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(JEMIMA/JSA)

X and gamma reference radiation for calibrating dosemeters and doserate meters and for determining their response as a function of photon energy

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In the event of any doubts arising as to the contents,
the original JIS is to be the final authority.

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Foreword

This Japanese Industrial Standard has been revised by the Minister of Economy, Trade and Industry through deliberations at the Japanese Industrial Standards Committee as the result of proposal for revision of Japanese Industrial Standard submitted by Japan Electric Measuring Instruments Manufacturers' Association (JEMIMA)/Japanese Standards Association (JSA) with the draft being attached, based on the provision of Article 12 Clause 1 of the Industrial Standardization Law applicable to the case of revision by the provision of Article 14.

Consequently **JIS Z 4511**:2005 is replaced with this Standard.

Attention is drawn to the possibility that some parts of this Standard may conflict with patent rights, applications for a patent after opening to the public or utility model rights. The relevant Minister and the Japanese Industrial Standards Committee are not responsible for identifying any of such patent rights, applications for a patent after opening to the public or utility model rights.

X and gamma reference radiation for calibrating dosemeters and doserate meters and for determining their response as a function of photon energy

Introduction

This Japanese Industrial Standard has been prepared based on **ISO 4037-1**:1996 Edition 1, **ISO 4037-2**:1997 Edition 1, **ISO 4037-3**:1999 Edition 1, and **ISO 4037-4**:2004 Edition 1, according to the status of use in Japan with some modifications of the technical contents.

The vertical lines on both sides and dotted underlines indicate changes from the corresponding International Standards. A list of modifications with the explanations is given in Annex JD. Annex JA to Annex JC are unique to JIS and not given in the corresponding International Standards.

1 Scope

This Standard specifies the calibration method of dose-equivalent (rate) meter used for area monitoring and individual monitoring for radiation protection and used for setting up the air kerma reference field in the photon energy range 8 keV to 9 MeV and at air kerma rates from 10 $\mu Gy \cdot h^{-1}$ to 10 $Gy \cdot h^{-1}$. This Standard also specifies the test methods of the response as a function of photon energy and angle of radiation incidence. This Standard is also applicable to an air absorbed dose (rate) meter, an air kerma (rate) meter and an exposure (rate) meter.

NOTE The International Standards corresponding to this Standard and the symbol of degree of correspondence are as follows.

ISO 4037-1:1996 *X and gamma reference radiation for calibrating dosemeters and doserate meters and for determining their response as a function of photon energy—Part 1: Radiation characteristics and production methods*

ISO 4037-2:1997 *X and gamma reference radiation for calibrating dosemeters and doserate meters and for determining their response as a function of photon energy—Part 2: Dosimetry for radiation protection over the energy ranges from 8 keV to 1,3 MeV and 4 MeV to 9 MeV*

ISO 4037-3:1999 *X and gamma reference radiation for calibrating dosemeters and doserate meters and for determining their response as a function of photon energy—Part 3: Calibration of area and personal dosemeters and the measurement of their response as a function of energy and angle of incidence*

ISO 4037-4:2004 *X and gamma reference radiation for calibrating dosemeters and doserate meters and for determining their response as a function of photon energy—Part 4: Calibration of area and personal dosemeters in low energy X reference radiation fields* (overall evaluation: MOD)