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BRIEF REVIEWS

This new section will periodically present shorter book reviews. By their nature, these reviews will normally be of a form to announce volumes of interest to the solid state chemist rather than to present detailed critical assessments.

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Book Review Editor

Modern Perspectives in Inorganic Crystal Chemistry. *NATO Advanced Sciences Institutes Series.* Edited by EDWIN PARTHÉ. Kluwer Academic Publishers, Dordrecht, 1992. vii + 282 pp. $115.00.

This monograph presents contributions by 13 invited lecturers to a NATO Advanced Study Institute held in the summer of 1992. They range in length from short (10 pp.) discussions of cluster solid state chemistry (R. Chevrel) to longer (37 pp.) reviews of the crystal chemistry of high T_c superconducting oxides (B. Raveau, C. Michel, and M. Hervieu). Other topics include metal halide chemistry (J. Corbett), crystal chemistry of complex sulfides (E. Makovicky), the bond valence method (M. O'Keeffe), valence electron rules (E. Parthé), and a variety of chapters on structural principles and crystal chemistry.

While most of this material can be found elsewhere, it is helpful to find material on such topics in one place. In keeping with the tutorial nature of NATO Institutes, several problems are presented at the end of each chapter, an interesting addition to this volume.

Minerals and Reactions at the Atomic Scale: Transmission Electron Microscopy, *Reviews in Mineralogy Series,* Volume 27, Edited by PETER R. BUSECK. Mineralogy Society of America, Washington, 1992. xv + 508 pp. Softbound, $28.00 (prepaid).

This reasonably priced volume presents the proceedings of a short course on transmission electron microscopy (TEM) given in October 1992. Even though a good amount of the illustrative material is concerned with petrology, Peter Buseck has put together an excellent comprehensive introduction to the field that will be of interest to the solid state chemist.

The three opening chapters present practical introductions to electron microscopy, electron diffraction, and high-resolution image simulation. They are followed by two chapters covering analytical microscopy and EELS. These are followed by a long chapter on electron microscopy applied to nonstoichiometry and one on polytypism and stacking disorder. Other contributions of interest to chemists discuss high-resolution TEM, alterations in carbonates, deformation, and transformation-induced microstructures.

Each chapter has extensive references but the volume lacks an index, an unfortunate oversight.

Advances in Synthesis and Reactivity of Solids, Volume 1. Edited by THOMAS A. MALLOUK. JAI Press Ltd., London/Greenwich, CT, 1991. x + 282 pp. $90.25 ($54.15, prepaid for individuals).

Tom Mallouk has succeeded in bringing together five reviews of direct interest to the preparative solid state chemist. Manthiram and Goodenough discuss the chemistry of high-temperature superconductors; Eaton covers modification of the optical properties of organic molecules by incorporation into inclusion complexes; Wold and Dwight review the preparation and characterization of conducting transition metal oxides; Walba reviews ferroelectric liquid crystals; and Murphy discusses topics in intercalation chemistry.

Both a formula and a subject index add to this monograph's usefulness.

Advances in Solid State Chemistry, Volume 2. Edited by C. R. A. CATLOW. JAI Press Ltd., London/Greenwich, CT, 1991. ix + 393 pp. $90.25 ($54.15, prepaid for individuals).

This is the second in a series of volumes dedicated to providing reviews on recent developments in interdisciplinary areas. The four topics range from the applied (Growth and Characterization of SiC and Diamond for Microelectronic Applications, 112 pp.) to the theoretical (Molecular Dynamics of Ionic Crystals, 73 pp.; and Ab initio Calculations of Inter-ionic Potentials,

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171 pp.). The contribution of most interest to solid state chemists is a short (35 pp.) review of structural studies of wüstite, much of which can easily be found in other monographs and reviews.

Parenthetically, it should be noted that Volume 1 (1989) covered a more extensive range of topics—seven articles from the theoretical (Quantum Mechanical Cluster Calculations, Computer Modelling of Phase Transitions) through the more practical (Electrically Conducting Polymers, Lattice Dynamics of Zeolites, Microcalorimetry of Non-stoichiometric Oxides, and Oxygen-ion Conducting Solid Electrolytes).

Neither of these volumes contains an index, a fact which must be rectified in future issues in this series.