# IEC 60462

Edition 2.0 2010-07

# INTERNATIONAL STANDARD

## Nuclear instrumentation – Photomultiplier tubes for scintillation counting – Test procedures

INTERNATIONAL
ELECTROTECHNICAL
COMMISSION

PRICE CODE T

ICS 27.120

ISBN 978-2-88912-041-3

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# NUCLEAR INSTRUMENTATION – PHOTOMULTIPLIER TUBES FOR SCINTILLATION COUNTING – TEST PROCEDURES

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International Standard IEC 60462 has been prepared by IEC technical committee 45: Nuclear instrumentation.

This second edition cancels and replaces the first edition published in 1974 and constitutes a technical revision.

The main technical changes with regard to the previous edition are as follows:

- to review the existing requirements and to update the terminology, definitions and normative references.

The text of this standard is based on the following documents:

| FDIS | Report on voting |
|---|---|
| 45/706/FDIS | 45/711/RVD |

Full information on the voting for the approval of this standard can be found in the report on voting indicated in the above table.

This publication has been drafted in accordance with the ISO/IEC Directives, Part 2.

The committee has decided that the contents of this publication will remain unchanged until the stability date indicated on the IEC web site under "http://webstore.iec.ch" in the data related to the specific publication. At this date, the publication will be

- reconfirmed,
- withdrawn,
- replaced by a revised edition, or
- amended.

A bilingual version of this publication may be issued at a later date.

# NUCLEAR INSTRUMENTATION – PHOTOMULTIPLIER TUBES FOR SCINTILLATION COUNTING – TEST PROCEDURES

## 1 Scope and object

This International Standard establishes test procedures for photomultiplier tubes (PMT) for scintillation and Cherenkov detectors.

This standard is applicable to photomultiplier tubes for scintillation and Cherenkov detectors.

Photomultiplier tubes are extensively used in scintillation and Cherenkov counting, both in the detection and analysis of ionizing radiation and for other applications. For such uses, various characteristics are of particular importance and require additional tests to those conducted to measure the general characteristics of PMT. This has made desirable the establishment of standard test procedures so that measurements of these specific characteristics may have the same significance to all manufacturers and users.

The tests described in this standard for PMT to be used in scintillation detectors are supplementary to those tests described in IEC 60306-4, which covers the basic characteristics commonly requiring specification for photomultiplier tubes.

This recommendation is not intended to imply that all tests and procedures described herein are mandatory for every application, but only that those tests carried out on PMT for scintillation and Cherenkov detectors should be performed in accordance with the procedures given in this standard.

## 2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

IEC 60306-4, *Measurement of photosensitive devices – Part 4: Methods of measurement for photomultipliers*