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**Textiles - Fiber quantitative analysis - Intelligent identification
method using microscope**

纺织品 纤维定量分析 显微镜智能识别法

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Foreword

This document is in accordance with the provisions of GB/T 1.1-2020 "Guidelines for standardization work Part 1: Structure and drafting rules for standardization documents" Drafting.

Please note that some of the contents of this document may involve patents. The issuing organization of this document does not assume the responsibility for identifying patents.

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Co., Ltd., Jihua 3509 Textile Co., Ltd., Suzhou Shengshengyuan Yarn Co., Ltd., and China University of Metrology.

The main drafters of this document are: Chen Pei, Yuan Jun, Tian Zhifang, Zhu Hong, Li Yan, Liu Shijie, Wu Yingzhu, Wang Yunfa, Ma Haiyan, Hongxia, Zhou Xinxiang, Xu Xianmei, Meng Linghong, Ma Zhiqiang, Ma Yanfen, Chen Wenjie, Zhang Yunchao, Wu Huiping, Chen Guohan, Li Junjun, Wang Yu, Liu Junwei, Zhang Jianzheng, Miao Xinyun, Xu Chenyuan,

Chen Taiming, Pang Ruidong, Fan Yu.

Quantitative analysis of textile fibers Microscope Intelligent Recognition Method

1 Scope

This document describes a method for the automated determination of fiber content of textiles using a microscope.

This document applies to all kinds of textiles made of cashmere, sheep wool and their blends, and also to all kinds of textiles made of cotton, linen (such as flax, ramie) and their blends. Type of textiles.

This document does not apply to textiles where the fibers are too damaged or stuck together to be identifiable.

Other fiber blended textiles with obvious differences in longitudinal morphological characteristics are used for reference.

2 Normative references

GB/T 6529

GB/T 40905.1-2021

3 Terms and definitions

The following terms and definitions apply to this document.

3.1 The software control module records and realizes quantitative analysis of the fibers

An optoelectronic fiber image detection instrument that integrates modern computer software recognition technology and microscope technology.

Note. Clear fiber longitudinal image data is obtained through the three-dimensional automatic platform and camera, and then transmitted to the algorithm module to extract the single fiber image.

Use the deep learning network model to automatically identify the fibers, finally confirm the fiber type, and return the obtained fiber diameter and qualitative results to the system

4 Principle

On the optical microscope, the fiber intelligent analysis system automatically obtains clear fiber longitudinal image data and analyzes it to achieve fiber The automatic identification of fiber types and the automatic measurement of fiber diameter can determine the mass

fraction of each component in the sample.

5.1 Instrument

Fiber intelligent analysis system. It consists of an optical digital microscope (which should include camera components, objective lens, XY axis electric stage, Z axis adjustable

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