

Book Reviews

Works intended for notice in this column should be sent direct to the Book-Review Editor (M. M. Woolfson, Physics Department, University of York, Heslington, York YO1 5DD, England). As far as practicable books will be reviewed in a country different from that of publication.

International list of periodical title word abbreviations. Prepared for the UNISIST/ICSU-AB Working Group on Bibliographic Descriptions. Pp. [2]+xii +39. Paris: ICSU Abstracting Board, and Columbus: Chemical Abstracts Service, 1970. Price \$ 4.50.

This list is one of the first tangible results of the joint efforts of UNESCO and ICSU to investigate the feasibility of a world science information system. Curiously, the copyright is held by Committee Z39 of the American National Standards Institute. The preface explains the origin of the list, the rules for abbreviating words and schemes of transliteration of Cyrillic characters and transcription of Roman letters with diacritical marks. These schemes of transliteration and transcription are also an outcome of the Working Group on Bibliographic Description, and have been devised so that no characters are needed that cannot be handled by computer. The results are sometimes a little startling; French words lose all their accents, *y* is used in two ways in the transliteration of Cyrillic (*j* would have been an alternative for one of them), and Icelandic loses the distinction between its two *d*'s.

The list appears as 39 double-column pages, apparently reproduced from computer output. There is thus no distinction between capital and small letters, and the only punctuation mark used is the hyphen. Although it is not directly stated in the preface, the intention seems to be that each noun should have an initial capital letter, and each adjective an initial small letter, unless it is the first word in the journal title. The publications of the International Union of Crystallography would thus be abbreviated to *Acta crystallogr.*, *J. appl. Crystallogr.*, and *Struct. Rep.* These are not, of course, the abbreviations at present used in the Union's publications. In the early volumes of *Structure Reports* the abbreviation of *Acta Crystallographica* was in fact *Acta Crystallogr.*, but this has been abandoned recently.

The major abstracting services have undertaken to use the list of abbreviations as soon as convenient. For many of them this will be January 1972, but *Chemical Abstracts* cannot adopt it until 1977, when the current cumulative index is complete.

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Fission damage in crystals. By LEWIS T. CHADDERTON and IAN MCC. TORRENS. Pp.xi + 265. London: Methuen, 1969. Price £4.25.

This volume summarizes the research carried out by the authors and their co-workers (of which this reviewer was one) under the direction of Professor F. P. Bowden in the then Sub-Department for the Physics and Chemistry of Solids in the Cavendish Laboratories, Cambridge. Its central theme is the application of electron microscopy to study the damage created by fission fragments in thin crystals and in particular the question of why permanent tracks remain in certain crystals but isolated defect clusters are formed in others. In this way the entire damage-creating history of a fission fragment has been examined in both experiment and theory, ranging from the electronic spikes created near the point of fission down to the defect clusters and isolated point defects which characterize the end of its path. There is also some discussion on the optical properties of damaged crystals, the application of field-ion microscopy and the use of computer simulation techniques to study radiation damage cascades of below 1 keV.

A valid criticism of this book would be that it represents a rather partisan point of view and is not objective appraisal of the fields as a whole. On the other hand it is an interesting exposition of the scientific method to see how the research efforts of one particular group can be brought to bear on a single problem. Experiments combine with theory to form a unified and natural approach to the problem and the general principles of radiation damage which are developed are of a much wider applications. This book will be of particular benefit to those with a specific interest in fission damage of the track-storing properties of solids and, to a somewhat lesser extent, to those with a general background in radiation damage. It is not intended as a first introduction to radiation damage.

The physical presentation is well done and there are ample diagrams; however some of the micrographs have suffered from over-reproduction and in some places erroneous references from the original text have not been altered.

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