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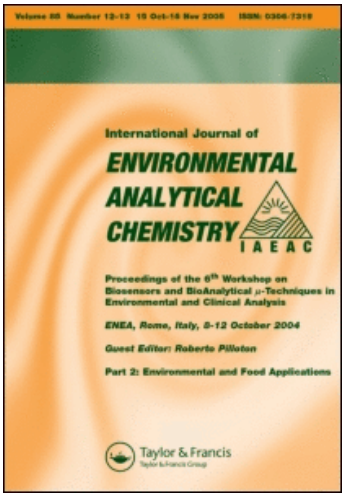

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BOOK REVIEWS

ESSENTIALS OF CRYSTALLOGRAPHY by Duncan McKie and Christine McKie, Blackwell Scientific Publications, 1986, 437 pp, £25.00 bound, £12.95 paper.

This book seeks to introduce the basic concepts of crystallography at an undergraduate level, and is intended for students in chemistry, physics, and the earth sciences. The first section of the book (170 pp) introduces the notions of crystal lattices, stereographic projections, symmetry and lattice type, and methods of calculation. The second section (also about 170 pages) deals with the diffraction of X-rays by crystalline matter, containing the physics of diffraction, powder and single crystal diffraction methods, and the principles of structure determination. There is brief mention of neutron diffraction and of Rietveld methods. The final chapter (50 pages) introduces electron diffraction and electron microscopy. A few more specialised subjects such as trigonometry are dealt with in appendices.

The writing is in general clear, with numerous illustrations, and a good selection of problems (with answers) at the end of each chapter. Symmetry is introduced *via* the stereographic projection, and little use of matrix methods is made; there is no mention at all of group theory. The chapters on X-ray diffraction, and particularly that on powder diffraction (which is the most likely to interest readers of this journal) are to be recommended, although the chapter on photographic methods for single crystals seems to me to reflect the historical rather than the current importance of these methods. In the chapter on electron microscopy some discussion of scanning and analytical electron microscopy would be useful for the general reader; I found this chapter very interesting, but not the most clearly written, and, given the growing importance of electron microscopy, I hope that in any future edition the authors will give themselves a little more space for this subject, possibly at the expense of some of the geometrical calculations in the early chapters which can nowadays be more profitably carried out by short programs on a personal computer.

Any scientist who works with solid materials, be he chemist, physicist, or earth scientist, will sooner or later have recourse to the techniques of crystallography, and he will be happy to be able to turn to this useful book.

A. F. WILLIAMS

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