *Revised and Supplementary Tables* and edited by James A. Ibers and the late Walter C. Hamilton, has just been published for the Union by the Kynoch Press, Witton, Birmingham B6 7BA, England, at a price of £10.00. Orders may be placed direct with the Kynoch Press, with Polycrystal Book Service, P.O. Box 11567, Pittsburgh, Pa. 15238, U.S.A., or with any bookseller.

Since the publication of Volume III in 1962, experimental and theoretical activity in all areas of crystallography has greatly increased. The principle motivation for a new volume was to provide revised values for atomic scattering factors, X-ray wavelengths and atomic absorption coefficients.

Volume IV has a cumulative index for all four volumes. When specific information included in Volume IV supercedes material in an earlier volume, the reference to the earlier volume is included in parentheses. In such cases, the numerical values given in Volume IV should be used, but the earlier volume should also be consulted for the

sometimes extensive textual material accompanying the tables.

A number of special topics, mainly mathematical in content, which were not included in Volume II, have developed considerably and have been incorporated in Volume IV. Such new material, selected by the Editors, includes diffractometer calculations, analysis of thermal motion in crystals, and some aspects of direct methods for phase determination. Although some of this material is more textual than tabular, it has been included because of its greater importance to most structural crystallographers. Omission of other topics should not be taken as indicative of their relative unimportance. Selection had to be made by the Editors. The Union is greatly indebted to the Editors and to all the contributing authors for making the publication of this volume possible.

Volumes I, II and III in this series are still available but it has been necessary to increase the slightly to £8.00 per volume. Prospectuses for all volumes and details of preferential prices for personal subscribers may be obtained from the Kynoch Press or from Polycrystal Book Service.

Book Reviews

Works intended for notice in this column should be sent direct to the Book-Review Editor (M. M. Woolfson, Physics Department, University of York, Heslington, York YO1 5DD, England). As far as practicable books will be reviewed in a country different from that of publication.

Solid state chemistry and physics – an introduction.

Vol. 1. Edited by PAUL F. WELLER. Pp. xi + 500, Figs. 165, Tables 23. New York: Marcel Dekker, 1973. Price \$26.50.

Nothing short of Renaissance-quality versatility is nowadays required in order successfully to straddle the vast range of chemical, physical, mathematical and even biological knowledge currently encompassed by solid-state science. This fact would be accepted with more philosophical resignation were it not recognized that contemporary quantal and crystallographic interpretations of the behaviour of solids offer considerable academic excitement, and that the proper technological utilization of various electronic devices requires deep understanding of a variety of unrelated phenomena. A book such as that under review is therefore examined with more than usual thoroughness, particularly as a prospective text for graduate workers, for whom it is primarily intended.

Part I, sub-titled *Concepts and Properties* (pp. 186) serves as a relatively non-mathematical introduction to the concepts used throughout the remainder of the text. Part II, *Physical Properties and Imperfections* includes chapters on *Electrical Properties of Solides* (pp. 104) by Perlstein,

Magnetic Properties (pp. 60) by Steger, *Magnetic Resonance* (pp. 51) by Kasai and *Optical Properties* (pp. 88) by Axe. In Volume 2, yet to appear, Part II will be continued to deal with *Point Defects, Diffusion and Surface Chemistry*, and two further parts will deal with *Purification and Crystal Growth, Polymeric Materials and Biology and Semiconduction*.

On balance Volume I, especially the first three chapters, succeeds in what it sets out to achieve. The first chapter, by the editor, is a courageous and competent attempt to interrelate the various principles and concepts which are developed later. In some places, however, notably in discussions of the *F*-centre (p. 50) and application of crystal-field theory to the ruby laser (p. 57), more is promised than is actually delivered in Chapters 7 and 3 respectively. The section on *Crystallography* (Suchow), after summarizing material normally taught at a relatively elementary undergraduate level, includes a lucid account of the structural principles of related, simple inorganic solids (*e.g.* ReO₃, perovskite and tungsten bronze) and of stacking disorders and polytypism. It misses an opportunity, however, of linking dislocations (which are also very briefly considered) with stacking faults (in terms of partials) and thereby offering insights as to how some of the structural types con-