Books Received

The following books have been received by the Editor. Brief and generally uncritical notices are given of works of marginal crystallographic interest; occasionally a book of fundamental interest is included under this heading because of difficulty in finding a suitable reviewer without great delay.

Diffusion data, Vol. 5, No. 1, 1971. Edited by F. H. WÖHLBIER Clausthal-Z, Germany: Trans Tech Publications. Subscription US $ 38,00 (sFr. 162,00) per volume of 4 issues in each calendar year.

This journal covers all new reference information on all aspects of solid state atomic transport in crystalline and amorphous solids. The reproduction is by lithography from typed texts and is very clear. The journal claims that published material is covered within a few weeks of its appearance.

Stereographic projections of the cubic and close-packed hexagonal lattices: Produced by A. T. DAVENPORT and A. R. BOOTH. London: Butterworths, 1970. Price (U.K. only) £3·50.

The volume contains 20 stereographic projections of the cubic and close-packed hexagonal ($c/a = 1{\cdot}633$) lattices. The projections are printed on transparent tracing paper and are designed to be used with the 30 cm equatorial stereographic Wulff net also supplied.

Meeting Report

Second International Conference on Small-Angle Scattering. Graz. 26–29 August, 1970

The 2nd International Conference on Small-Angle X-ray Scattering, under the chairmanship of O. Kratky, brought some 200 participants. Sixty-four papers were presented in two parallel sessions; their common aspect was the experimental method employed, although the problems investigated ranged from biological to metallurgical. In this instance, such a formula for a conference proved quite justified. Among the most interesting results presented, many are a consequence of progress either in the precision and sensitivity of the measurements, or in the sophistication of the methods used to interpret the experimental data. Papers of this kind ought indeed to be discussed by specialists who not only appreciate their value but also the possible uncertainties; subsequently, both specialists and nonspecialists can then make confident use of the results. In this report, we will primarily mention those papers which dealt with innovations in the method; we refer the reader to the collected abstracts for the other very interesting but more 'classical' communications. [The collected abstracts representing the papers actually presented are printed immediately following this report].

Compared to the material presented at the last such conference (Syracuse, U.S.A., 1965), one finds a variety of striking new applications which often combine small-angle scattering with other techniques (*i.e.* wide-angle diffraction, electron microscopy, light-scattering, *etc.*). An example, for instance, was afforded by the study of crystal imperfections in alloys and imperfectly crystallized substances, discussed in a plenary lecture by GUINIER.

Theoretical advances were, in recent years, relatively few. POROD reported investigations of interparticle interference effects in densely packed systems, which are sensitive to details of the particle shape and may consequently show qualitatively different scattering diagrams (*i.e.* 'cluster' and 'liquid' types). TEICHGRÄBER and WALENTA discussed the perenially interesting problem of extracting information on particle diameter distributions $P(D)$ in polydisperse systems from the scattering data. WU and SCHMIDT reported theoretical investigations of the intersect distribution function for a system of identical, independent, randomly oriented particles of uniform electron density.

Some of the reasons for the increased confidence with which experimenters now view SAXS results became evident during the session dealing with experimental methodology. SCHMIDT and PATEL discussed their comparison of the Beeman and Kratky cameras, which yielded good agreement for properly desmeared scattering curves obtained with the two quite different geometries from the same sample. Substantially improved monochromatization was reported with the pyrolytic graphite diffracted-beam monochromator by HENDRICKS, who also discussed critically the various methods of measuring absolute intensities. ZIPPER spoke about a procedure for eliminating the $K\beta$-content of the scattering curves by a mathematical procedure, using the measured $K\alpha/K\beta$ intensity ratio of the primary radiation.

Of great interest were reports on recent developments in small-angle neutron scattering. SCHMATZ and SCHELTEN announced that the new small-angle neutron diffraction apparatus at Jülich was put into service. This is an instrument remarkable for its size (80 meters), its multiple detectors, and its performance (a measurement which would take 3 weeks at the Munich reactor can be made with greater precision in one hour). Soon, a more powerful instrument of the same type will be installed at the Franco-German reactor at Grenoble. These devices will allow the development of neutron scattering methods, and their combination with X-ray scattering, which appear of great promise. For small-angle neutron scattering, it is hoped that the coherent and incoherent contributions can be separated (HOSSFELD and AMADORI).

The large-scale structure of high polymers is a subject of current interest, in particular the long periods (of the