BOOK REVIEWS

LANDBOLT BORNSTEIN, NUMERICAL DATA AND FUNCTIONAL RELATIONSHIPS IN SCIENCE AND TECHNOLOGY. New Series, Group 3: Crystal and Solid State Physics, Volume 1. R. Bechmann, R.F.S. Hearmon. 1966. Springer-Verlag, Berlin. 160 pages, DM 68.

A bilingual handbook for elastic, piezoelectric, piezooptic and electrooptic constants of crystals, this text outlines basic theory and terminology in English and German, and provides numerous tables and graphs. The first chapter on the elastic properties of non-piezoelectric crystals is by Hearmon, and the second chapter on piezoelectric crystals is by Bechmann. In the final chapter, Bechmann treats the piezooptic and electrooptic effects in crystals. Hearmon's tables and figure captions are in English, Bechmann's in German, with keys or explanations for all tables bilingual.

Both authors employ the usual matrix shorthand for tensor components. Bechmann must also introduce vectors, and thus indicates tensor components by Greek suffixes and vector components by Latin suffixes. In contrast, Hearmon's tensor components have Latin suffixes, which may confuse the reader.

All tables contain physical constants published before the end of 1964. Pressure and temperature coefficients for the elastic constants of numerous crystals are included, some of which are rock-forming minerals. Graphs illustrating the variation of elastic constants with temperature are added to the usual tables. Both authors clearly relate symmetry of physical anisotropy to crystal symmetry. Bechmann emphasises the relationships between elastic and electric constants of piezoelectric crystals, as well as those between piezooptic and elecrooptic constants. Both authors specify orientation of physical reference axes with respect to crystal lattice. This offers a distinct advantage over similar handbooks, where the relationship is generally obscure.

The book assumes a certain knowledge of crystal physics and linear algebra. It should be useful for mineralogists, experimental and structural petrologists, and crystal physicists.

W. M. SCHWERDTNER
University of Toronto

DIRECTORY OF METEORITE COLLECTIONS AND METEORITE RESEARCH. UNESCO, Paris, 1968. 50 pages.

Collected under the auspices of the Working Group on Meteorites, and the Committee for the Museums of Natural History, of the International Council of Museums, this directory lists for 50 states the names and addresses of collections, catalogues of meteorites, a bibliography, and the names, specialties, and institutions of principal researchers.