

عنوان مقاله:

Study on type-testing of a manual TLD-reader for dosimetry programs

محل انتشار:

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خلاصه مقاله:

In a radiation individual monitoring program, the type testing of measuring devices is a great important part of the quality management system. The IEC-62387 standard applies to dosimetry systems that measure external photon and/or beta radiation within limited ranges of the associated physical parameters. In this work, a type-testing program was conducted for a manual thermoluminescence dosimetry (TLD) reader employing the IEC-62387 radiation and environmental performance criteria. The uncertainty of non-linearity of the response of the dosimetry system in a range of $0.7-850$ mSv was obtained between -15% and $+17\%$, which fulfilled the IEC standard range of -16% to $+18\%$. Furthermore, the total uncertainty of all reader tests was measured to be 12% , which was less than the criteria of 20% in the IEC standard. Thus, it can be concluded that the TLD reader met all requirements of the IEC standard for the reader-tests by an appropriate margin.

کلمات کلیدی:

TLD reader, IEC, Type Test, Radiation, Standard

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