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**NATIONAL STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

GB/T 5202-2008

Replacing GB/T 5202-1985

**Radiation protection instrumentation -- Alpha, beta and
alpha/beta (beta energy >60 keV) contamination meters and
monitors**

(English Translation)

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Foreword

This standard is identical with IEC 60325:2002 "Radiation protection instrumentation alpha, beta and alpha/beta (beta energy > 60keV) contamination meters and monitoring Instrument "(in English).

For ease of use, the standard of IEC 60325:2002 made the following editorial changes.

- Delete foreword international standards;
- "2 Normative references" by adopting international standards of international standard in place of the standard corresponding to GB/T 4960.6 Instead of IEC 60050 (393).1996 and IEC 60050 (394).1995, deleting the standard in the text does not appear;
- Deleting 10.3.1 and 10.3.1.1.1 regarding the AC does not meet the conditions of the content;
- According to Chinese customs for some formatting has been modified (for example. Note plus behind ".", followed by a series Item Description will be. "" to ";";
- Use the decimal symbol instead of the international standard decimal symbol ", ". ";
- 6.8 has been specified since the content "mechanical impact", so deleting "11.2 mechanical impact," while deleting "11.1 Overview";
- Table 3 "beta radiation" a column "3.7MBq" and 9.6.3 paragraph 2 "370kBq" match instead 370kBq;
- Table 3 "warm-up time (portable instrument)" the last line of a column, "8.7.2" and the text does not match the standard (8.7.2 is the body of the Standard Test Method for overload protection) to "8.5.2";
- Table 3 "Power" column in the frequency of "+ 1Hz -3Hz" to "47Hz 51Hz", and standard

text 10.3.1.1.3 Representation agreement;

--- Table 3 "radiation emission" column of the "1V/m" and 10.4.6.1 of "0.1V/m" does not match to 0.1V/m.

This standard replaces GB/T 5202-1985 "alpha, beta, and alpha-beta surface contamination meters and monitors." the main changes compared to 5202-1985 standard and GB/T as follows.

- a) the standard name to "Radiation protection instrumentation alpha, beta and alpha/beta (beta energy greater than 60keV) contamination meters and monitors";
- b) increase the "instrument is classified" chapter;
- c) In the "environmental impact" chapter added "electromagnetic compatibility" content, including the "electrostatic discharge", "radio frequency electromagnetic fields," "by the pulse Group and conducted disturbances induced by radio frequency "," surge "," voltage sags and short interruptions "and" radiation emission requirements and test methods "drop.

The standard proposed by China National Nuclear Corporation.

This standard by the National Standardization Technical Committee on nuclear instrumentation.

This standard was drafted. Shenzhen Academy of Metrology and Quality Inspection, Xi'an Nuclear Instrument Factory Nuclear Group.

1 Scope

This standard applies to the direct measurement or detection of direct emission alpha and/or surface contamination meters and monitors beta nuclides, which includes at least.

--- Detecting means (including the counter, scintillation detector or a semiconductor detector, etc.), it can be fixed or connected by a flexible cable connection, or who constitute a separate device;

--- Measuring device.

Some gauges and monitors the detection devices and measuring device composed in the detection and the instrument can separate case, alone with a detection device. To meet this standard, including all the requirements of detection devices and measuring devices instrument complies with the requirements of this standard, or detection device and measuring devices conform to the relevant part of the requirements of this standard.

NOTE: For the latter use proven compliance with this standard, but can not infer portfolio allocation other special equipment is also standard. After a Ways it can use to allow users to use different combinations of factory production device configuration.

This standard applies to.

- Alpha surface contamination measuring instrument;
- Alpha of surface contamination monitors;
- Beta surface contamination meter;
- Beta surface contamination monitors;
- Alpha/beta surface contamination meter;
- Alpha/beta surface contamination monitors.

After two devices can simultaneously determine alpha and beta contamination, and the measurement results are shown.

- Alpha (beta, alpha/beta) surface contamination measuring instrument. includes one or more radiation detectors and related devices or basic functional unit. Check in when the surface contamination, for measuring alpha (beta, alpha/beta) surface emissivity;
- Alpha (beta, alpha/beta) of surface contamination monitors.

This standard also applies to those who have special-purpose equipment and special nature of the surface of the measurement instruments designed. But some of the required standard Need to be amended or supplemented in accordance with the special requirements of these instruments.

If the instrument can achieve a variety of functions, the instrument must meet all of these requirements with different functions. If the instrument in a function Lord, both other functions, the instrument must meet all the requirements of the main functions, and as far as possible to meet the requirements of other functions.

This standard does not apply to the measurement or detection of maximum energy less than the radiation monitor or meter 60keVbeta particles.

The purpose of this standard is to provide standards and give some examples of suitable methods, also provides general characteristics, general test conditions and parties Certificate, radiation characteristics, electrical safety, environmental characteristics, and alpha, beta and alpha/beta contamination meters and monitors.

2 Normative references

The following documents contain provisions which, through reference in this standard and become the standard terms. For dated references, subsequent Amendments (not including errata content) or revisions do not apply to this standard, however, encourage the parties to the agreement are based on research Whether the latest versions of these documents. For undated reference documents, the latest versions apply to this standard.

GB 156-2007 standard voltage (IEC 60038:2002, MOD) GB/T 2423.5-1995 Environmental testing for electric and electronic products Part II. Test methods - Test Ea and guidance.

Shock (Idt IEC 60068-2-27. 1987) GB/T 4960.6-1996 nuclear science and technology
terminology nuclear instrumentation GB/T 5202-2008/IEC 60325:2002