W. R. Buessem: Ceramic problems for the consideration of the solid state physicist.
L. V. Azároff: Properties and crystal structure of materials.
R. Roy: Crystal chemistry in research on ionic solids.
A. D. Franklin: Impurity-controlled properties of ionic solids.
D. S. McClure: Transition metal ions in solids.
H. G. Drickamer: The use of pressure to investigate the electronic structure of ionic crystals.
C. E. Birchenall: Diffusion in ionic crystals.
J. E. Burke: The science and technology of sintering.
R. J. Maurer: Optical properties of ionic crystals.
H. C. Gatos u. A. J. Rosenberg: The chemical approach to semiconductors.
L. R. Bickford, Jr.: Magnetic properties of ceramics.
J. J. Gilman: The strength of ceramic crystals.
R. Chang: Dislocation theories of the high-temperature creep of crystalline solids.
W. D. Kingery: Effects of microstructure on the properties of ceramics.
G. W. Sears: Recent development in nucleation theory.

In den Diskussionen zu diesen Vorträgen klingt bereits an mehreren Stellen die Frage der keramischen Ausbildung an. Dieses Thema wird dann nach einer Einführung von C. Klingsberg über die Unterstützung der keramischen Forschung durch die Regierung mit mehreren Beiträgen und Diskussionsbemerkungen ausführlich besprochen. Die grosse Zahl der verschiedenen Gesichtspunkte führt zu keiner einheitlichen Festlegung. Allgemein ist das Bestreben vorhanden, die keramische Ausbildung den modernen Entwicklungen anzupassen, wobei aber auf die Technologie der normalen Keramik nicht verzichtet werden kann.

Das vorliegende Buch wird verschiedene Kreise gleichzeitig ansprechen. Neben den fachlich Interessierten ist es wegen der offenen Diskussionen auch allen denen zu empfehlen, denen die Ausbildung unserer Studenten, nicht nur der Keramik, am Herzen liegt.

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Crystals and light. An introduction to optical crystallography.

By Elisabeth A. Wood. Pp. viii+160, with 8 plates. Van Nostrand, 1964. Paperback. Price $1·95.

This paperback is published for the Commission on College Physics. It is written for people with no previous knowledge of crystals or light. Its scope is broader than the title implies, since the first half of the book is devoted to an introduction to geometrical crystallography (including an excursion into X-ray diffraction) and the physical properties of crystals. The second half deals with the fundamentals of crystal optics. The observations which can be made with parallel and convergent polarized light are described and illustrated with several beautiful colour plates. One chapter explains the microscope and its accessories and includes some suggestions for experiments with Polaroid polarizers, a sample of which is included in the book. There are further sections on refraction, dispersion, optical activity, absorption spectra and a comparison of the relations between optical properties and symmetry. The book concludes with three short appendices dealing with the 'optical ring sight', space groups and a constructive proof of the multiplicity of the crystallographic rotation axes. Students who like to 'play' with mathematics will enjoy the last. In the American tradition, there are problems to solve at the end of each chapter.

The book is written in a very easily understandable (sometimes oversimplified) and off-hand way, frequently interspersed with personal and historic notes and casual quips ('International Union of Crystallography: a scientific union, not a labor union'). It will certainly be a success with college and other students who like to know something about crystals without being bored. It might serve also as an introductory source for the author's 'Crystal Orientation Manual', reviewed below.

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Crystal orientation manual.

By Elisabeth A. Wood. Pp. ix+75. Columbia University Press, 1963. Spiralbound. Price $4·00.

The object of this manual is to teach non-crystallographers the art and science of orienting crystals ('several inches or a few millimeters in diameter'). The methods for orienting tiny crystals for structure work are not specifically discussed.

The first 20 pages consist of an elementary, very condensed review of symmetry, lattices, X-ray diffraction and morphology. The subsequent sections deal with the apparatus and methods for crystal orientation by X-rays (barrel holders, X-ray goniometer, back-reflexion Laue method, stereographic projection). Here, the emphasis is on the practical rather than on the theoretical aspects. The presentation is clear and easily understandable, largely owing to the many good drawings, film reproductions (about 20 Laue photographs), charts, formulae collections and tables. Particularly helpful are the many references to special apparatus, charts, adhesives *etc.* and their suppliers. There is an interesting paragraph with examples of pitfalls in orientation work.

One useful instrument, however, is missing: The optical goniometer.

The book certainly fulfils its purpose and is a clear and practical guide, provided that the reader has some prior knowledge of crystallography.

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