

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.

Chemistry and physics of one-dimensional metals.

Edited by HEIMO J. KELLER. Pp. viii + 426. New York and London: Plenum, 1977. Price \$45.00.

This book is the documentation of lectures held at the NATO ASI on the above subject at Bolzano, Italy, August 17–29, 1976. It consists of seventeen review articles, written by leading experts in this field, covering fundamental physical concepts of one-dimensional metals and recent theoretical and experimental work on organic and inorganic linear conductors. Special attention is given to phase transitions and collective phenomena that may occur in these systems, like charge density waves, spin density waves, and the possibility of excitonic superconductivity. The linear conducting systems dealt with are mainly ion radical organic crystals, especially tetrathiafulvalene complexes like TTF–TCNQ on the one hand, and columnar transition-metal complexes and $(\text{SN})_x$ on the other. There is also one article that tries to compare inorganic and organic one-dimensional

conductors. Other papers report on crystallized organic linear polymers with conjugated double bonds, and charge density waves in layered compounds.

Because of the very interdisciplinary character of the subject and the different backgrounds of the authors – theoretical and experimental physicists, physical chemists, inorganic and organic synthetic chemists *etc.* – the intellectual requirements from the reader's side, to comprehend all the papers fully, are very considerable. Therefore, this is not a text book for students. But for those interested in the subject and who seek a deepened insight into the current main streams of ideas and research in this fast-developing field, the book will be a very valuable source of information, bibliography, and study.

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