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Calibration Specification for Medical Micro-image Analyzers

医用显微图像测量分析仪校准规范

(English Translation)

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Introduction

JJF 1071-2010 "Rules for the Compilation of National Metrology and Calibration Specifications", JJF 1001-2011 "General Metrology Terms and Definitions", JJF 1032-2005 "Terms and Definitions of Optical Radiation Measurement" and JJF 1059.1-2012 "Inaccurate Measurement "Fixed Evaluation and Representation" together constitute a basic series of specifications supporting the formulation of this specification.

This specification is released for the first time.

Calibration specification for medical microscopic image measurement analyzer

1 Scope

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This specification specifies the metrological characteristics, calibration conditions, and calibration conditions of medical microscopic image measurement analyzers applicable to tissue sections.

The calibration method is suitable for the measurement performance calibration of microscopic image measurement analyzers newly manufactured, in use and after repair. its the microscopic image measurement analyzer used in other industries can refer to this specification.

2 Reference documents this specification refers to the following documents.

GB/T 9247-2008 microscope condenser GB/T 22056-2018 (ISO 8578:2012) Marking of microscope objectives and eyepieces JJG920-2017 Verification Regulations for Diffuse Transmission Visual Densitometer JJF 1402-2013 Calibration Specification for Biological Microscope for dated reference documents, only the dated version applies to this specification; for undated references the latest version (including all amendments) is applicable to this specification.

3 Term

3.1 Optical density,, D the reciprocal of the ratio of the signal intensity Itau received by the detector (including the microscope lens) to the light source intensity Is is taken as the logarithm, the symbol for D. The definition is shown in formula (1).

D=log10

Itau

Optical density is the physical basis of the gray-scale characteristics of microscopic image analyzers. The use of optical density can achieve the measurement system including the source, microscope and its components, and detectors are calibrated.

3.2 Grayrepeatability, deltaG the change in the gray value of the entire image with gray level K. The K value is determined according to formula (2).

K=Round [(75%~85%)xKm] (2) where.

Km-the maximum gray level.

Calculate the gray scale repeatability deltaG of the instrument according to formula (3).

deltaG = max(Gi-

Where.

Gi---Gray value of gray level K of a certain measurement.

3.3 Gray uniformity, U in the blank image output by the instrument with gray level K, select the measured value Gi of MxN sampling areas, and press

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