International Standard

ISO 18221

Microscopes — Microscopes with digital imaging displays — Information provided to the user regarding imaging performance

Microscopes — Microscopes avec écrans d'affichage numérique — Informations fournies à l'utilisateur concernant la performance d'affichage

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Contents

Page

Foreword ... **iv**

1 Scope ... **1**

2 Normative references ... **1**

3 Terms and definitions ... **1**

4 Symbols and abbreviated terms ... **2**

5 Magnification ... **3**
5.1 Optical magnification, $M_{TOT,PROJ}$ ... 3
5.2 Display magnification, M_{DIS} ... 3
5.3 Visual display magnification, $M_{DIS,VIS}$ ... 3

6 Resolving power limit ... **4**
6.1 Optical resolving power limit, $R_{L,OPT}$ ... 4
6.2 Sensor resolving power limit, $R_{L,SEN}$ ... 4
6.3 Display resolving power limit, $R_{L,DIS}$ ... 5
6.4 System resolving power limit, $R_{L,SYS}$ ... 5

7 Useful range of magnification ... **5**
7.1 Useful range of viewing distance ... 5
7.2 Useful range of visual magnification ... 6
7.3 Empty magnification ... 6

8 Object field ... **6**
8.1 Object field limited by the sensor ... 6
8.2 Object field limited by the display ... 7
8.3 Object field of the microscopy system ... 8
8.4 Pixel size in object space ... 8

9 Depth of field ... **8**

10 Information to be provided to the user by manufacturers ... **9**
10.1 General information ... 9
10.2 Imaging performance data ... 9

Annex A (informative) **Examples for information to be provided to the user** ... **11**

Bibliography ... **15**

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Foreword

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This document was prepared by Technical Committee ISO/TC 172, *Optics and photonics*, Subcommittee SC 5, *Microscopes and endoscopes*.

This second edition cancels and replaces the first edition (ISO 18221:2016), which has been technically revised.

The main changes are as follows:

— addition of formula expression to 8.1 and 8.2;

— addition of subclause 8.4 Pixel size in object space;

— addition of content to Clause 9;

— revision of formula for depth of field in Clause 9;

— addition of f) in 10.2;

— addition of content to Tables A.1 to A.5.

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Microscopes — Microscopes with digital imaging displays — Information provided to the user regarding imaging performance

1 Scope

This document specifies the minimum information to be provided to the user by the manufacturers of microscopes with digital displays regarding imaging performance.

It further specifies terms and definitions for describing the optical performance of the digital imaging path of microscopy systems including the observation of the image on digital displays.

This standard does not apply to confocal microscopes.

NOTE Terms and definitions for the direct visual observation with eyepieces are specified in ISO 8039 and ISO 10934.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 10934, *Microscopes — Vocabulary for light microscopy*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 10934 and the following apply.

ISO and IEC maintain terminology databases for use in standardization at the following addresses:

— ISO Online browsing platform: available at https://www.iso.org/obp

— IEC Electropedia: available at https://www.electropedia.org/

3.1
digital microscopy system
instrument consisting of an *objective*, an *image sensor* (3.2) and a *digital display* (3.3) to make visible minute details that are not seen with unaided eye

Note 1 to entry: The system might include means for image enhancement, image analysis, archiving, etc.

3.2
image sensor
device to transform an optical image into a *digital image*

3.3
digital display
output device for the visual presentation of a *digital image* and other information

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