

BOOK REVIEW—BUCHBESPRECHUNG

Recommendations of the International Commission on Radiological Protection

Pergamon Press, London, 1959, 18+V pp

This publication is a summary of the work of many years, undertaken by the Commissions and the Plenary Sessions of the International Commission on Radiological Protection (ICRP). As an introduction an account is given on the organization and the activity of the ICRP and of its relations with the World Health Organization, also a list is given of the members of the ICRP and its commissions at the time of the preparation of the recommendations (1953—1956).

This part is followed by the recommendations of the ICRP on radiation protection, commencing with those most important points of view and fundamentals, which were observed under consideration of recent pertinent physical and biological results by the ICRP, when preparing the recommendation, and continuing with the fundamental conceptions and categories to be dealt with. The listing and the classification of the permissible maximum doses constitutes the most important part of the recommendations.

The book terminates with a summary of general principles, which have to be observed by workers and employers exposed to radiation hazard, and raises, also in connection with this issue, the question of the responsibility of the employers.

The Recommendation was prepared primarily for those employed in the drawing up of the radiation protection and security regulations and prescriptions of various nations (institutes, laboratories). The language of the Recommendation is clear and precise, according to its intended purpose.

The Atomic Energy Commissions of some nations, among others the AEC of the USSR, issued within a short time of its publication a revised radiation protection and security regulation, in the preparing of which great consideration was given to the Recommendations of the ICRP, a fact which may well be regarded as a tribute to its value.

S. TAKÁCS

CASWELL, E. D., EVERETT, C. J.:

A Practical Manual on the Monte-Carlo Method for Random Walk Problems

Pergamon Press, London, 1959 (153+IX pp.)

In giving a short characterization on the basic trends in recent developments in the field of computer theory and techniques, the following correlated phenomena should be mentioned: The field of application of high-speed digital computers becomes steadily more widespread, algorithms consisting of a vast number of arithmetic operations come to be realized, novel algorithms, adapted specially for digital computers, are developed. Voluminous literature has already been published on this rapidly advancing science, but some of the most

important literature is inaccessible, since a substantial part of it is published in decentralized communications of state institutions and industrial laboratories. It is an essential condition of further development, that these publications should become promptly and readily accessible to all experts interested in the designing, construction and use of computers. The Pergamon Press publishing company was prompted by the recognition of this obvious need in starting its new series "International Tracts in Computer Science and Technology and Their Applica-

tion" in collaboration with known experts of the Western and Eastern hemispheres.

The recension deals with the first volume of this series. The Authors give a relatively short but concise and substantial survey of one of the most important applications of the Monte-Carlo Method, *i. e.* the different intricate problems concerning the movement of neutrons and photons in an extensive medium, and algorithms permitting their solution by computers. As the subject of this book is greatly restricted, primarily it will prove of use as a Handbook for specialists engaged in the same field of work.

Concerning the Monte-Carlo method, merely the fact should be mentioned here, that at present it constitutes the most suitable numerical method out of those used for the derivation of algorithms to be realized on digital computers. The fundamentals of the method have been described in detail in several other works, and the Authors of this volume may thus confine themselves to a rather short discussion of the basic principles (Chapter I). Headings

of the other chapters give a very good indication on the subject treated:

- II. The source routine
- III. The main free path and transmission
- IV. The collision or escape routine
- V. The collision routine for neutrons
- VI. Photon collisions
- VII. Direction parameters after collision
- VIII. Terminal classification
- IX. Remarks on computation
- X. Statistical considerations.

The Supplement at the end of the volume contains the short description of the 20 problems, which were satisfactorily solved by the Monte-Carlo method. The mere survey of this work demonstrates the practical suitability and the flexibility of such sampling methods. It is a pity, that in some of the cases they had to be dealt with so restrictedly. Thus it is only to be regreted that the Authors had no access to obviously very valuable but, for the time being, classified material.

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