

refractive indexes of crystals are not accidentally what they are, that indeed they derive from the internal arrangement of the atoms. Surely it would not hurt students of mineralogy to be prodded into wondering why quartz is optically positive and calcite negative! Despite these criticisms this book is a real contribution to the art of optical crystallography. If you use a polarizing microscope you should also have this book.

High Temperature Technology: Symp. Proc. (Asilomar Conf. Grounds, Calif., Oct. 1959). Edited by N. Hiester and D. Cubicotti. Arranged by Stanford Research Inst. 348 pp. McGraw-Hill Book Co., Inc., New York, 1960. \$15.00. *Reviewed by Joseph Katz, University of Chicago.*

HIGH-TEMPERATURE chemistry and physics are currently in vogue. To the increasingly large number of scientists becoming interested in problems at elevated temperatures, this book, which is a collection of review papers on the techniques and measurements, the materials, the processes, and the behavior of materials at elevated temperatures, will be very useful. In the technique and material section, for instance, there are, among others, excellent articles on the precision and accuracy of temperature measurements above 1000°K and on image furnace research. In the materials section the articles deal mainly with refractory materials such as refractory metals, graphite, carbide, nitride, and sulfide refractories, etc. The section on processes has articles on high-pressure methods, fused salt chemistry, pyrometallurgy, condensed state reactions, and high-temperature chemical synthesis. The review article by Janz on fused salt chemistry is an excellent introduction and survey of the present model theories and experiments. One should bear in mind that the articles in this book are reviews. As such they are an invaluable introduction but due to limitations of time and space they are only introductions (with, fortunately, very extensive lists of references). In addition, this book contains a large section on high-temperature research abroad, covering the United Kingdom, France, Germany, Japan, and Scandinavia. This reviewer feels that a review of the high-temperature research in the Soviet Union would also have been of value.

Progress in Cryogenics, Volume 1. Edited by K. Mendelssohn. 259 pp. Academic Press Inc., New York, 1959. \$11.00. *Reviewed by Robert L. Sproull, Cornell University.*

A NEW "Progress" series is initiated with this volume. Dr. Mendelssohn explains in his preface: "The aim of the present series is to provide summarizing articles on the whole field of low-temperature methods, as distinguished from low-temperature physics or chemistry. The ground to be covered ranges from the production, maintenance, and measurement of low

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The early chapters of the book provide an introduction to the subject along essentially historical lines. The formal structure is then introduced through a discussion of linear operators, eigenfunctions, and commutation relations.

The text contains a large number of problems, which supplement the textual material and provide additional applications of the theory. Developed in classroom use by the authors over a period of six years, the book offers an excellent choice of topics for an introductory course, presented in an unusually lucid manner.

c. 544 pp, 96 illus, 1961—probably \$9.75

See the book at Booth One—January APS meeting



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