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Reference neutron radiations —

Part 2: Calibration fundamentals of radiation protection devices related to the basic quantities characterizing the radiation field

Rayonnements neutroniques de référence —

Partie 2: Concepts d'étalonnage des dispositifs de radioprotection en relation avec les grandeurs fondamentales caractérisant le champ de rayonnement

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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 3.

Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

Attention is drawn to the possibility that some of the elements of this part of ISO 8529 may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

International Standard ISO 8529-2 was prepared by Technical Committee ISO/TC 85, *Nuclear energy*, Subcommittee SC 2, *Radiation protection*.

ISO 8529 consists of the following parts, under the general title *Reference neutron radiations*:

— *Part 1: Characteristics and methods of production*

— *Part 2: Calibration fundamentals of radiation protection devices related to the basic quantities characterizing the radiation field*

— *Part 3: Calibration of area and personal dosimeters and determination of their response as a function of neutron energy and angle of incidence*

Annex C forms a normative part of this part of ISO 8529.

Annexes A, B, D, E and F are for information only.

Introduction

This part of ISO 8529, and its companion standards ISO 8529-1 and ISO 8529-3, apply to the calibration of personal dosimeters and to area-survey instruments.

Reviews of the physical characteristics of personal dosimeters are given by Griffith *et al*. [1]. Reviews of calibration procedures are given by Eisenhauer *et al*. [2] and by Burger and Schwartz [3].

More details concerning the characteristics of area-survey instruments, and of their calibration requirements and procedures are given in publications [3,4,5] in the bibliography. Complete definitions of radiation quantities and units can be found in ICRP 51, ICRP 74, ICRU 33, ICRU 39, ICRU 43, ICRU 47, ICRU 51, ICRU 57 (see [24] and [28] to [32] in the bibliography) and ISO 8529-1. The actual procedures for calibrating these devices are given in ISO 8529-3.