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# 中华人民共和国国家标准

GB/T 15053—2008  
代替 GB/T 15053—1994

## 使用辐射显色薄膜和聚甲基丙烯酸甲酯 剂量测量系统测量吸收剂量的标准方法

Standard method for using radiochromic film  
and polymethylmethacrylate dosimetry system to measure absorbed dose

(ISO/ASTM 51275:2004, Standard practice for use of radiochromic film dosimetry system; ISO/ASTM 51276:2002, Standard practice for use of polymethylmethacrylate dosimetry system, NEQ)



GB/T 15053—2008

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## 前 言

本标准对应于 ISO/ASTM 51275:2004《使用辐射显色薄膜剂量测量系统标准》(英文版)和 ISO/ASTM 51276:2002《使用聚甲基丙烯酸甲酯剂量测量系统标准》(英文版),与 ISO/ASTM 51275:2004和 ISO/ASTM 51276:2002 一致性程度为非等效。

本标准与国际标准的技术差异为:

- a) 将 ISO/ASTM 51275 和 ISO/ASTM 51276 两个国际标准的内容合并为我国的一个国家标准;
  - b) 在 ISO/ASTM 51276:2002 标准资料性附录 A 原有内容基础上,增加了辐射显色薄膜剂量计的相关内容(见附录 A)。
- 为便于使用,本标准还做了下列编辑性修改:
- c) 按照汉语的习惯对一些编排格式进行了修改。
  - d) 在第二章“规范性引用文件”中,所引用 ISO 和 ASTM 等标准,凡已转化为我国标准(包括计量检定法规)的,改为引用我国标准。

本标准代替 GB/T 15053—1994《使用辐射显色薄膜和聚甲基丙烯酸甲酯剂量测量系统测量吸收剂量的标准方法》。

本标准与 GB/T 15053—1994 相比主要变化如下:

- 重新规定了剂量计使用时的辐射能量和辐照温度范围(见 1994 版的 1.2.1, 1.2.2; 本版的 1.2.1, 1.2.2);
- 增加了“规范性引用文件”(见本版的第 2 章);
- 在“术语和定义中”增加了部分术语条款,并对原有的部分术语进行了重新定义(见 1994 版的第 2 章; 本版的第 3 章);
- 将“仪器设备”章的标题改为“剂量测量系统”(见 1994 版的第 4 章; 本版的第 5 章);
- 增加了“仪器设备性能检查”的技术内容(见本版的第 6 章, 6.1, 6.2);
- 对“剂量测量系统的校准”章内容作了大的调整,并增加了“被校准剂量计在辐射场中所占体积内剂量率的变化应在±1%以内(极差≤2%)”的要求(见 1994 版的第 5 章; 本版的第 7 章);
- 增加了“批次剂量计特性描述”的技术内容(见本版的第 9 章);
- 增加了“剂量测量系统的应用”的技术内容(见本版的第 10 章);
- 用“测量不确定度”的章标题及相关的技术内容替代了 1994 版的“误差分析”技术内容,(见 1994 版的第 8 章; 本版的第 12 章);

本标准的附录 A 为资料性附录。

本标准由中国核工业集团公司提出。

本标准由全国核能标准化技术委员会归口。

本标准起草单位:中国计量科学研究院。

本标准主要起草人:张彦立、夏渲、龚晓明。

本标准所代替标准的历次版本发布情况为:

——GB/T 15053—1994。